

PERGOLA COMMONS PROPOSED MIXED-USE DEVELOPMENT

Urban Transportation Considerations
City of Guelph



Prepared For: FCHT Holdings (Ontario) Corporation, a Subsidiary of First Capital REIT

December 2023



BA Group

AUTHORSHIP

Date	Revision	Update
12/08/2023	Version 1	Draft Report for Client Review
12/15/2023	Version 2	Final Report for Pre-Submission

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1.0 INTRODUCTION

BA Group has been retained by FCHT Holdings (Ontario) Corporation, a subsidiary of First Capital REIT to provide transportation advisory services in relation to a proposed mixed-use development on the lands municipally known as 1 Clair Road East (the “Site”) in the City of Guelph.

This report has been prepared in support of a Zoning By-law Amendment (ZBA) for submission to the City of Guelph, and addresses the transportation related elements of the Site. Some elements of the report are also presented to inform the zoning submission and will continue to be re-confirmed and outlined in further detail as part of subsequent Site plan submissions.

1.1 Existing Site

The proposed development Site is currently occupied by a mix of single-storey commercial buildings and surface parking, and is bound by Clair Road East to the north, Hawkins Drive to the east, Poppy Drive East to the south, and Farley Drive (private) to the south.

The lands west of the private portion of Farley Drive (south of Clair Road East and north of Poppy Drive East) and bound by Clair Road East to the north, Farley Drive (private) to the east, Poppy Drive East to the south, and Gordon Street to the west, are also owned by First Capital; however, the lands west of Farley Drive are not contemplated for redevelopment as part of this application. These remaining lands are occupied by a variety of commercial uses, as well as surface parking.

Presently, an east-west private street through the Site exists (the “Internal East-West Street”), connecting Hawkins Drive in the east and Farley Drive (private) in the west, and providing access to the various commercial uses on the Site.

The Site location is provided in **Figure 1**, below.

1.2 Study Process

This study has been undertaken in-part utilizing two levels of engagement so far with various stakeholders, as follows:

- Formal engagement with the City of Guelph Transportation Staff through a Terms of Reference process that outlined and informed various components of the study, including but not limited to scope of study, analysis assumptions and horizons, contextual background information, and reporting elements; and
- Formal engagement with residents of the City of Guelph through an Open House held on November 28th, 2023, where feedback on the current development proposal was heard and recorded for further consideration.

City of Guelph Terms of Reference

As part of the preliminary coordination for the Project, a formal Terms of Reference was submitted to City of Guelph Transportation Staff that outlined the intended scope for the Study, and identified specific assumptions to be considered as part of the Study’s traffic analysis. Details pertaining to the assumptions identified within the Terms of Reference are integrated into **Sections 10.0** and **11.0**. The formal Terms of Reference addressed to the City of Guelph Transportation Staff is provided in **Appendix B**.

Public Engagement Open House

Extensive feedback from City of Guelph residents was heard and recorded during the Open House held on November 28th, 2023, pertaining both to the current development concept as well as current area transportation and traffic conditions. The feedback received pertaining to the development proposal has been incorporated into this report, where appropriate. See **Section 4.3.2** of this report for feedback as it relates to Area Transportation Context.



1.3 This Study

BA Group has undertaken a review of the key transportation related aspects of the ZBA application being submitted to the City of Guelph to permit the proposed mixed-use development on the Site. Key transportation-related aspects of the application reviewed as part of this study include:

Development Plan

- A review of the proposed development plan; and
- A review of the transportation elements of the proposed development plan including Site pedestrian and vehicular access, vehicular and bicycle parking facilities, and loading facilities.

Area Policy and Transportation Context

- A review of the existing and future transportation context of the Site considering area road network, area transit services, the surrounding pedestrian environment, and the area cycling network; and
- A discussion related to the existing area travel characteristics.

Site Planning, Circulation, and Parking Considerations

- A review of the vehicular parking, bicycle parking, and loading supply requirements and provisions for the proposed development; and
- A review of the functionality and appropriateness of the proposed vehicular facilities, including loading / garbage collection facility arrangements.

Transportation Demand Management

- A review of potential strategies to reduce congestion, minimize the number of single-occupant vehicles, encourage non-auto modes of travel, and reduce vehicle dependency to create a sustainable transportation system.

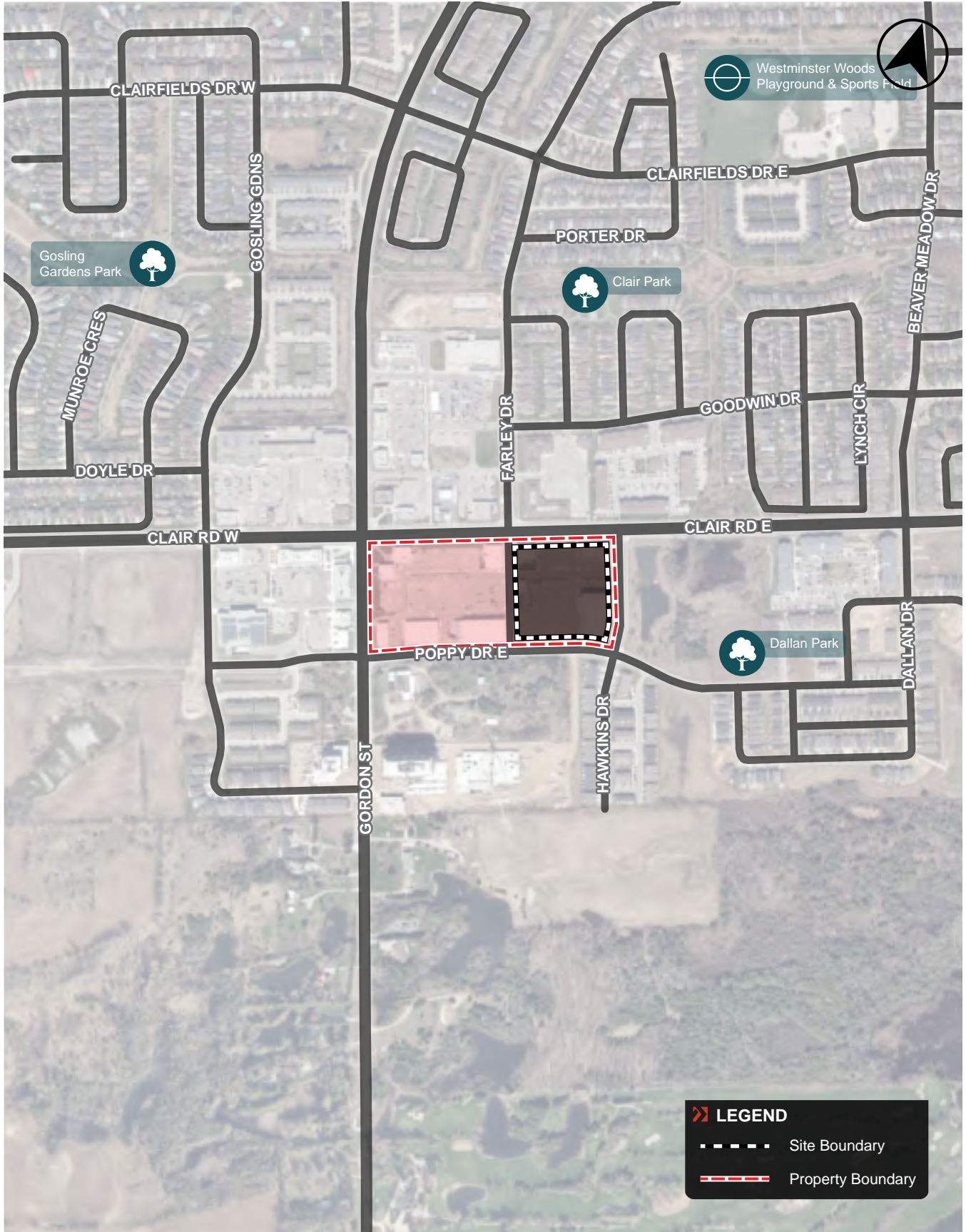
Multi-Modal Travel Demand Considerations

- A review of area transit, pedestrian, and cycling context today;
- Development of future background traffic forecasts including specific area developments in the study area; and,
- An outline of multi-modal travel demand projections for the proposed development; and,
- An assessment of traffic volume changes on the area street network.

Traffic Operations Review

- An assessment of traffic operations at study area intersections today and in the future.
- A left-turn lane warrant for the east approach (westbound left) of the Clair Road East / Hawkins Drive intersection.
- A signal warrant for the Clair Road East / Hawkins Drive intersection.





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Aerial maps provided courtesy of Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

FIGURE 1 SITE LOCATION

2.0 PROPOSED DEVELOPMENT

The following provides a review of the proposed development plans for the Site. Reduced scale architectural plans are provided in **Appendix A**.

2.1 Development Plan

The proposed development includes 4 buildings, ranging from 10- to 14-storeys and including a mix of residential and at-grade retail uses. The Site is currently proposed to include 721 residential units and 1,841 m² gross floor area (GFA) of retail space at-grade. Development of the Site is proposed to be undertaken through a phased approach, whereby the lands south of the Internal East-West Street (private) are developed in Phase 1 and Phase 2, while the lands north of the Internal East-West Street (private) are developed as part of Phase 3. The proposed Site plan is illustrated in **Figure 3**, and the proposed development plan is presented in **Table 1**. Reduced scale architectural plans are provided in **Appendix A**.

Table 1 Development Plan Summary

Phase	Use	Units / GFA
Phase 1	Residential	189 units
Phase 2	Residential	250 units
Phase 3	Residential	282 units
	Retail	1,841 m ² GFA
Total Residential		721 units
Total Retail		1,841 m² GFA

Notes:

1. Based on Site statistics provided by SvN Architects, dated December 13th, 2023.

2.2 Key Transportation Elements

2.2.1 Site Access and Circulation

Vehicular Access

The Site is proposed to be accessed via three entrances, two of which currently exist at the Internal East-West Street’s intersection with Farley Drive and Hawkins Drive, and the third of which is proposed to be opposite and aligned with the existing Poppy Drive East / 1888 Gordon Street site access to form an internal T-shaped driveway network. Collectively, these three Site accesses will provide routing choice for future residents and visitors to / from the Site.

The Internal East-West Street is an existing condition that will form a phasing line that will permit Phases 1 and 2 to proceed while keeping retail uses operating until such time that Phase 3 is built. The Internal East-West Street also provides essential underground servicing to the existing and proposed future uses.

The Internal East-West and North-South Streets are proposed to be configured to create an internal network that supports efficient internal routing choice and service access to all buildings from any of the proposed Site accesses.

Access to vehicular parking facilities for each building will be provided along the Internal North-South Street for Phase 1 and 2, and the Internal East-West Street for Phase 3. Pick-up / drop-off activity is proposed to be conducted through layby spaces along the Internal East-West Street, in close proximity to the primary lobby entrances for each Phase of development.



Operations and queuing assessment of the private street network was also considered in this study, as discussed with City staff, and is presented in **Sections 10.3.2** and **11.5.2**.

Pedestrian Access

Pedestrian access to the Site is proposed to be provided via the three Site accesses along Farley Drive, Hawkins Drive, and Poppy Drive East. Additionally, a north-south pedestrian connection from Clair Road East is proposed that will provide additional access opportunities for pedestrians to navigate and filter through the Site, as well as internal circulation from the future retail uses fronting onto Clair Road East to the remainder of the residential uses on the Site.

The Internal North-South Street is proposed as a textured flush street with the vehicular and pedestrian travelway delineated by bollards and landscape elements that will facilitate strong north-south active connections through the Site, while continuing to permit necessary vehicular circulation. Collectively with the north-south pedestrian connection, a continuous north-south active link will be created from Poppy Drive East in the south to Clair Road East in the north.

Primary pedestrian access to each building is proposed to be centered at the Internal East-West Street / Internal North-South Street intersection, providing a central internal intersection in conjunction with the proposed pick-up / drop-off facilities. Additional residential accesses are proposed along each building's frontage, and the proposed townhouses will have individual access locations for each respective unit.

2.2.2 Vehicular Parking

A total of 791 parking spaces are proposed across the Site's 3 development phases, inclusive of 692 resident spaces and 99 non-residential spaces (proposed to be provided on a non-exclusive basis for residential visitors and retail uses). All resident parking is proposed to be located within separate 2-level parking garages for each Phase of development. Residential visitor and retail parking is proposed to be located on the first level of each respective underground parking garage and at-grade, and will be separated from the resident parking by secure parking gates.

2.2.3 Bicycle Facilities

A total of 858 bicycle parking spaces are proposed to be located across the Site, including 850 residential spaces and 8 retail spaces.

Residential long-term bicycle parking is proposed to be located at-grade within each individual building, and each long-term bicycle storage location will be accessible from both internal and external entrances. Residential short-term bicycle parking is proposed to be located adjacent to the lobby entrance along Internal East-West Street for each respective building.

Retail long-term bicycle parking will be located within each respective retail space, while the retail short-term bicycle parking will be located along Clair Road East, proximate to the north-south pedestrian connection between Buildings C and D.

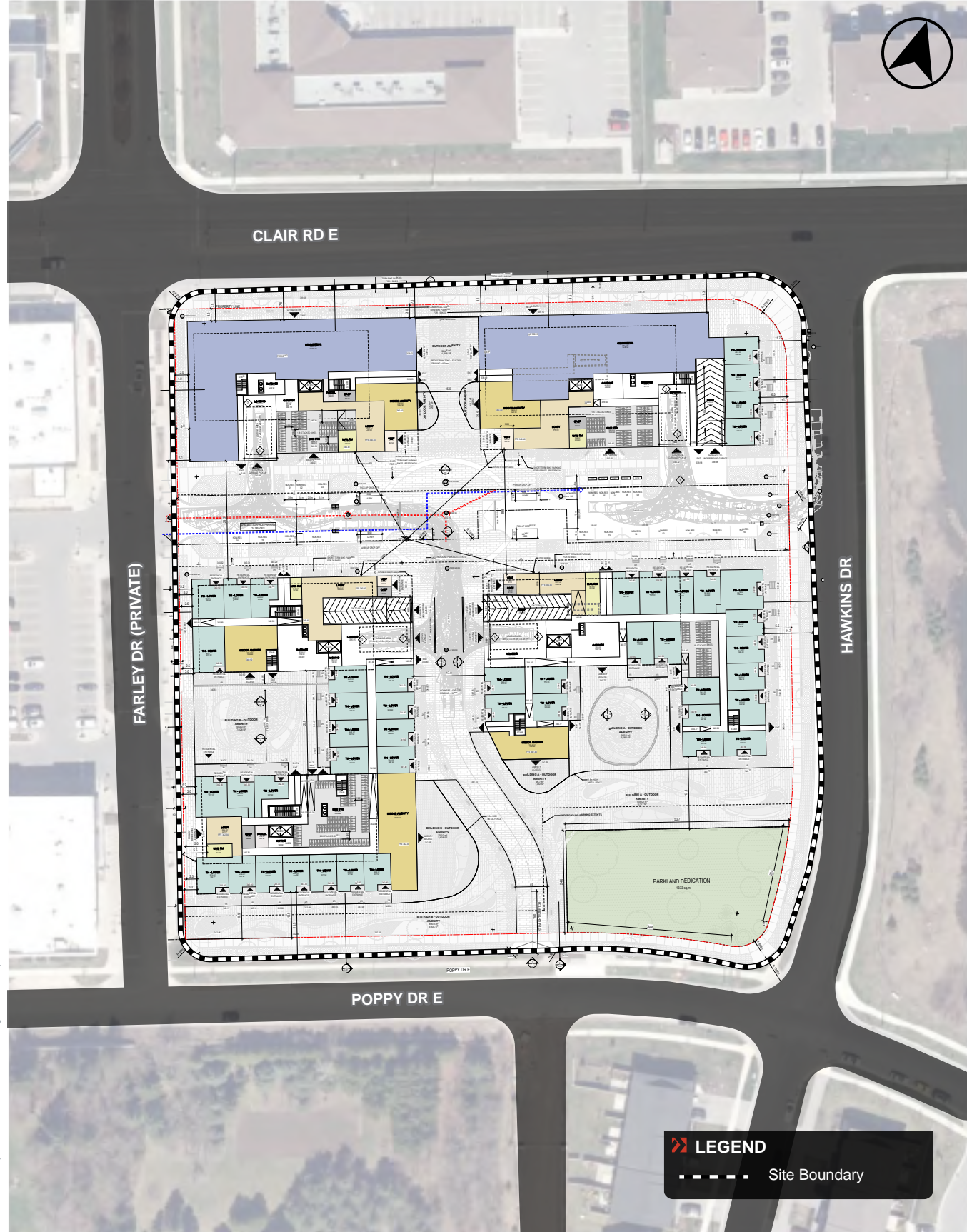
2.2.4 Loading and Servicing

Loading and servicing spaces are proposed to be located within each individual building adjacent to their respective underground parking garage ramps. As such, loading and servicing facilities may be accessed via the Internal North-South Street for Phases 1 and 2, and the Internal East-West Street for Phase 3. Vehicle manoeuvring diagrams demonstrating loading operations for each building are provided in **Appendix C**.





FIGURE 2 SITE CONTEXT



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Aerial maps provided courtesy of Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

FIGURE 3 SITE PLAN

3.0 PLANNING POLICY CONTEXT

3.1 Provincial Policies

3.1.1 A Place to Grow: Growth Plan for the Greater Golden Horseshoe

A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020) (Growth Plan for the GGH) provides growth directives for municipalities within the GGH. The Growth Plan for the GGH emphasizes the importance of targeting growth around planned infrastructure improvements, including transit and active transportation improvements which will ultimately reduce reliance on the private automobile.

Notably, the Clair-Maltby Secondary Plan, discussed in **Section 3.2.3** below, denotes Gordon Street as a future transit spine for South Guelph, which will provide increased transit service between the City's downtown amenities and to the growing South Guelph area.

3.1.2 2020 Provincial Policy Statement

The *2020 Provincial Policy Statement* (2020 PPS) promotes efficient development patterns optimizing the use of land, resources, and public investment in infrastructure and public service facilities. According to the 2020 PPS, efficient development patterns promote a mix of housing, employment, recreation, parks / open spaces, and transportation choices that increase the use of active transportation and transit. Selected policies that apply to the development plan include:

1.4.3 d) promoting densities for new housing which efficiently use land, resources, infrastructure and public service facilities, and support the use of active transportation and transit in areas where it exists or is to be developed;

1.4.3 e) requiring transit-supportive development and prioritizing intensification, including potential air rights development, in proximity to transit, including corridors and stations;

1.5.1 Healthy, active communities should be promoted by: a) planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, foster social interaction and facilitate active transportation and community connectivity;

1.6.7.2 Efficient use should be made of existing and planned infrastructure, including through the use of transportation demand management strategies, where feasible.

1.6.7.3 As part of a multi-modal transportation system, connectivity within and among transportation systems and modes should be maintained and, where possible, improved including connections which cross jurisdictional boundaries.

1.6.7.4 A land use pattern, density and mix of uses should be promoted that minimize the length and number of vehicle trips and support current and future use of transit and active transportation.

The current proposal for the Site is consistent with the 2020 PPS. It represents an intensification of uses near existing and planned transit that makes efficient use of infrastructure and public service facilities. The current proposal also incorporates TDM strategies that promote a healthy community and multi-modal transportation system.

3.1.3 Draft Provincial Planning Statement

In April 2023, the Province of Ontario released the proposed 2023 Provincial Planning Statement (2023 Draft PPS), which proposes to replace the 2020 PPS and *A Place to Grow: Growth Plan for the Greater Golden Horseshoe* with an integrated policy statement. Generally, the policies noted as relevant within the 2020 PPS are retained within the 2023 Draft PPS.



3.2 City of Guelph Policies

3.2.1 City of Guelph Official Plan

The *City of Guelph Official Plan, February 2022 Consolidation* (2022 Guelph OP) sets the planning framework to guide the future growth and development of the City. It identifies the area around the Clair Road / Gordon Street intersection as a Community Mixed-Use Node, which are appropriate higher density mixed-uses that serve the local and wider community. Specifically, Section 3.11.2 of the 2022 Guelph OP states that Community Mixed-Use Nodes will:

- Be well served by transit and facilitate pedestrian and cycling traffic; and
- Provide a mix of commercial, offices and residential development in a higher density compact urban form that supports walkable communities and live/work opportunities.

In addition to the area's designation as a Community Mixed-Use Node, the Site itself is designated a Greenfield Area (OP Schedule 1: Growth Plan Elements), which includes minimum density targets for new development in accordance with the Growth Plan. Furthermore, Section 3.12.2 of the Guelph OP states that Greenfield Areas will be planned and designed to:

- Create street configurations, densities and an urban form that supports walking, cycling and the early integration and sustained viability of transit services.
- Create high quality public open spaces with site design and urban design standards that support opportunities for transit, walking and cycling; and
- Promote, where appropriate through secondary planning, the development of identifiable, pedestrian oriented neighbourhood scale 'urban villages' through the use of medium and high density, street-related built form that contains a mix of commercial, residential and employment uses, as well as supporting live/work environments. These centres will be designed around active public spaces and streets and pedestrian access that is well-linked to the surrounding neighbourhood through walking, cycling, and public transit.

The Site is consistent with these policies contained within the 2022 Guelph OP in creating pedestrian oriented and vibrant mixed-use environment that is conducive to active modes of travel.

The 2022 Guelph OP also provides policies pertaining to Transportation Demand Management (TDM) within the City, and acknowledges its contribution to creating and supporting an overall integrated and sustainable transportation system. TDM measures and they relate to the Site are provided in **Section 9.0**.

3.2.2 City of Guelph Transportation Master Plan

The *City of Guelph Transportation Master Plan (2022)* (Guelph TMP) provides a framework for transit, cycling, and active transportation network expansions within the City. The Guelph TMP is a key study which identifies and plans for network improvements that address existing issues while accommodating for future growth within its jurisdiction. The Guelph TMP provides the following relevant goals for the City's transportation network:

- People of all ages and physical ability will be able to travel safely using any transportation mode that they choose.
- Guelph's transportation system will be easy-to-use, reliable and give people and businesses the options they want when they need them.
- Transit service will provide travel times and traveler convenience at levels that are competitive with travel by car; and
- Guelph's transportation system will plan for the changes of tomorrow, while delivering great service today.



The Guelph TMP provides various multimodal recommendations for the City, including those for the road network, transit services, and active transportation infrastructure. Notably, the Guelph TMP makes the following recommendations for transportation infrastructure in the area of the Site:

- Gordon Street, and specifically the lands around the Clair Road / Gordon Street intersection as an area suitable for an enhanced pedestrian realm.
- Clair Road and Gordon Street included as part of the On-Street Spine Connection Route; and
- Clair Road and Gordon Street included as part of the Quality Transit Network, with potential lane conversion.

3.2.3 Clair-Maltby Secondary Plan

The Clair-Maltby Secondary Plan (2022) (CMSP) provides a detailed planning and policy framework for the lands in south Guelph generally bound by Poppy Drive West in the north, Victoria Road South in the east, Maltby Road in the south, and the eastern limits of the Southgate Business Park in the west. The CMSP provides numerous objectives to guide development within its boundaries, most notably:

- Promote healthy, active living including the provision of active transportation infrastructure to provide a variety of mobility choices for residents of all ages.
- Create compact, walkable neighbourhoods through the design of development to reflect healthy neighbourhood design principles.
- Design new development and infrastructure to create a modified street grid pattern and trail system that is designed to facilitate all modes of transportation with a priority on walking, cycling and transit.
- Facilitate safe, direct and attractive active transportation routes for people of all ages and abilities through the design of new development and infrastructure.
- Enable continuous multimodal travel throughout Clair-Maltby with connections to city-wide travel networks.
- Provide efficient transit service throughout Clair-Maltby that integrates with the rest of the city's transit network and encourage links to regional transit; and
- Design an urban transit hub to provide a focal point in the transit network that integrates different modes of transportation and place-making strategies to provide a place of connectivity on Gordon Street.

The CMSP provides key mobility policies that will guide the future evolution of the area transportation infrastructure, including the provision of active transportation facilities along all area arterial and collector roads, as well as off-road connections, improved and expanded transit services, and a future multimodal road network that encourages alternative travel modes and discourages auto-based travel. A detailed discussion of proposed transportation infrastructure improvements provided within the CMSP is provided in **Section 4.0**.

3.2.4 City of Guelph Development Charges Background Study

The City of Guelph's *2023 Development Charges Background Study* (2023 DC Study) provides insight into the planned future area transportation infrastructure improvements within the City through a horizon year of 2051. Notably, the 2023 DC Study identifies the planned widening of Gordon Street from Gosling Gardens to Maltby Road to occur between 2027 and 2032. The proposed Gordon Street widening is discussed further in **Section 4.1.2**.



4.0 AREA TRANSPORTATION CONTEXT

4.1 Area Street Network

4.1.1 Existing Street Network

The existing area street network consists of arterial, collector, local, and private streets. Characteristics of the area street network are summarized in **Table 2**, and illustrated in **Figure 4**.

Table 2 Area Street Network

Name	Speed Limit	Parking Restrictions	Description
Arterial			
Clair Road East	60 km/h	No parking on either side of the road at any time.	Clair Road East is a City Arterial Road that generally runs in an east-west direction. In the vicinity of the Site, it has a 4-lane cross-section (2 travel lanes in either direction) with auxiliary left-turn lanes at signalized intersections. Clair Road East extends from Victoria Road South in the east to Gordon Street in the west, where it continues as Clair Road West. Parking is prohibited along Clair Road East.
Gordon Street	60 km/h	No parking on either side of the road at any time.	Gordon Street is a City Arterial Road that generally runs in a north-south direction. In the vicinity of the Site, it has a 4-lane cross section (2 travel lanes in either direction) with auxiliary left-turn lanes at signalized intersections. Gordon Street extends from Waterloo Avenue in the north (north of which it continues as Norfolk Street) to Maltby Road in the south (south of which it continues as Brock Road North). Parking is prohibited along Gordon Street
Collector			
Poppy Drive East	40 km/h	Dedicated layby parking provided on north side with 2-hour limit on weekdays from 9 am – 6 pm. No parking restrictions specified on south side.	Poppy Drive East is a City Collector Road that generally runs in an east-west direction. In the vicinity of the Site, it has a 2-lane cross-section (1 travel lane in either direction). Poppy Drive East extends from Dallan Drive in the east to Gosling Gardens in the west. In the vicinity of the Site, 2-hour weekday parking is permitted on the north side of Poppy Drive East between its intersection with Farley Drive and Gordon Street.
Farley Drive	40 km/h	No parking on either side of the road at any time.	Farley Drive is a City Collector Road that generally runs in a north-south direction. In the vicinity of the Site, it has a 2-lane cross-section (1 travel lane in either direction). Farley Drive east extends from Blair Drive in the north to Clair Road East in the south, where it extends as a private internal connection for the Site. Parking is prohibited along Farley Drive.
Private			
Farley Drive (south of Clair Road East)	Not Posted	Dedicated layby parking provided on east side without time restriction	Farley Drive (south of Clair Road East) is a private connection that runs in a north-south direction. It contains a 2-lane cross-section (1 travel lane in either direction) and extends from Clair Road East in the north to Poppy Drive East in the south. Parking is prohibited on Farley Drive.



4.1.2 Future Street Improvements

Transportation infrastructure in south Guelph is expected to undergo significant improvement and expansion as part of the CMSP, the boundary of which is located directly south of the Site, and recommended improvements per the Guelph TMP and 2022 Guelph OP. New multimodal road infrastructure is proposed for the area, bringing new mobility and routing opportunities, including active transportation linkages and infrastructure. Additionally, the future introduction of new street extensions and the completion of 'missing links' in the area will serve future area development, as well as improve circulation and capacity for existing area traffic operations. Future area street context is illustrated in **Figure 4**.

Gordon Street Widening

Per the 2023 DC Study, Gordon Street is planned to be widened to a 4-lane cross-section from Gosling Gardens in the north to Maltby Road in the south. The widening is expected to occur between 2027 and 2032, and will enhance Gordon Street's capacity to accommodate new and forecast traffic associated with the Clair-Maltby Secondary Plan south of the Site.

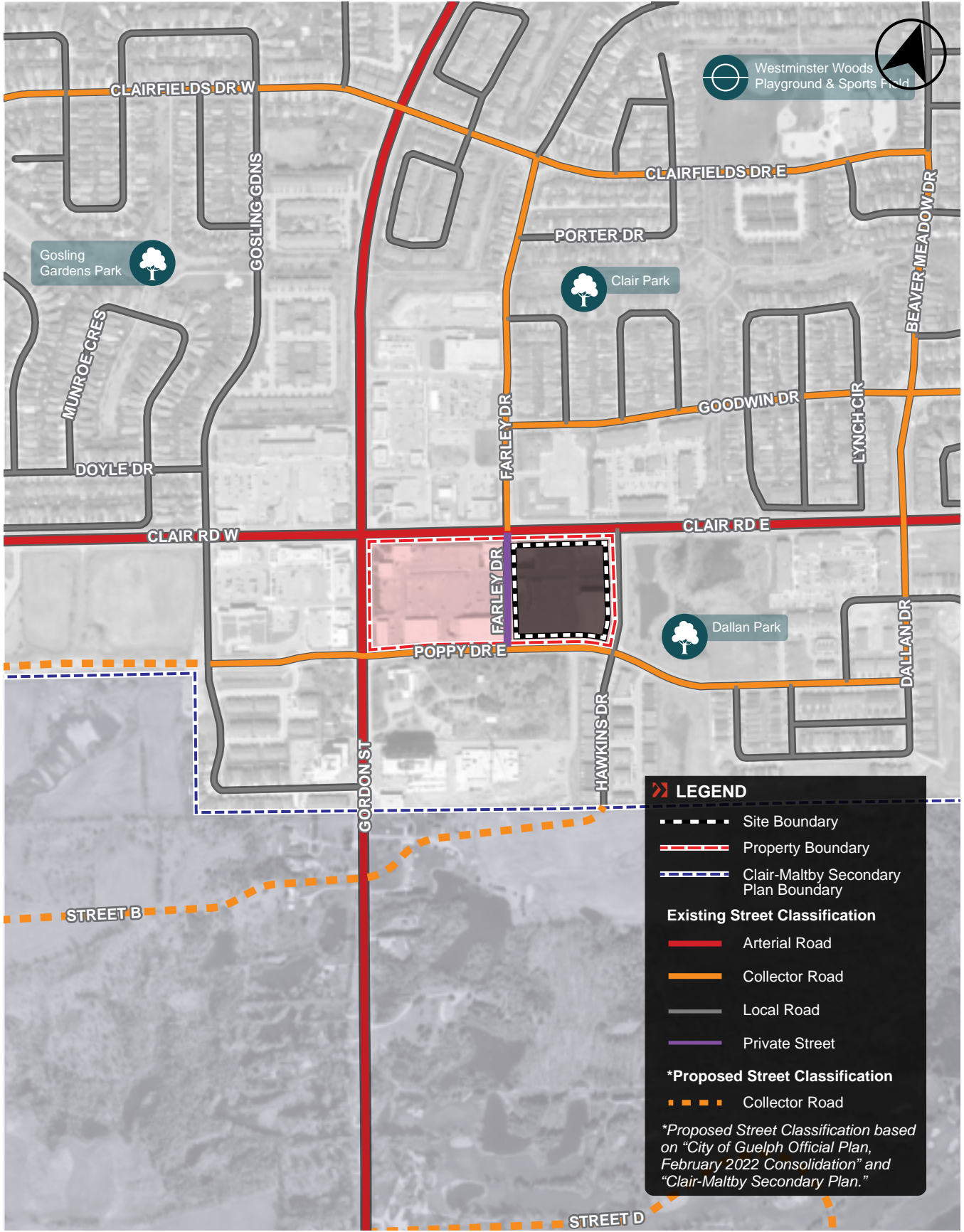
Hawkins Drive Extension

Per the CMSP Mobility Plan, Hawkins Drive, located adjacent to the east of the Site and terminating approximately 230 metres south of its intersection with Poppy Drive East, is planned to be extended south and west, connecting with and across Gordon Street. This extension will in part provide future routing choice for travelers along the south and east legs of the Clair Road / Gordon Street intersection. The future extension of Hawkins Drive is expected to be timed in coordination with future area development as part of the CMSP.

Poppy Drive West Extension

The Poppy Drive West Extension is identified within the 2022 Guelph OP as a future collector road that will connect a currently 'missing link' from the future location of the South End Community Centre in the west to Gosling Gardens in the east. The future extension of Poppy Drive West will also provide routing choice for existing and future area traffic travelling along the south and west legs of the Clair Road / Gordon Street intersection.





LEGEND

- - - Site Boundary
- - - Property Boundary
- - - Clair-Maltby Secondary Plan Boundary

Existing Street Classification

- Arterial Road
- Collector Road
- Local Road
- Private Street

***Proposed Street Classification**

- - - Collector Road

**Proposed Street Classification based on "City of Guelph Official Plan, February 2022 Consolidation" and "Clair-Maltby Secondary Plan."*

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FIGURE 4 AREA STREET NETWORK

4.2 Area Transit Context

4.2.1 Existing Transit Context

The Site is currently served by numerous Guelph Transit stops which provide access to downtown Guelph and surrounding area, as well as numerous GO transit routes which provide connections to regional destinations. **Table 3** provides a summary of the existing area transit services proximate to the Site.

Table 3 Existing Transit Context

Route	Headways (Peak Hours)	Nearest Stop(s)	Description
GO Bus Service			
17 Waterloo / Hamilton	~1 hour during peak hours	Gordon Street @ Clair Road East & Gordon Street @ Clair Road West	Route 17 Waterloo / Hamilton operates in a generally east-west direction between the City of Waterloo in the West and the City of Hamilton in the east, with various stops along the Highway 7 and Highway 6 corridors.
29 Guelph / Mississauga	~1 hour during peak hours	Gordon Street @ Clair Road East & Gordon Street @ Clair Road West	Route 29 Guelph / Mississauga operates in a generally east-west direction between Guelph Central Station in the west and Kipling Station in the east, with various stops along the Highway 401 and Highway 403 corridors.
48 Guelph / Highway 407 Bus Terminal	~1 hour during peak hours	Gordon Street @ Clair Road East & Gordon Street @ Clair Road West	Route 48 Guelph / Highway 407 Bus Terminal operates in a generally east-west direction between the University of Guelph in the west and the Highway 407 Bus Terminal in the City of Vaughan in the east, with various stops along the Highway 407 corridor.
Guelph Transit Bus Service			
16 Southgate	~30 mins	Clair Road East @ Hawkins Drive Poppy Drive East @ Hawkins Drive Poppy Drive East @ Gordon Street	Route 16 Southgate operates in a generally east-west direction between the Hanlon Industrial Park in the west and the area of the Clair Road East / Dalan Drive / Beaver Meadows Drive in the east. Route 16 Southgate services the variety of commercial / industrial uses within the Hanlon Creek Industrial Park, providing connections to Downtown Guelph via the Gordon Street corridor, including Route 99 Mainline.
99 Mainline	~30 mins	Clair Road West @ Gosling Gardens	Route 99 Mainline operates in a generally north-south direction between SmartCentres Guelph in the north and the area of Clair Road / Gordon Street in the south. Route 99 Mainline services the Gordon Street / Norfolk Street corridor, including the University of Guelph and Downtown Guelph, with stops proximate to Guelph Central Station that provide additional connections to regional GO Transit on the Kitchener Line.
19 Hanlon Creek	~30 mins	Clair Road West @ Gosling Gardens	Route 19 Hanlon Creek operates in a generally north-south direction between Stone Road Mall in the north and the area of Clair Road / Gordon Street in the south. Route 19 Hanlon Creek generally services the City of Guelph west of Highway 6 (Hanlon Expressway).



4.2.2 Future Transit Improvements

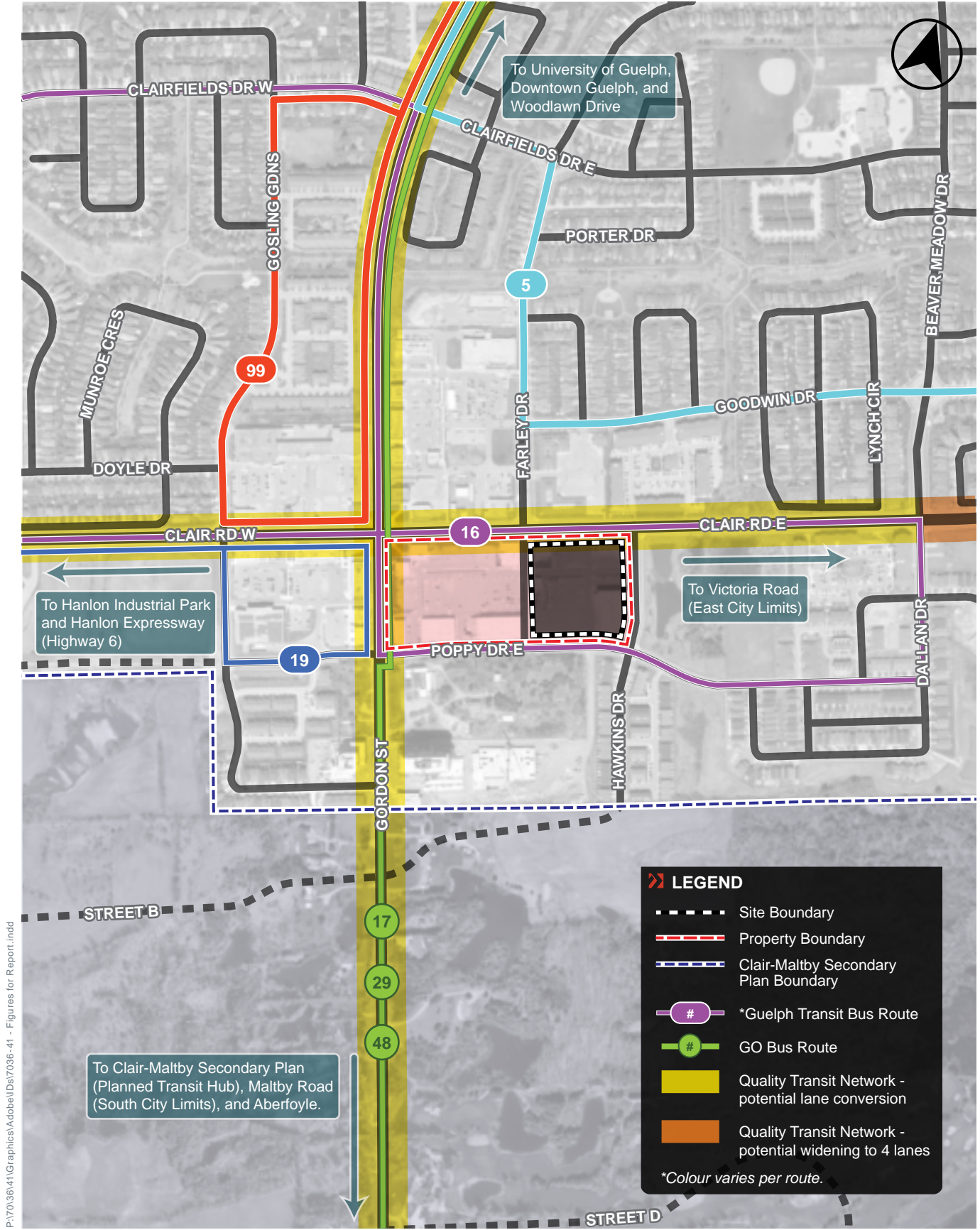
Transit service is expected to undergo improvements in line with the continued development and growth of South Guelph. The Guelph TMP identifies the Gordon Street corridor in proximity to the Site as part of the City's Quality Transit Network, with the potential for future lane conversion. Furthermore, the Guelph TMP identifies the Clair Road corridor in proximity to the Site as part of the City's Quality Transit Network, with potential for future lane widening east of the Site. Both of these corridors will serve as important transit links between South Guelph and the remainder of the City, providing connections to local destinations and regional transit linkages.

In addition to the Guelph TMP, the Clair-Maltby Secondary Plan identifies the Gordon Street corridor as the future transit spine for the CMSP and proposes a future transit hub to be located within the heart of the Secondary Plan area.

The proposed improvements to transit service in South Guelph will help increase connectivity and accessibility to core destinations within the City and will help to reduce long-term reliance on personal automobiles in the area, particularly as development in South Guelph.

Figure 5 illustrates the existing and planned area transit context.





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Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

FIGURE 5 AREA TRANSIT CONTEXT

4.3 Active Transportation Context

4.3.1 Cycling Connections

Existing Cycling Connections

There is currently a lack of dedicated cycling infrastructure in the area of the Site, limited to signed on-road facilities along Clair Road and Gordon Street.

Figure 6 demonstrates the existing cycling network in the area of the Site.

Planned Cycling Connections

The Guelph TMP proposes that both the Gordon Street and Clair Road corridors be included as part of the City's On-Street Spine Cycling Network, and proposes future cycling infrastructure intended for all ages and abilities along these corridors.

In addition to the Guelph TMP, the CMSP highlights an essential future north-south active transportation connection travelling parallel to the east of Gordon Street throughout the CMSP area, tying into the existing Hawkins Drive. This north-south connection will greatly enhance area active transportation linkages, particularly between the Site and the future development within the Clair-Maltby Secondary Plan area.

Future area cycling improvements considered as part of the Guelph TMP and the Clair-Maltby Secondary Plan are illustrated in **Figure 6**.

4.3.2 Pedestrian Connections

Existing Pedestrian Connections

The Site is located west of the Clair Road / Gordon Street intersection, which currently has a variety of commercial, retail, and community amenities within walking distance and served by sidewalks along both sides of all major area streets.

Proximate to the Site, dedicated signalized pedestrian crossings are provided at the Clair Road East / Farley Drive intersection, the Clair Road / Gordon Street intersection, and the Gordon Street / Poppy drive intersection.

Figure 7 demonstrates the existing pedestrian context and area destinations.

Planned Pedestrian Connections

The Guelph TMP denotes the Gordon Street corridor, as well as the lands adjacent to the Clair Road / Gordon Street intersection, as a future enhanced pedestrian realm area, with improved pedestrian facilities and connections to encourage walking as a viable alternative to vehicular travel for local trips. The Guelph TMP also identifies specific segments of Gordon Street and Clair Road for improvement under medium-term horizons (2031) and long-term horizons (2051).

The essential north-south active transportation connection identified in the CMSP will also enhance area pedestrian connectivity, providing a dedicated linkage from the area of the Site to the future development lands to the South.

Given the evolving context of the area's active transportation connections, including future infrastructure along Clair Road and the future essential active transportation link, BA Group believes that a controlled pedestrian crossing is appropriate along Poppy Drive East. This potential crossing could be considered either at Poppy Drive East / Farley Drive, or at Poppy Drive East / Hawkins Drive, subject to coordination with City Staff on its potential integration with the broader active transportation network. A controlled pedestrian crossing could be facilitated by either STOP control or by a pedestrian crossing treatment designed in accordance with Ontario Traffic Manual (OTM) Book 15.



Public Open House Feedback

The following notable comments were received during the Public Open House held on November 28th, 2023 with respect to Poppy Drive East:

- **On-street parking conditions along Poppy Drive East** were identified by numerous area residents as presenting challenges to north-south crossings along Poppy Drive East as well as egress from the existing 1888 Gordon Street site access. Currently, parking is permitted on both the north and south sides of Poppy Drive East, and it was noted that large trucks frequently park on the south side of Poppy Drive East, inhibiting pedestrian and driver sightlines for oncoming traffic.
- **Limited area north-south dedicated pedestrian crossings** were identified through the Open House engagement process, particularly between the South side of Poppy Drive East and the north side of Clair Road East.

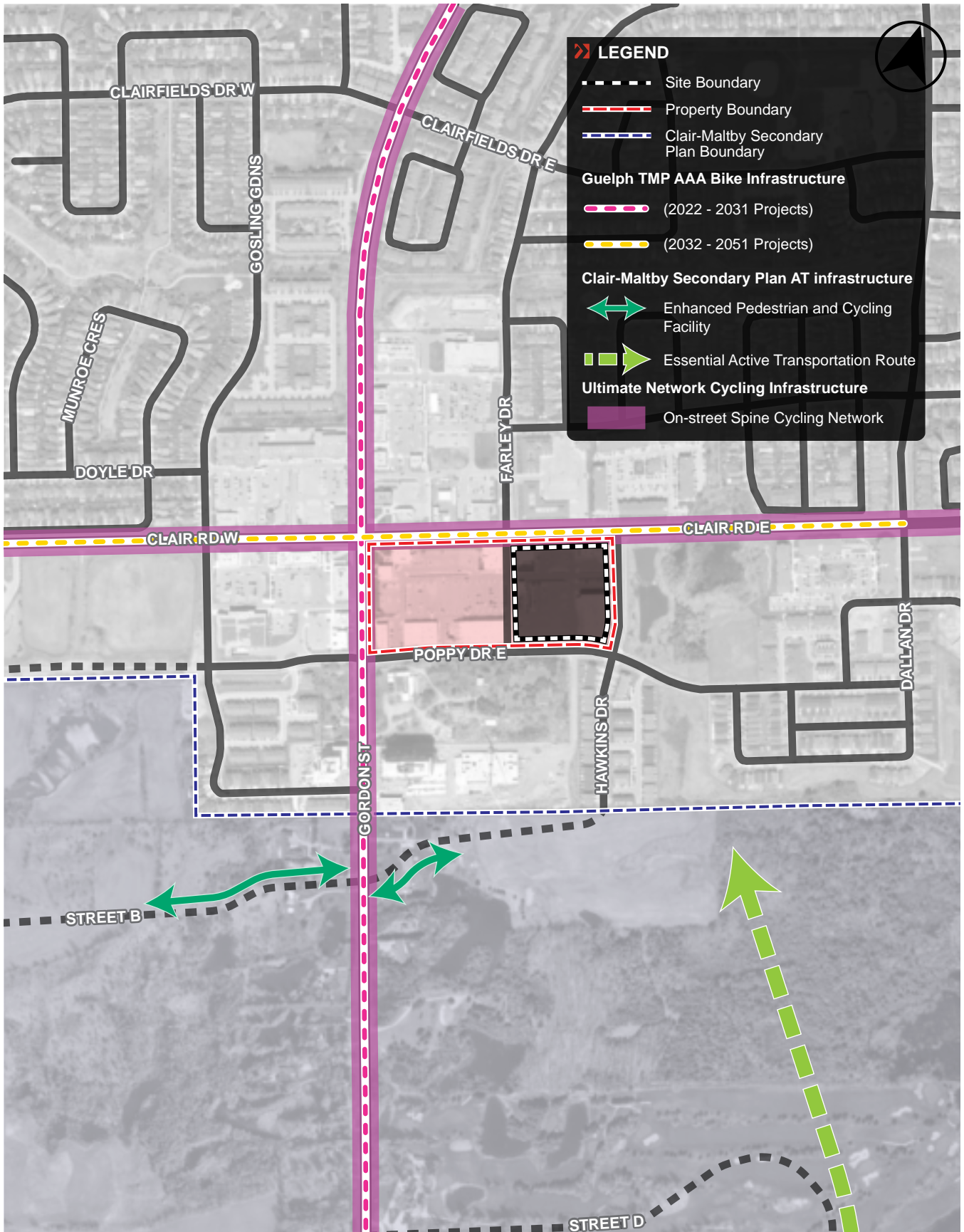
Currently, Poppy Drive East does not have any dedicated north-south pedestrian crossings, as all area intersections along the corridor are free flow in the east-west direction. The introduction of the Internal North-South Street at the existing intersection of Poppy Drive East / 1888 Gordon Street site access may present opportunities for dedicated pedestrian crossings in this area.

Dedicated north-south crossings of Clair Road East in the area of the Site are currently limited to the Clair Road East / Farley Drive and Clair Road / Gordon Street intersections. With current and planned area development approximate and south of the Site, and in consideration of the identified essential north-south active transportation route east of the Site per the Clair-Maltby Secondary Plan, opportunities may exist to provide an additional crossing at or proximate to the Clair Road East / Hawkins Drive intersection. Potential future signalization of this intersection is discussed in greater detail in **Section 11.4**.

While not directly related to the current development proposal, BA Group believes there are opportunities to improve driver sightlines relative to truck activity parked on the south side of Poppy Drive East. Potential solutions include further restricting no parking zones along Poppy Drive East, and / or providing curb extensions that will improve visibility past parked vehicles, and physically restrict parking next to the 1888 Gordon Street site access.

BA Group believes that a controlled pedestrian crossing is appropriate along Poppy Drive East and could be considered either at Poppy Drive East / Farley Drive, or at Poppy Drive East / Hawkins Drive, subject to coordination with City Staff on its potential integration with the broader active transportation network. A controlled pedestrian crossing could be facilitated by either STOP control or by a pedestrian crossing treatment designed in accordance with Ontario Traffic Manual (OTM) Book 15.

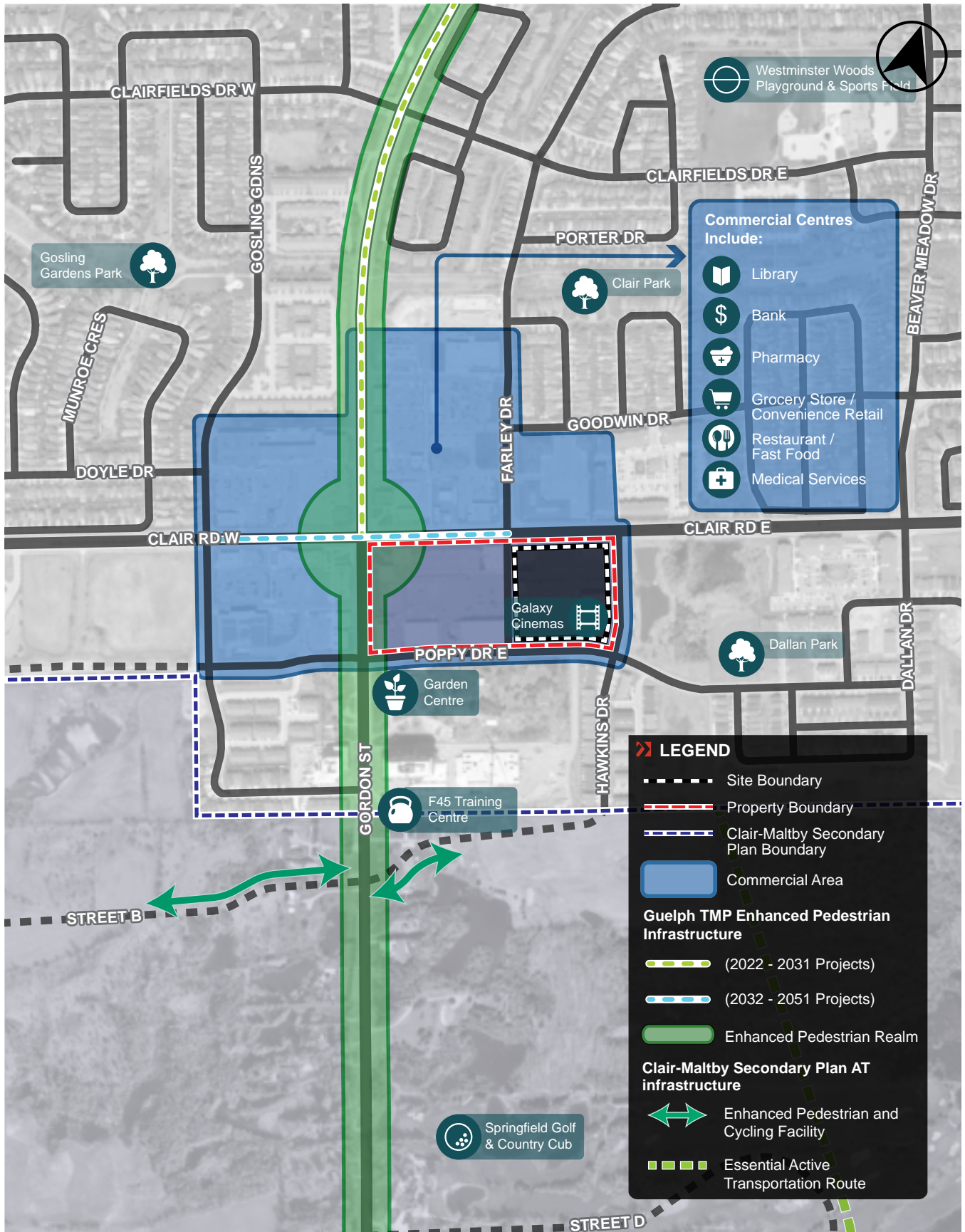




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FIGURE 6 AREA CYCLING CONTEXT



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FIGURE 7 AREA PEDESTRIAN CONTEXT

5.0 FUNCTIONAL SITE PLAN ELEMENTS

5.1 Proposed Accesses and Internal Circulation

5.1.1 Vehicular Access and Circulation

As summarized in **Section 2.2.1**, vehicular access to the Site is proposed to be provided via three accesses, located along Farley Drive (private), Hawkins Drive, and Poppy Drive East. Accesses along the private segment of Farley Drive and Hawkins Drive are proposed to be retained from the existing condition and the access at the Poppy Drive East / 1888 Gordon Street site access is proposed to be constructed as part of the redevelopment.

The proposed accesses at Farley Drive and Hawkins Drive are located approximately 50 metres south of their respective intersections with Clair Road East. A review of forecast future queuing conditions along the south approach of the Clair Road East / Farley Drive and Clair Road East / Hawkins Drive intersections is provided in **Section 11.5.2**.

Internal vehicular circulation is currently proposed to be facilitated by two internal street segments:

- An Internal East-West Street that connects the proposed Site accesses at Farley Drive and Hawkins Drive; and
- An Internal North-South Street that connects the proposed Site access at Poppy Drive East to the Internal East-West Street at a future three-legged intersection.

These proposed segments will provide vehicular routing choice for future residents and Site visitors as well as allow appropriate circulation for loading and servicing activities.

Access to vehicular parking facilities for each building will be provided along the Internal North-South Street for Phase 1 and 2, and the Internal East-West Street for Phase 3. Pick-up / drop-off activity is proposed to be conducted through layby spaces along the Internal East-West Street, in close proximity to the primary lobby entrances for each Phase of development.

5.1.1.1 SIGHT DISTANCE CONSIDERATIONS

At all Site accesses on the Site plan, the available boulevard and building elements are set back greater than the 4.4m sight distance required for drivers, as measured from the travel way, in accordance with Transportation Association of Canada (TAC) sight design guidelines.

Subsequent Site plan applications shall continue to confirm that a drivers' sightline be free of obstructions and that any landscape elements within a drivers' sightline shall be reviewed and be limited to a lower tree canopy of 2.5m and an upper planting/object height of 0.85m.



5.1.2 Pedestrian Access and Circulation

Pedestrian access to the Site is generally proposed to be provided via the three Site accesses at Farley Drive, Hawkins Drive, and Poppy Drive East as noted above. Additionally, a north-south pedestrian connection is proposed to be provided from Clair Road East to the intersection of the Internal East-West Street and the Internal North-South Street.

The Internal North-South Street is proposed to function as a textured flush street with the vehicular and pedestrian travel way delineated by bollards and landscape elements signaling a slow environment and emphasizing pedestrian connectivity. Collectively with the north-south pedestrian connection, a strong active link will be created between Poppy Drive East in the south and Clair Road East in the north, providing connections across the Site and in particular with the commercial uses along Clair Road East.

Primary pedestrian access to each building is proposed to be centred at the Internal East-West Street / Internal North-South Street intersection, providing a central internal node of activity in conjunction with the proposed pick-up / drop-off spaces. Additional residential accesses are proposed along each building's frontage, and the proposed townhouses will have individual access for each respective unit.

5.2 Pick-up / Drop-off Activities

Pick-up / drop-off activities are proposed to be centred around the proposed tabled intersection of the Internal East-West and Internal North-South Streets, which will ultimately function as the central activity node for the Site. Dedicated lay by spaces for pick-up / drop-off activities will be positioned along the Internal East-West Street on either side of the proposed tabled intersection, in close proximity to the lobby entrances of each building on the Site.

The proposed internal vehicular circulation for the Site will facilitate intuitive routing for pick-up / drop-off, eliminating the requirement for turnaround manoeuvres and instead allowing travellers to use an alternative exit from the Site.

5.3 Traffic Calming Measures

The proposed development is intended to function as a pedestrian-friendly, engaging space that supports and encourages active travel within, through, and around the Site, while continuing to facilitate the necessary vehicular traffic associated with a mixed-use development. To support the objectives of the Site, and to manage future internal vehicular traffic, a variety of measures are proposed which will calm traffic and ensure that internal connections continue to function as multimodal links, rather than simply service lanes for the various development Phases.

5.3.1 Continuous Textured Material Surfaces

The Internal North-South Street will employ the use of continuous textured materials, indicating to drivers to use caution while travelling. Bollards and strategically located vegetation (e.g. trees and planters) will be used to delineate permeable separation between pedestrian-only space and vehicle space. The Internal North-South Street will prioritize active linkages, while continuing to accommodate the necessary vehicular circulation required of a mixed-use development.

5.3.2 On-Street Parking & Curb Extensions

The Internal East-West Street is proposed to have on-street non-residential parking and pick-up / drop-off facilities to serve the future retail and residential uses on the Site. Heightened activity along the Internal East-West Street will indicate to drivers to use caution when travelling along this connection.

Strategically located curb extensions at the Internal East-West Street / Internal North-South Street intersection will reduce travel lane width, enhancing pedestrian crossing visibility and reducing crossing distances at this intersection.

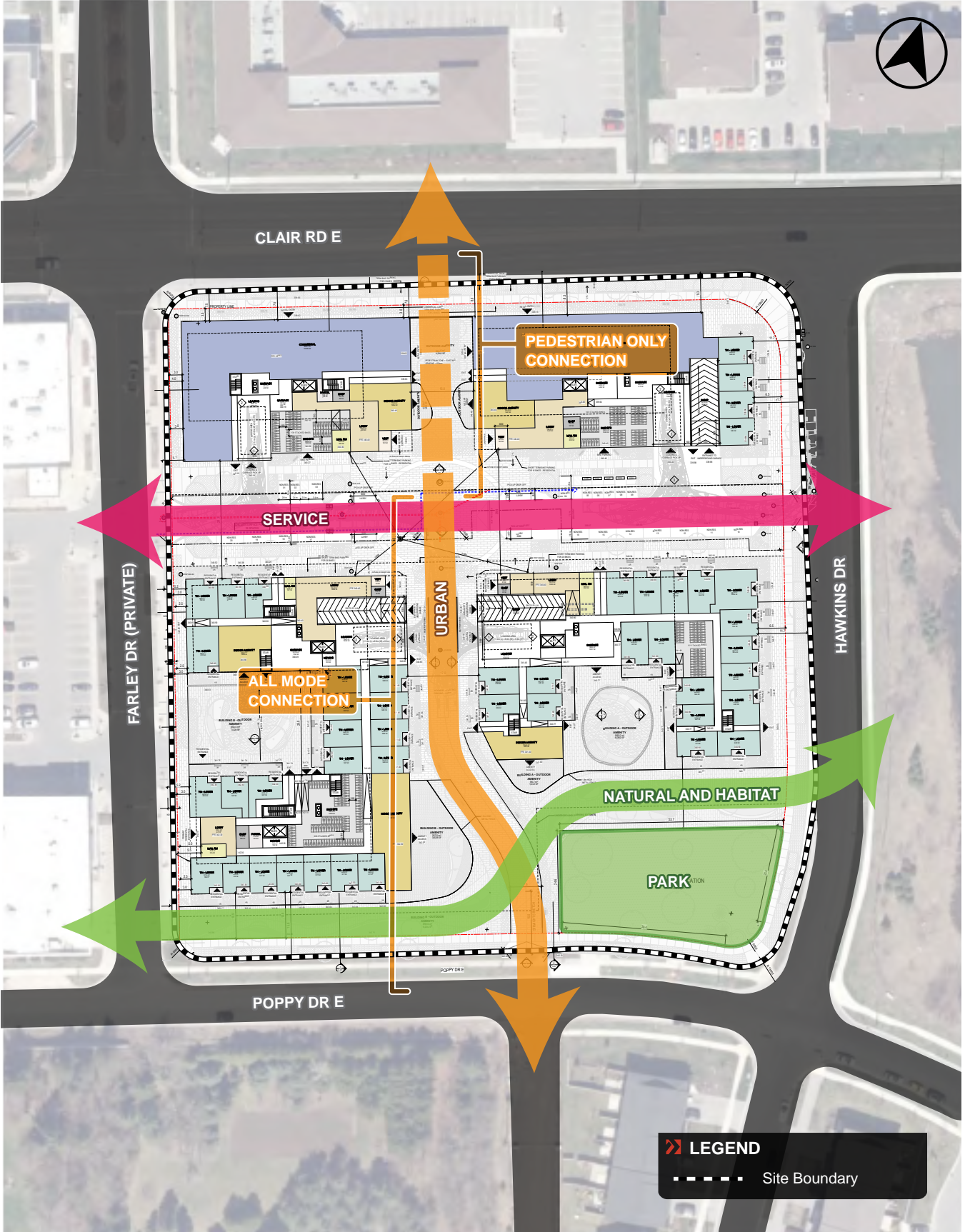


5.3.3 Tabled Intersection

To manage potential future vehicular traffic along the Internal East-West Street, and to promote the pedestrian-oriented nature of the internal connections, a tabled intersection of the two internal private streets is proposed. The south approach of the intersection is proposed to be flush with the tabletop and the north-south pedestrian connection to its north, further prioritizing this link as a core component of the Site. The tabled intersection will restrict vehicular travel speeds through the Site, requiring drivers to slow down when approaching and exiting the intersection.

This intersection is proposed to be all-way STOP-controlled and will further enhance the north-south active connection and provide pedestrians with a quality crossing location to access the entire development block.





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FIGURE 8 INTEGRATED SITE PLAN ELEMENTS

6.0 VEHICULAR PARKING CONSIDERATIONS

6.1 Existing Parking Conditions

The Site is currently subject to the City of Guelph Zoning By-law (1995)-14864 under Specialized Commercial Shopping Centre (CC-20). There is also a Council-approved new City-wide Zoning By-law (2023)-20790 that is currently under appeal. The CC-20 designation identifies a parking requirement of 1 space / 23m² GFA (4.35 spaces / 100m² GFA).

Existing parking observations were undertaken in November 2023 for the entirety of Pergola Commons (including the lands west of Farley Drive (private) and the Site). The existing parking supply for both the Site and the commercial lands west of Farley Drive (private) is provided in **Figure 9**. A summary of the existing parking supply and requirements for the entire Pergola Commons is provided in **Table 4**.

Table 4 Existing Site Parking Context – In-Force Zoning By-Law

Location	Required Rate	GFA	Required Supply	Existing Supply	Net Difference
East of Farley Drive (Site)	1 space / 23m ² GFA (4.35 spaces / 100 m ² GFA)	4,524 m ² GFA	197 spaces	304 spaces	+107 spaces
West of Farley Drive (Private)		8,897 m ² GFA	387 spaces	376 spaces	-11 spaces
Total		13,421 m² GFA	584 spaces	680 spaces	+96 spaces

As demonstrated above, Pergola Commons collectively exceeds the prevailing Zoning By-law requirement by 96 spaces. However, the commercial lands west of Farley Drive (private) have an 11-space deficiency if considered independently from the Site. Therefore, at the time of full build-out of the Site, the lands west of Farley Drive (private) would no longer conform to the prevailing Zoning By-law requirements.

To further gauge the existing Site parking context, a summary of existing parking demands for the entirety of Pergola Commons is provided in **Table 5**. Notably, the observed peak parking demand occurred during the Saturday evening peak hour.

Table 5 Existing Site Parking Demands

Location	GFA	Existing Observed Peak Demand	Functional Surplus / Deficit	Peak Demand Rate (space / 100 m ² GFA)
East of Farley Drive (Site)	4,524 m ² GFA	185 vehicles	+119 spaces	4.09 spaces / 100 m ² GFA
West of Farley Drive (Private)	8,897 m ² GFA	240 vehicles	+136 spaces	2.70 spaces / 100 m ² GFA
Total	13,421 m² GFA	425 vehicles	+255 spaces	3.17 spaces / 100 m² GFA



As demonstrated above, both the lands west of Farley Drive (private) and the Site operate with functional surpluses of over 100 parking spaces compared to peak demands. Furthermore, the peak demand rates for both portions of Pergola Commons are below the required Zoning By-law rate of 4.35 spaces / 100 m² GFA (1 space per 23m² GFA) under CC-20.

Zoning By-law (2023)-20790 (appealed) considers a zoning requirement of 3.0 spaces / 100 m² GFA. As noted in **Section 6.4.5**, adopting a rate of 3.00 spaces / 100 m² GFA for the existing to remain lands west of Farley Drive (private) would be appropriate to meet and exceed existing demands and is consistent with the latest Zoning By-law (2023)-20790 (appealed) for retail uses.



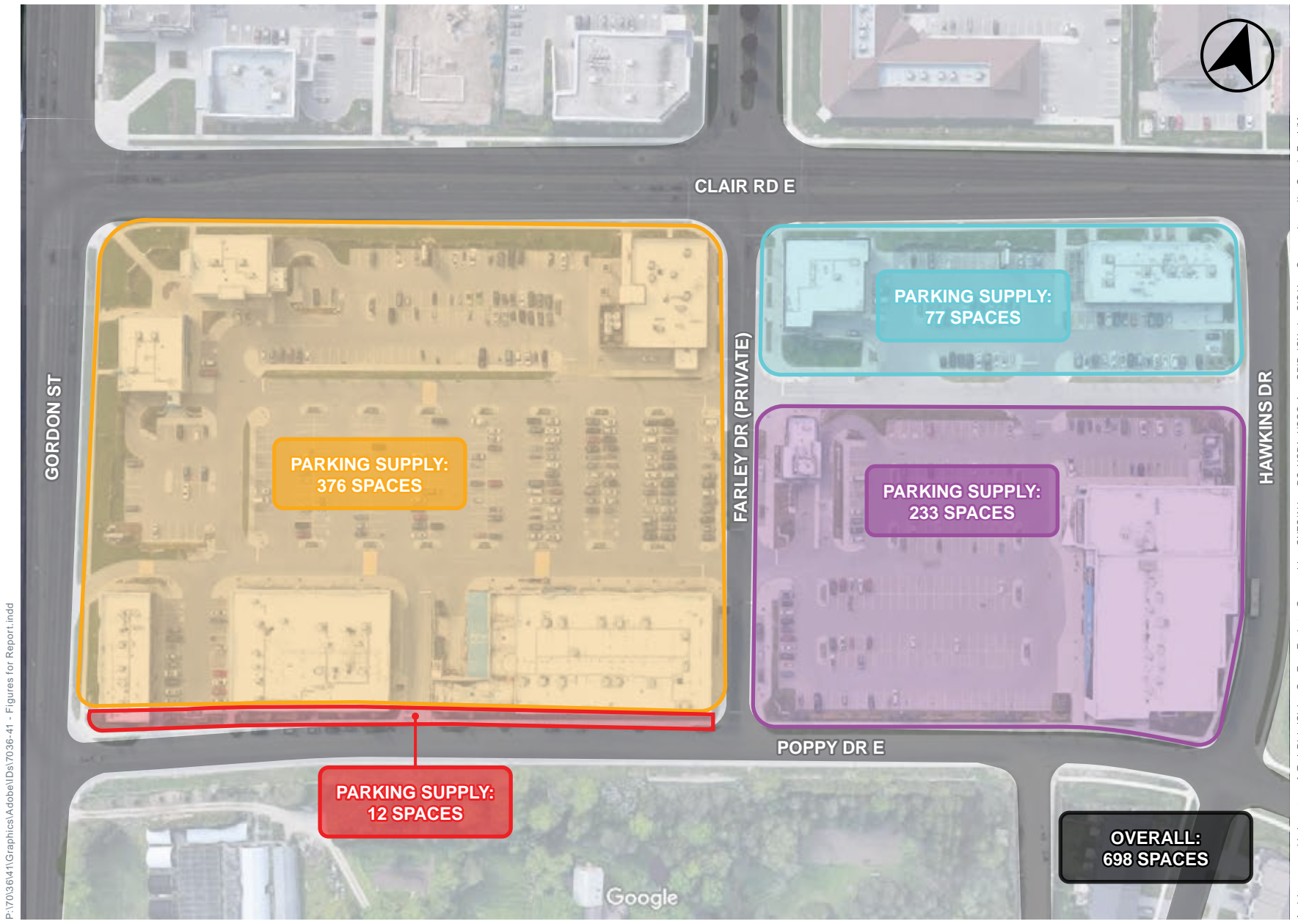


FIGURE 9 SITE PARKING CONTEXT

6.2 City of Guelph Zoning By-law (1995)-14864 Vehicular Parking Requirements

6.2.1 Vehicular Parking Requirements

Vehicular parking requirements for the Site under Zoning By-law (1995)-14864 based on the proposed land uses are provided in **Table 6**.

Table 6 Zoning By-law (1995)-14864 Vehicular Parking Requirements

Use	Units / GFA	Minimum Parking Rate		Minimum Parking Requirement
Resident Parking				
Resident	721 units	First 20 Units:	1.5 spaces / unit	30 spaces
		Subsequent Units	1.25 spaces / unit	877 spaces
		Total Residential		907 spaces
Residential Visitor		20% of Residential Requirement		182 spaces
Resident				725 spaces
Non-Residential Parking				
Retail Establishment	1,841 m ² GFA	1 space / 16.5 m ² GFA		112 spaces
Total Resident Parking				725 spaces
Total Residential Visitor Parking				182 spaces
Total Retail Parking				112 Spaces
Total Parking Requirement				1,019 spaces

Notes:

1. Based on Site statistics provided by SvN Architects, dated December 13th, 2023.

6.2.2 Accessible Parking Requirements

Zoning By-law (1995)-14864 requires that accessible parking be provided at the following rates:

400 or more required parking spaces: 4 spaces + 1 additional space per 100 required spaces.

Application of the above-noted accessible parking rate results in a requirement to provide 14 accessible parking spaces.



6.3 City of Guelph Zoning By-law (2023)-20790 (Appealed) Vehicular Parking Requirements

Notwithstanding the above, the City of Guelph Zoning By-law (2023)-20790 (appealed), approved by municipal Council in April 2023, represents the latest outlook on the provision of parking for new development in the City. The Site is considered to be subject to the resident and residential visitor parking rates for “Mixed Use Building” under Zoning By-law (2023)-20790 (appealed), as the later phases of development are proposed to include at-grade retail components. Use of the Mixed Use Building resident rates is also considered appropriate given the range of proximate retail and commercial uses, both on the Site west of Farley Drive and elsewhere nearby within a reasonable walking or cycling distance.

6.3.1 Vehicular Parking Requirements

Vehicular parking requirements for the Site under Zoning By-law (2023)-20790 (appealed) for Mixed Use Buildings are provided in **Table 7**.

Table 7 Zoning By-law (2023)-20790 (Appealed) Vehicular Parking Requirements

Use	Units / GFA	Minimum Parking Rate	Maximum Parking Rate	Minimum Parking Requirement	Maximum Parking Requirement
Resident Parking					
Resident ²	721 units	1 space / unit	1.5 spaces / unit	721 spaces	1,082 spaces
Permissible Resident Range				721 spaces	1,082 spaces
Non-Residential Parking					
Residential Visitor ²	721 units	0.1 spaces / unit	0.25 spaces / unit	73 spaces	181 spaces
Retail Establishment	1,841 m ² GFA	1.5 spaces / 100 m ² GFA	3 spaces / 100 m ² GFA	28 spaces	56 spaces
Permissible Non-Residential Range				101 spaces	237 spaces
Total Permissible Parking Supply				822 spaces	1,319 spaces

Notes:

1. Based on Site statistics provided by SvN Architects, dated December 13th, 2023.
2. Resident and residential visitor parking rates are consistent with those for Mixed Use Buildings.

6.3.2 Accessible Parking Requirements

Zoning By-law (2023)-20790 (appealed) requires that accessible parking be provided at the following rates:

201 to 1,000 required parking spaces: 2 accessible parking spaces plus an additional 2% of total spaces (rounded up to the nearest whole number) with an equal number of Type A and Type B accessible parking spaces.

Application of the above noted accessible parking rates results in a requirement to provide a total of 19 accessible parking spaces, inclusive of 9 Type A spaces and 10 Type B spaces.



6.3.3 Electric Vehicle Parking Requirements

Zoning By-law (2023)-20790 (appealed) requires that electric vehicle parking be provided at the following rates:

- A minimum of 20% of the total required parking spaces for mixed use buildings shall be electric vehicle parking spaces.
- A minimum of 80% of the total required parking spaces for mixed use buildings shall be provided as designed electric vehicle parking spaces.

Application of the recommended long-term parking rates for the Site results in a requirement to provide a minimum of 750 parking spaces. Therefore, 150 parking spaces across the Site are required to be electric vehicle parking spaces, and 600 parking spaces are required to be designed electric vehicle parking spaces.

6.4 Proposed Vehicular Parking Supply Strategy

The development plan currently proposes 791 parking spaces for the Site, including 269 spaces in Phase 1, 217 spaces in Phase 2, and 305 spaces in Phase 3. To support the proposed parking supply, Amendments to the prevailing Zoning By-law (1995)-14864 and the Council approved (appealed) Zoning By-law (2023)-20790 are being sought and a parking strategy has been developed.

A phased parking strategy has been developed for the Site that seeks to balance the need to provide parking in the near-term to accommodate current demands while capitalizing on the significant investment in area transit and active transportation planned by the City in the long-term. Details of the parking strategy are further discussed below.

6.4.1 Recommended Phase 1 Parking Provisions

To ensure that the Project provides an adequate amount of parking for the proposed uses and to avoid any potential off-Site impacts, the following minimum parking requirements are recommended for Phase 1, in accordance with the requirements in Zoning By-law (2023)-20790 (appealed):

- A minimum resident parking requirement of **1 space / unit**.
- A minimum residential visitor parking requirement of **0.1 spaces / unit**.

Based on the above parking requirements, Phase 1 would be required to provide 208 spaces. The current Site plan illustrates the provision of 269 spaces, including 248 resident spaces (1.3 spaces / unit) and 21 residential visitor spaces (0.1 spaces / unit), satisfying the recommended Phase 1 requirements, as well as the requirements for Mixed-Use Buildings under Zoning By-law (2023)-20790 (appealed).



6.4.2 Recommended Long Term Parking Requirements

Consistent with the goal of supporting non-auto modes of transportation and capitalizing on the significant investment in transit active transportation infrastructure planned by the City in the long-term, the following long-term parking rates are recommended for full build-out of the Site:

- A minimum resident parking requirement of **0.9 spaces / unit**.
- A minimum residential visitor parking requirement of **0.1 spaces / unit**.
- A minimum retail parking requirement of **1.5 spaces / 100 m² GFA**.

Application of the recommended long term parking rates is presented in **Table 8**.

Table 8 Proposed Long Term Parking Requirements

Use	Units / GFA	Rate (Min.)	Minimum Requirement
Resident Parking			
Resident	721 units	0.90 spaces / unit	649 spaces
Minimum Resident Requirement			649 spaces
Non-Residential Parking			
Residential Visitor	721 units	0.1 spaces / unit	73 spaces
Retail Establishment	1,841 m ² GFA	1.5 spaces / 100 m ² GFA	28 spaces
Minimum Non-Residential Requirement			101 spaces
Overall Minimum Parking Requirement			750 spaces

Notes:

1. Based on Site statistics provided by SvN Architects, dated December 13th, 2023.
2. The Draft Zoning By-law Amendment proposes permission to share resident visitor and retail parking requirements on a non-exclusive basis.

Application of the recommended long-term parking rates results in a requirement to provide 750 parking spaces, including 649 resident spaces, 73 residential visitor spaces, and 28 retail spaces.

6.4.3 Shared Parking Considerations

In addition to the above recommended parking rates, two sharing provisions are recommended for the Site, as follows:

1. **The ability to share resident parking spaces across different phases of development.** This maximizes the efficiency of Site parking provisions and allows flexibility for delivering parking supply need at each phase of development.
2. **The ability to share residential visitor and retail parking requirements on a non-exclusive basis.** This provision is consistent with making efficient use of the non-residential parking supply and recognizes that different land uses experience peak parking demands at various times throughout the day. Furthermore, shared parking is an accepted practice that encourages efficient sharing between land uses and reduces the total number of parking spaces required.



The current development plan proposes 791 spaces, including 692 resident spaces and a total of 99 non-residential spaces, meeting the recommended long-term parking requirements when applying the recommended shared parking provision #2.

The recommended long-term parking requirement targets a reduced resident parking supply that is reflective of the significant investment in transit and active transportation planned for the area by the City and acknowledges the evolving area context whereby the lands south of the Site continue to urbanize through development envisioned in the CMSP. The Site is also supported by a suite of Transportation Demand Management initiatives that will assist and support residents in encouraging reduced auto ownership and reliance. Proposed TDM measures for the Site are further discussed in **Section 9.0**.

BA Group recommends that Site Plan Applications for the various phases of development assess the evolving parking demands and context for the Site, and propose parking supplies consistent with the phasing strategy and recommended sharing provisions for the Site outlined above.

6.4.4 Recommended Accessible Parking Requirements

The accessible parking requirements provided in Zoning By-law (2023)-20790 (appealed) reflect an increased requirement relative to those provided in prevailing Zoning By-law (1995)-14864. BA Group recommends that the accessible parking requirements provided in Zoning By-law (2023)-20790 (appealed) be adopted for the Site. BA Group also recommends that the design of the Site complies with the *Accessibility for Ontarians with Disabilities Act (AODA)*.

6.4.5 Recommended Parking Requirements for Pergola Commons West of Farley Drive (Private)

To address the future deficiency of parking supply relative to the prevailing Zoning By-law requirements for Pergola Commons west of Farley Drive (private), and to continue to supply parking in line with existing observed parking demand rates, BA Group recommends adopting the parking for Retail Establishments rate in Zoning By-law (2023)-20790 (appealed) for the lands West of Farley Drive (private).

The recommended requirement of 3.00 spaces / 100 m² GFA exceeds the currently observed peak demand rate of 2.70 spaces / 100 m² GFA.



6.5 Proposed Parking Supply

Currently, 7911 parking spaces are proposed for the Site, which exceeds the proposed long term parking rates provided in **Table 8**, above. The proposed parking supply for the Site is provided in **Table 9**.

Table 9 Proposed Parking Supply

Phase	Units / GFA	Proposed Supply	
Phase 1	189 units	Resident	248 spaces
		Non-Residential	21 spaces
		Total	269 spaces
Phase 2	250 units	Resident	192 spaces
		Non-Residential	25 spaces
		Total	217 spaces
Phase 3	282 units 1,841 m ² GFA	Resident	252 spaces
		Non-Residential (Below-Grade)	29 spaces
		Non-Residential (At-Grade)	24 spaces
		Total	305 spaces
Build Out	721 units 1,841 m ² GFA	Resident	692 spaces
		Non-Residential	99 spaces
		Total	791 spaces

Notes:

1. Based on Site statistics provided by SvN Architects, dated December 13th, 2023.
2. Phase 3 reflects sharing between resident visitor and retail land uses.

The proposed Phase 1 parking supply of 248 resident spaces and 21 residential visitor spaces exceeds the rates required for Mixed Use Buildings in the City of Guelph’s Zoning By-law (2023)-20790 (appealed) as outlined in **Section 6.3.1**, as well as exceed the recommended Phase 1 parking supply requirements discussed in **Section 6.4.1**.

The proposed full build-out parking supply of 791 parking spaces, including 692 resident spaces and 99 non-residential visitor spaces meets the recommended long-term parking supply requirements discussed in **Section 6.4.2** when applying the proposed sharing provisions between residential visitor and retail uses on a non-exclusive basis

The parking needs for subsequent Phases of development after completion of Phase 1 will be confirmed through monitoring parking on the Site and through reviewing the overall trends related to parking demand as the Site builds out, while continuing to target the recommended long-term parking requirements presented in **Section 6.4.2**.



6.5.1 Proposed Accessible Parking Supply

The current development plan proposes 27 accessible parking spaces across the Site, meeting the recommended accessible parking requirements that are consistent with Zoning By-law (2023)-20790 (appealed).

The specific number, location, and design of barrier-free accessible parking spaces on a by-phase basis will be identified in subsequent Site plan applications.

6.5.2 Proposed Electric Vehicle Parking Supply

The current development plan meets the electric vehicle parking requirements provided in Zoning By-law (2023)-20790 (appealed), providing 166 electric vehicle parking spaces and 602 designed electric vehicle spaces.

The specific number, location, and design of electric vehicle parking spaces on a by-phase basis will be identified in subsequent Site plan applications.



7.0 BICYCLE PARKING CONSIDERATIONS

7.1 City of Guelph Zoning By-law (1995)-14864 Bicycle Parking Requirements

The prevailing City of Guelph Zoning By-law (1995)-14864 does not provide bicycle parking requirements for new development. As such, bicycle parking rates provided within the Council approved Zoning By-law (2023)-20790 (appealed) are considered appropriate for this application.

7.2 City of Guelph Zoning By-law (2023)-20790 (Appealed) Bicycle Parking Requirements

Bicycle parking requirements per Zoning By-law (2023)-20790 (appealed) are provided in **Table 10**.

Table 10 Zoning By-law (2023)-20790 (Appealed) Bicycle Parking Requirements

Use	Units / GFA	Minimum Rate		Minimum Requirement
		Short-Term	Long-Term	
Resident	721 units	Short-Term	0.1 spaces / unit	73 spaces
		Long-Term	1 space / unit	721 spaces
Retail Establishment	1,841 m ² GFA	Short-Term	0.2 spaces / 100 m ² GFA	4 spaces
		Long-Term	0.1 spaces / 100 m ² GFA	2 spaces
Total Bicycle Parking Requirement		Residential		794 spaces
		Retail		6 spaces
		Total		800 spaces

Notes:

1. Based on Site statistics provided by SvN Architects, dated December 13th, 2023.
2. Per Zoning by-law (2023)-20790 (appealed), calculated minimum parking requirements resulting in a fraction shall be rounded up to the next whole number.

Application of the bicycle parking requirements per Zoning By-law (2023)-20790 (appealed) results in a requirement to provide a total of 800 spaces, including 794 residential spaces and 6 retail spaces.



7.3 Proposed Bicycle Parking Supply

The current development concept proposes 858 bicycle parking spaces. The proposed requirements and supply are presented in **Table 11**.

Table 11 Proposed Site Bicycle Parking Supply

Use	Units / GFA	Minimum Requirement		Proposed Supply	Surplus
Residential	721 Units	Short-Term	73 spaces	76 spaces	+3 spaces
		Long-Term	721 spaces	774 spaces	+53 spaces
Retail Establishment	1,841 m ² GFA	Short-Term	4 spaces	4 spaces	--
		Long-Term	2 spaces	4 spaces	+2 spaces
Total			800 spaces	858 spaces	+58 spaces

Notes:

1. Based on Site statistics provided by SvN Architects, dated December 13th, 2023.

Residential long-term bicycle parking is proposed to be located at-grade within each individual building, and each long-term bicycle storage location will be accessible from both internal and external entrances. Residential short-term bicycle parking is proposed to be located adjacent to the lobby entrance along the Internal East-West Street for each respective building.

Retail long-term bicycle parking will be located within each respective retail space, while the retail short-term bicycle parking will be located along Clair Road East, proximate to the north-south pedestrian connection between Buildings C and D.

The proposed short- and long-term bicycle parking supply meets and exceeds the minimum requirements of Zoning By-law (2023)-20790 (appealed) and the Draft Zoning By-law Amendment for the Site.



8.0 LOADING CONSIDERATIONS

8.1 City of Guelph Zoning By-law Requirements

Neither the prevailing City of Guelph Zoning By-law (1995)-14864 nor the approved (appealed) Zoning By-law (2023)-20790 (appealed) provides specific minimum loading space rate requirements for new development. As such, loading space is allocated to each Phase of development based upon what is considered appropriate for the development context.

8.2 Proposed Loading Space Supply

The current development concept proposes dedicated loading facilities for each building on the Site to service the requirements of each development Phase. 1 loading space is proposed for each building to accommodate the residential requirements of the Site, as well as the future retail uses contained within Phase 3.

In accordance with the *Waste Collection Guidelines for Multi-Residential Developments in the city of Guelph (2019)*, waste bin staging is proposed to be provided at a rate of 0.3 m² / unit. A summary of the proposed loading space supply is provided in **Table 12**.

Table 12 Summary of Proposed Loading Space Provisions

Building	Units / GFA	Loading Space
Phase 1		
Building A	189 units	1 space
Phase 2		
Building B	250 units	1 space
Phase 3		
Building C	146 units	1 space
	875 m ² GFA	
Building D	136 units	1 space
	966 m ² GFA	

Notes:

1. Based on Site statistics provided by SVN Architects, dated December 13th, 2023.

The proposed loading supply exceeds existing requirements and protects for the staging areas calculated using the City's Waste Management Guidelines. Vehicle manoeuvring diagrams for a waste collection vehicle are demonstrated in **Appendix C** demonstrating there is adequate space on the site plan to facilitate refuse vehicle manoeuvres.

The specific design of waste collection facilities along with revised vehicle manoeuvring diagrams for refuse vehicles is expected to also be refined and demonstrated again in subsequent Site plan applications.



9.0 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) refers to a variety of strategies to reduce congestion, minimize the number of single-occupant vehicles, encourage non-auto modes of travel, and reduce vehicle dependency to create a sustainable transportation system. TDM works to change how, when, where, and why people travel.

TDM strategies have multiple benefits including the following:

- Reduced auto-related emissions to improve air quality;
- Decreased traffic congestion to reduce travel time;
- Reduced personal transportation costs and energy consumption; and
- Support Official Plan policies and Provincial smart growth objectives.

The City of Guelph *Transportation Impact Study Guidelines* (October 2023) (Guelph TIS Guidelines) provide a suite of recommended TDM measures which may be incorporated into development applications to contribute towards mitigating auto travel associated with new development. These potential TDM measures have been considered in the preparation of this TDM strategy.

The following outlines measures that are currently incorporated within the Site plan or are recommended to be implemented to support TDM. It is important to note that these TDM strategies will be refined throughout the design process and through subsequent submissions. A summary of the proposed and potential TDM measures are provided in **Table 13**.

Table 13 Proposed Transportation Demand Management Strategies

Focus Area	Intent	Implementation
Land Use Integration	A mixed-use development provides several uses that allow people to meet a variety of their needs on Site. These local land uses provide a level of convenience that reduces the need to travel far off-site for typical daily activity.	<ul style="list-style-type: none"> • The current proposal includes 721 residential units and 1,841 m² GFA of at-grade retail. • There are also numerous commercial buildings within walking distance of the Site that contain employment and retail opportunities (e.g., grocery, restaurants).
Pedestrian Connectivity	A high-quality, safe, connection between the Site and transit stops, cycling network, and public street system encourages residents and visitors to travel around the Site area without a vehicle.	<ul style="list-style-type: none"> • Pedestrian facilities (i.e., sidewalks) along all Site frontages will be improved as part of the proposed development. • Quality internal pedestrian connections (including the north-south shared street) will facilitate access for residents and Site visitors to the external pedestrian network.



Transit Use	Support for and the promotion of the use of area transit services for both short and long-distance travel by residents and visitors will reduce the overall use of a vehicle and the need to own one.	<ul style="list-style-type: none"> • The site is adjacent to numerous existing transit stops, providing convenient access to area destinations. • New residents will be made aware of the existing transit services in the vicinity of the site with an information package to be included in the building's "Welcome Package" for new residents. • Collaborate with City staff and transit providers as part of subsequent Site plan applications to identify potential ways to incentivize local transit as an option for new residents.
Bicycle Facilities	Provide cycling infrastructure that supports and promotes cycling as a convenient and viable travel alternative to the personal automobile.	<ul style="list-style-type: none"> • The current proposal includes 858 bicycle parking spaces, inclusive of 850 residential spaces and 8 retail spaces. • The long-term bicycle parking spaces are provided in secured and weather protected facilities at-grade within each respective building. • The current proposal includes one (1) bike repair station for use by residents and visitors to the Site. • New residents will be made aware of the existing active transportation facilities in the vicinity of the site with an information package to be included in the building's "Welcome Package" for new residents.
Parking Facilities	Reduced parking standards within the proposed development encourages residents and visitors to re-consider the use or ownership of a vehicle.	<ul style="list-style-type: none"> • Resident parking, as drafted in the Zoning By-law Amendment, is proposed to be supplied at an overall long term minimum rate of 0.90 spaces / unit for residents, a slight reduction from the requirements of Zoning By-law (2023)-20790 (appealed). • The applicant will provide unbundled parking (i.e., purchase of a parking space is separate from the purchase of a dwelling unit) for the development. This allows the purchaser to only pay for the parking they require.
Ride Sharing	Alternative options to car ownership includes the use of ride-sharing services (e.g., Uber, Lyft). Facilitating pick-up and drop-off activities makes this alternative to car ownership attractive and convenient.	<ul style="list-style-type: none"> • Pick-up / drop-off activities will be managed via the Internal East-West Street, which includes lay-by parking space to accommodate these activities for 3 proposed development phases. Lay-by facilities ensure that pick-up and drop-off activities can occur conveniently without negatively impacting day-to-day vehicular activity on either of the internal streets or the external street network.



10.0 VEHICULAR TRAFFIC VOLUMES FORECAST

10.1 Study Area

As part of this study, and as confirmed through the Terms of Reference, the following study area is considered for this analysis:

Signalized Intersections

- Clair Road East / Gordon Street
- Poppy Drive East / Gordon Street
- Clair Road East / Farley Drive

Unsignalized Intersections

- Clair Road East / Hawkins Drive
- Poppy Drive East / Hawkins Drive
- Poppy Drive East / Farley Drive
- Farley Drive East / Internal East-West Street
- Farley Drive / Existing Site Access / Adjacent Site Access
- Hawkins Drive / Internal East-West Street
- Poppy Drive East / 1888 Gordon Street site access

10.2 Traffic Forecast Scenarios and Design Periods

Traffic volumes forecasting and operations analyses have been undertaken for the weekday morning, weekday afternoon, and Saturday midday street-peak hours under the following conditions:

- Existing Traffic Conditions (2023) – traffic activity levels under current conditions.
- Future Background Traffic Conditions (2028, 2033, 2038) – traffic activity levels 5, 10, and 15 years into the future, considering allowances for general corridor growth, traffic growth associated with the CMSP, and traffic volumes associated with specific area background developments.
- Future Total Traffic Conditions (2028, 2033, 2038) – traffic activity levels 5, 10, and 15 years into the future, considering future background traffic conditions as well as incremental Site-generated traffic at each of these horizon years.



10.2.1 Existing Turning Movement Counts

Existing turning movement counts at study area intersections were reviewed to determine appropriate weekday morning, weekday afternoon, and Saturday peak hours to utilize as design periods for this analysis. To provide a representative capture of the study area network, network peak hours were considered for all design periods, rather than individual peak hours. This excludes, however, the Poppy Drive East / 1888 Gordon Street Site Access intersection, which was counted on a separate day from the rest of the network, and therefore uses its individual intersection peaks. The following network peak hours were determined to be appropriate for this analysis:

- AM Peak Hour: 8:00 am – 9:00 am
- PM Peak Hour: 4:45 pm – 5:45 pm
- SAT Peak Hour: 2:45 pm – 3:45 pm

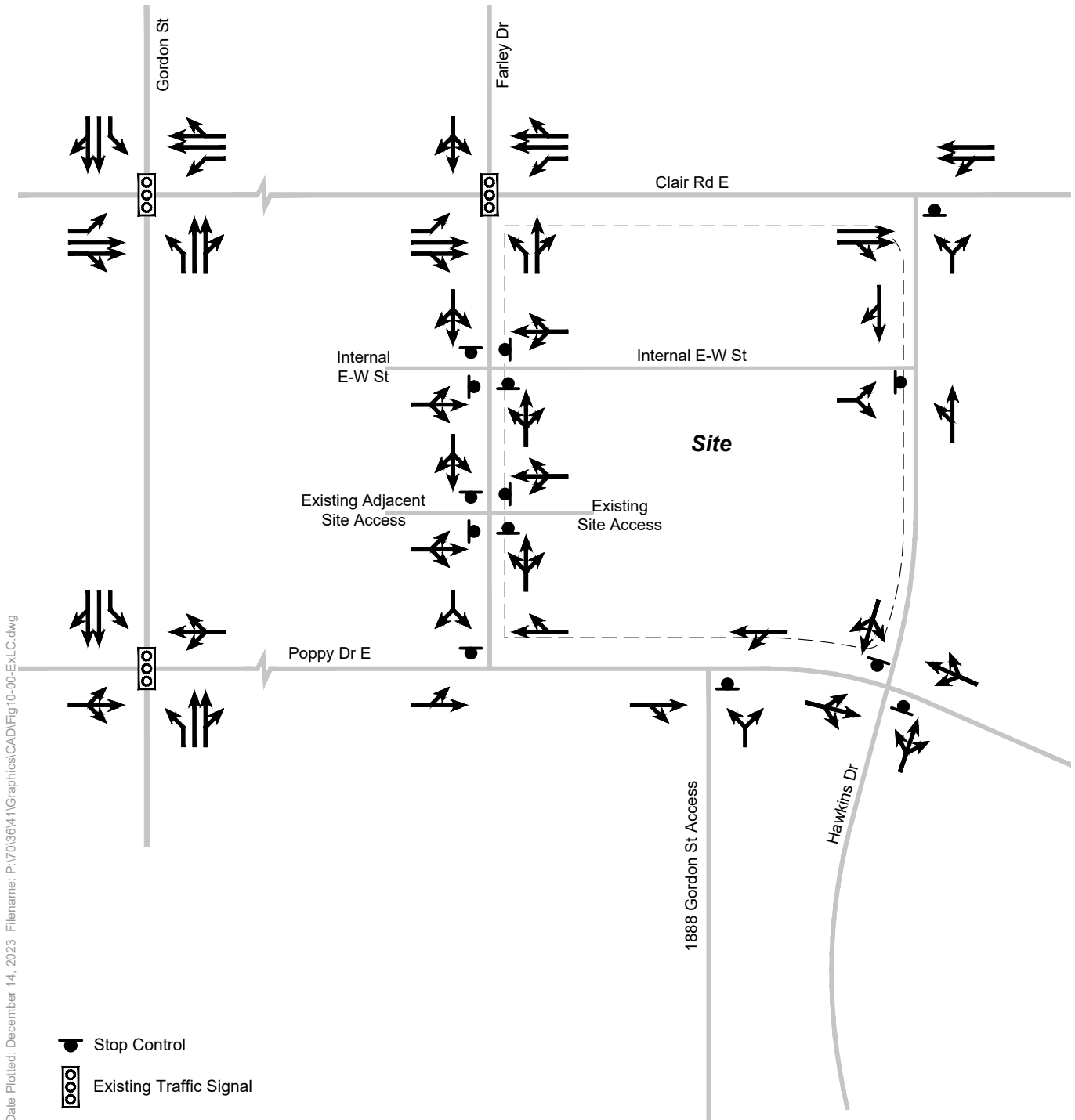
10.2.2 Existing and Future Lane Configurations and Traffic Controls

Existing and future lane configurations and traffic control are provided in **Figure 10** and **Figure 11**, respectively. The future study area road network is generally expected to remain the same as existing conditions, with the exception of the removal of the existing Site access south of the Farley Drive / Internal East-West Street intersection and adding a Site access along Poppy Drive East, opposite and aligned with the existing 1888 Gordon Street access.

A left-turn lane warrant was conducted for the east leg (westbound left) of the Clair Road East / Hawkins Drive intersection. This left turn is warranted under existing conditions.

A signal warrant was conducted at the Clair Road East / Hawkins Drive intersection. A signal is warranted under 2033 future background conditions with the growth of the Clair-Maltby Secondary Plan area. These warrants are further discussed in **Sections 11.3** and **11.4**, respectively.



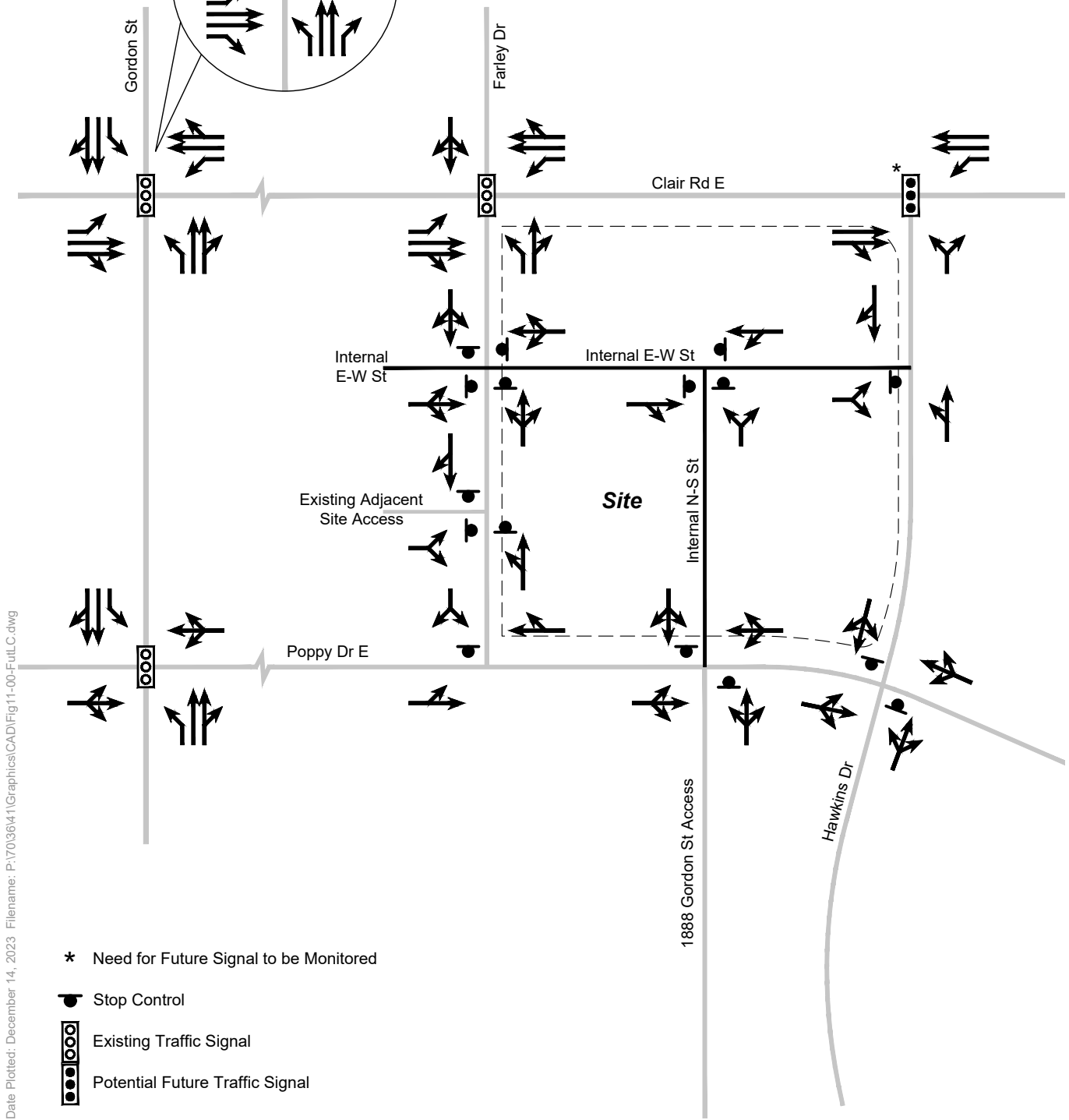
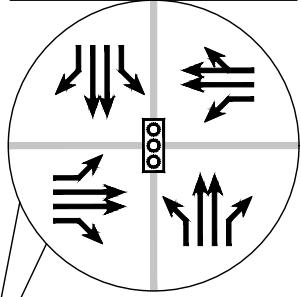


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FIGURE 10 EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL



Auxiliary right-turn lanes warranted under background conditions. To be monitored.



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- * Need for Future Signal to be Monitored
- Stop Control
- ⦿ Existing Traffic Signal
- ⦿ Potential Future Traffic Signal

FIGURE 11 FUTURE LANE CONFIGURATION AND TRAFFIC CONTROL

10.3 Existing Area Traffic Volumes & Travel Patterns

Existing area traffic volumes were established at study area intersections for the weekday morning, weekday afternoon, and Saturday midday peak hours using traffic count data obtained from traffic surveys undertaken by Spectrum Traffic Data Inc. These counts are detailed in **Table 14**, below.

Table 14 Existing Turning Movement Count Summary

Intersection	Control Type	Date Counted	Data Source
Clair Road East / Hawkins Drive	Unsignalized	Wed. Sept. 20 th , 2023 & Sat. Oct. 14 th , 2023	Spectrum Traffic Data, Inc.
Poppy Drive East / Hawkins Drive	Unsignalized		
Poppy Drive East / Farley Drive	Signalized		
Poppy Drive East / Gordon Street	Signalized		
Clair Road East / Gordon Street	Signalized		
Clair Road East / Farley Drive	Unsignalized		
Farley Drive / Internal E-W Street	Unsignalized		
Farley Drive / Existing Site Access / Adjacent Site Access	Unsignalized		
Hawkins Drive / Internal E-W Street	Unsignalized		
Poppy Drive East / 1888 Gordon Street Site Access	Unsignalized		

Weekday midday peak periods were also counted upon request by the City and Turning Movement Count (TMCs) were provided as part of the Terms of Reference. The weekday morning, weekday afternoon, and Saturday peak hours sufficiently represented peak design traffic conditions and were adopted for analysis. Detailed turning movement counts are provided in **Appendix E**.



10.3.1 Existing Cut-Through Traffic Through Site

Preliminary correspondence with the City of Guelph identified the potential for existing external area traffic to utilize the Internal East-West Street as a cut-through link between the Clair Road East / Hawkins Drive intersection and the commercial lands adjacent to the Site west of Farley Drive. Additionally, it was noted that existing traffic may utilize the Site's Internal East-West Street as a short-cut to avoid the Clair Road / Gordon Street intersection and /or the Clair Road East / Farley Drive intersection. As such, the existing cut-through and short-cut activity was reviewed as part of the assessment of existing area traffic conditions.

The two potential cut-through / short-cut routes considered as part of this review are illustrated in **Exhibit 1**, below.

Exhibit 1: Reviewed Cut-Through / Short-Cut Routes



It should be noted that peak cut-through traffic does not necessarily occur during the determined peak-hour design periods for the morning, afternoon, and Saturday peak hours. To provide a consistent model, cut-through traffic during the adjacent street peak-hour design periods is utilized in this comparison. Existing cut-through and short-cut activity for both Route #1 and Route #2 are summarized in **Table 15**.

Table 15 Existing Cut-Through and Short-Cut Activity

Route	AM Peak Hour Cut-Through Traffic			PM Peak Hour Cut-Through Traffic			SAT Peak Hour Cut-Through Traffic		
	EB	WB	2-Way	EB	WB	2-Way	EB	WB	2-Way
Route #1	4	12	16	20	13	33	10	22	32
Route #2	0	0	0	0	0	0	0	0	0
Total Cut-Through Traffic	4	12	16	20	13	33	10	22	32

Notably, the relative volumes of cut-through traffic through the Site are quite low, compared to the adjacent link volumes (between the Clair Road East / Farley Drive and Clair Road East / Hawkins Drive intersections). Therefore, cut-through routes through the Site are not considered to function as an alternative route for vehicular traffic travelling along either the Clair Road East or Gordon Street corridors. The Internal East-West Street functions as both an access to the existing commercial buildings on the Site as well as for those located west of Farley Drive. Cut-through volumes through the Site are considered to be relatively low compared to the broader traffic activity within the study area, and as such, are not considered to be a concern for the future design and traffic operations of the Site.

10.3.2 Existing Queuing Activity at Clair Road East / Farley Drive

A queuing study was undertaken for the south approach of the Clair Road East / Farley Drive intersection to assess existing conditions and determine the potential for queuing into the Farley Drive / Internal East-West Street intersection to its south. A summary of existing queuing activity at the south approach of the Clair Road East / Farley Drive intersection is provided in **Table 16**, and detailed information from the queue study is provided in **Appendix F**.

Table 16 Existing Queuing Activity at Clair Road East / Farley Drive

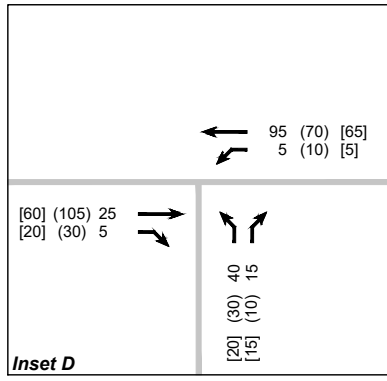
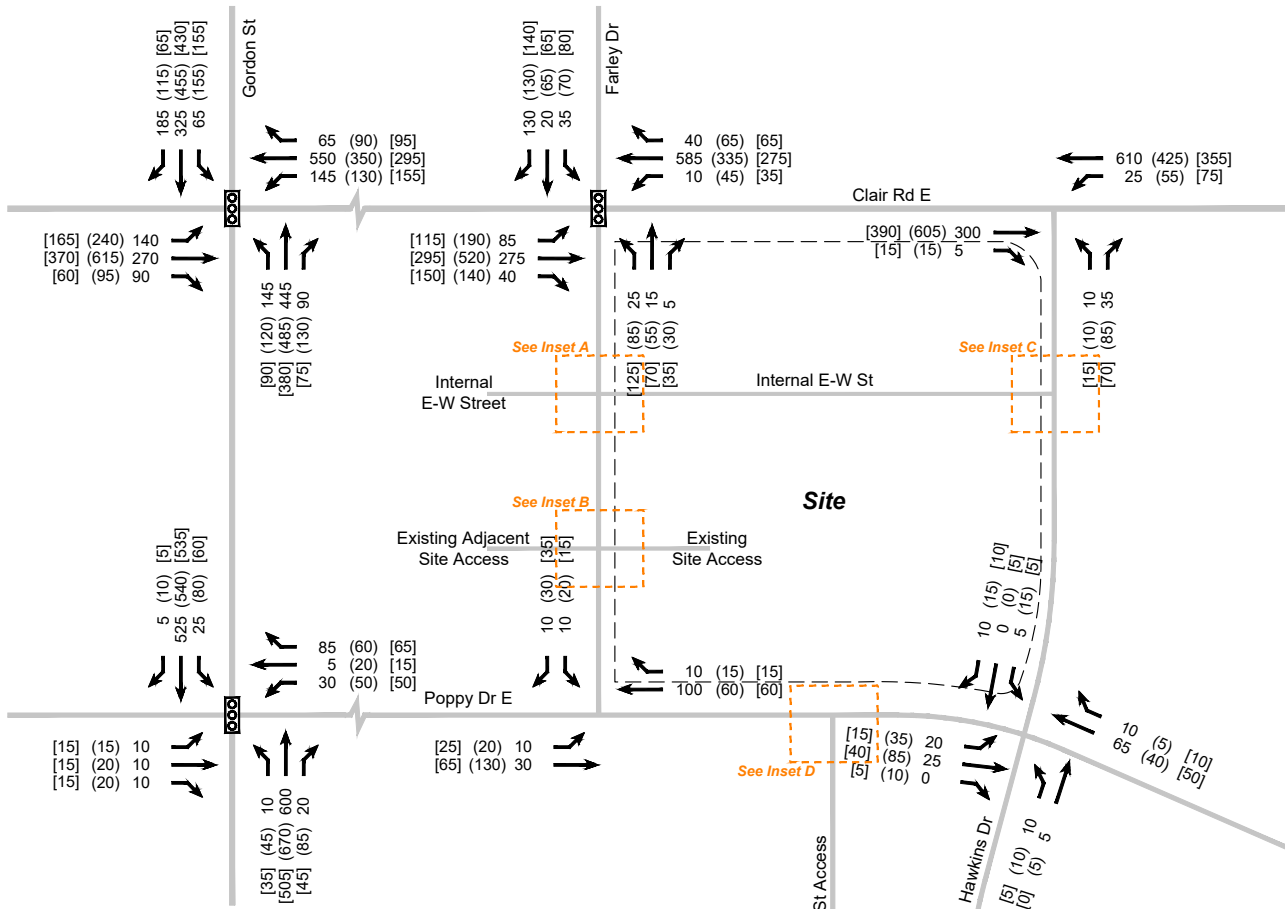
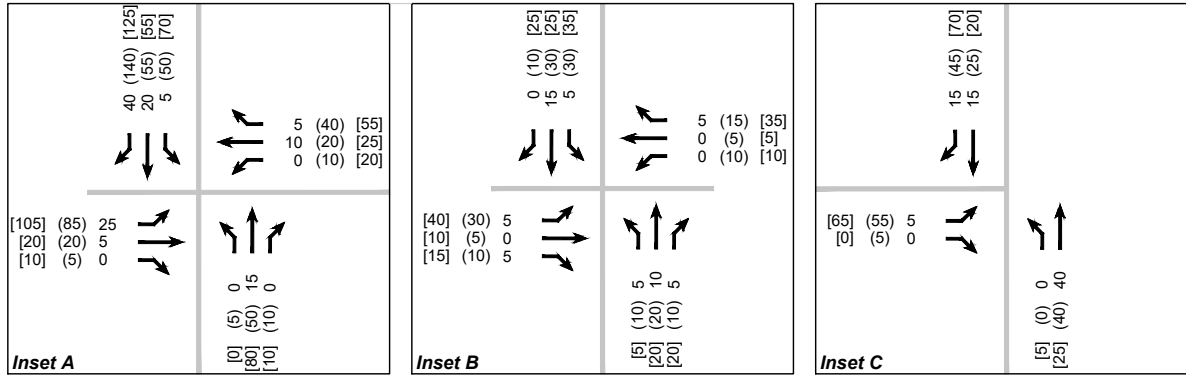
Period	Segment Distance	95 th Percentile Queue ¹	
		Left Lane	Curb Lane
Morning	40 m	14 m	7 m
Midday		35 m	7 m
Afternoon		28 m	7 m
Saturday		35 m	7 m

Notes:

1. Conservatively assumes 1 car length is 7 metres.

As demonstrated above, existing queuing activity at the south approach of the Clair Road East / Farley Drive intersection can be acceptably accommodated without extending into the Farley Drive / Internal East-West Street intersection to the south.





- 00 AM Peak Hour
- (00) PM Peak Hour
- [00] SAT Peak Hour
- Existing Traffic Signal

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FIGURE 12 EXISTING TRAFFIC VOLUMES

10.4 Future Background Traffic Volumes

Traffic growth on the study area road network has been considered through an evaluation of general area corridor growth, as well as consideration for specific area background developments, including those considered in the Clair-Maltby Secondary Plan.

10.4.1 Corridor Growth

General corridor growth rates were determined through preliminary correspondence with the City of Guelph, and have been applied to the study area corridors as follows:

- 0.5% for Gordon Street for all horizon years
- 1.5 % for Clair Road up to build-out of Phases 1 & 2 (2028) and up to build-out of Phase 3 and 5-years after build-out of Phases 1 & 2 (2033)
- 1.0% for Clair Road at 5 years after build-out of Phases 1 & 2 and at build out of Phase 3 (2033) and up to 10 years after build-out of Phases 1 & 2 and 5 years after build-out of Phase 3 (2038)

10.4.2 Area Background Developments

Consistent with prior correspondence with the City of Guelph, and given the contextual location of the Site in growing south Guelph, specific area background developments the following specific area background developments have been considered in this study, as presented in **Table 17**.

Through correspondence with the City of Guelph, and as stated in the agreed-upon TIS Terms of Reference, a phased approach has been undertaken for the application of traffic volumes associated with area background developments, particularly for background and site traffic associated with the Clair-Maltby Secondary Plan, which considers a long-term projected build-out period.



Table 17 Area Background Developments

Site Name / Location	Estimated Development Statistics ¹	Phasing of Considered Traffic Volumes		
		2028	2033	2038
Clair-Maltby Secondary Plan Background Developments				
Neumann Subdivision (132 Clair Road West)	10,497 m ² GFA General office, medical-dental office, and business park	25%	50%	100%
Southgate Business Park (Northeast quadrant of Crawley Road / Maltby Road intersection)	150, 502 m ² GFA Manufacturing and warehousing uses			
Hanlon Creek Business Park (Laird Road / Hanlon Creek Boulevard intersection)	No site statistics considered for this development			
Dallan Subdivision ² (161, 205, 253 Clair Road East)	79 single detached units 126 townhouses 204 apartment units			
South End Centre (South of Bishop Macdonell Catholic Highschool)	13,935 m ² GFA Recreation Centre			
1888 Gordon Street ³	460 apartment units and townhouses			
Clair-Maltby Secondary Plan Generated Traffic				
CMSP Generated Traffic	10,125 residential units & 333 jobs	25%	50%	100%
Additional Area Background Developments				
331 Clair Road East	136 stacked townhouse units	100%	100%	100%
287 Clair Road East	Proposed 246 mid-rise apartment units.			

Notes:

1. Estimated development statistics derived from *Clair-Maltby Secondary Plan Transportation Report* and applicable TIS’.
2. Dallan Subdivision assumed to be 95% complete at present; therefore, only 5% of generated traffic volumes are considered for this background development herein.
3. Traffic volumes associated with 1888 Gordon Street have been conservatively included in this analysis, as current occupancy levels are unknown.
4. No trips assigned to Hanlon Creek Business Park, consistent with *Clair-Maltby Secondary Plan Transportation Report*.



CMSP Generated Traffic Saturday Vehicle Trip Scaling

The *Clair-Maltby Secondary Plan Transportation Master Plan Study* did not report a Saturday peak period scenario; therefore, to forecast Saturday peak period trips for the purposes of this analysis, a scaling factor was applied to the afternoon peak period trips, based on *ITE Trip Generation Manual* rates.

Trips forecast within the *Clair-Maltby Secondary Plan Transportation Master Plan Study* are presented in **Table 18**, below. Overall generated trips during the afternoon peak period and the Saturday peak period are used as the basis for determining the scaling factor for the Clair-Maltby Secondary Plan background traffic in this study.

Table 18 Saturday Peak Period Forecast Scaling – CMSP Generated Traffic

<i>ITE Trip Generation Manual</i> 10 th Ed. Land Use Code	CMSP Assumed Units / Jobs	PM Peak Period			SAT Peak Period		
		In	Out	2-Way	In	Out	2-Way
Single-Family Detached Housing (LUC 210)	2,152 units	1,218	716	1,934	986	840	1,826
Multi-Family Housing (Mid-Rise) (LUC 221)	3,925 units	916	585	1,501	811	844	1,655
Multi-Family Housing (High-Rise) (LUC 222)	4,048 units	845	540	1,385	703	576	1,279
General Office Building (LUC 710)	333 jobs	30	148	178	16	14	30
Total Generated Trips		3,009	1,989	4,998	2,516	2,274	4,790
Scaling Factor for SAT Peak Period Trips (SAT 2-Way / PM 2-Way)							-4.2%

Notes:

1. *ITE Trip Generation Manual 10th Ed.* was used in the *Clair-Maltby Secondary Plan Transportation Master Plan Study*. The entries and factors noted above refer to the 10th Ed. to remain consistent. Additional Background Development traffic generation beyond the CMSP Transportation Study adopts the latest *ITE Trip Generation Manual 11th Ed.* rates.

As indicated above, traffic forecasted within the *Clair-Maltby Secondary Plan Transportation Master Plan Study* indicated a 4.2% reduction in Saturday peak period traffic relative to afternoon peak period volumes. This scaling factor was applied to the Clair-Maltby Secondary Plan generated background traffic for this study.

Additional Background Traffic Saturday Trip Scaling

Additional background developments considered in this study, identified by the City of Guelph, did not report a Saturday peak period scenario. To forecast Saturday peak period trips for the purposes of this analysis, a scaling factor was applied to the afternoon peak period trips, based on the latest *ITE Trip Generation Manual, 11th Ed.* relative vehicle trips generated by the background development site statistics. The following land use codes were considered in forecasting future trip generation for the various background development uses:

- Multi-Family Housing (Mid-Rise) (LUC 221)
- Multi-Family Housing (Low-Rise) (LUC 220)
- Single Family Detached Housing (LUC 210)
- Single Family Attached Housing (LUC 215)
- Manufacturing (LUC 140)
- General Warehousing (LUC 150)
- General Office (LUC 710)
- Medical-Dental Office (LUC 720)
- Business Park (LUC 770)
- Recreation Centre (LUC 495)



Table 19 Saturday Peak Period Forecast Scaling – Additional Background Developments

ITE 11 th Ed. LUC	CMSP Assumed Units / GFA	PM Peak Period			SAT Peak Period		
		In	Out	2-Way	In	Out	2-Way
Manufacturing ¹ (LUC 140)	27,870 m ² GFA	69	153	222	28	26	54
General Warehousing ¹ (LUC 150)	122,632 m ² GFA	67	171	238	42	24	66
Single-Family Detached Housing (LUC 210)	100 units	59	35	94	50	42	92
Single-Family Attached Housing (LUC 215)	162 units	54	38	92	44	48	92
Multi-Family Housing (Low-Rise) ¹ (LUC 220)	136 units	44	26	69	27	29	56
Multi-Family Housing (Mid-Rise) (LUC 221)	1,159 units	276	176	452	231	221	452
Recreation Centre ¹ (LUC 495)	13,935 m ² GFA	176	199	375	87	74	160
General Office ¹ (LUC 710)	1,050 m ² GFA	3	14	16	3	3	6
Medical-Dental Office ¹ (LUC 720)	1,394 m ² GFA	18	41	59	26	19	45
Business Park ² (LUC 770)	8,053 m ² GFA	27	78	106	27	27	53
Total Generated Trips		793	931	1,723	564	513	1,077
Scaling Factor for SAT Peak Period Trips (SAT 2-Way / PM 2-Way)							-37%

Notes:

1. ITE Trip Generation Manual, 11th Ed. for Saturday trips has a small sample size.
2. 25% of land allocated for Business Park allocated as GFA, consistent with assumptions for General Office and Medical-Dental Office in Neumann TIS.
3. ITE Trip Generation Manual, 11th Ed. does not provide Saturday peak hour of generator trips for business park. Overall Saturday trips scaled down using scaling factor for General Office (LUC 710).

The large proportion of trips generated by employment-based uses considered as background developments as part of this study results in a scaling factor of -37% for the Saturday trips relative to PM peak hour trips associated with the additional background developments identified in **Table 17** (excluding CMSP generated traffic).



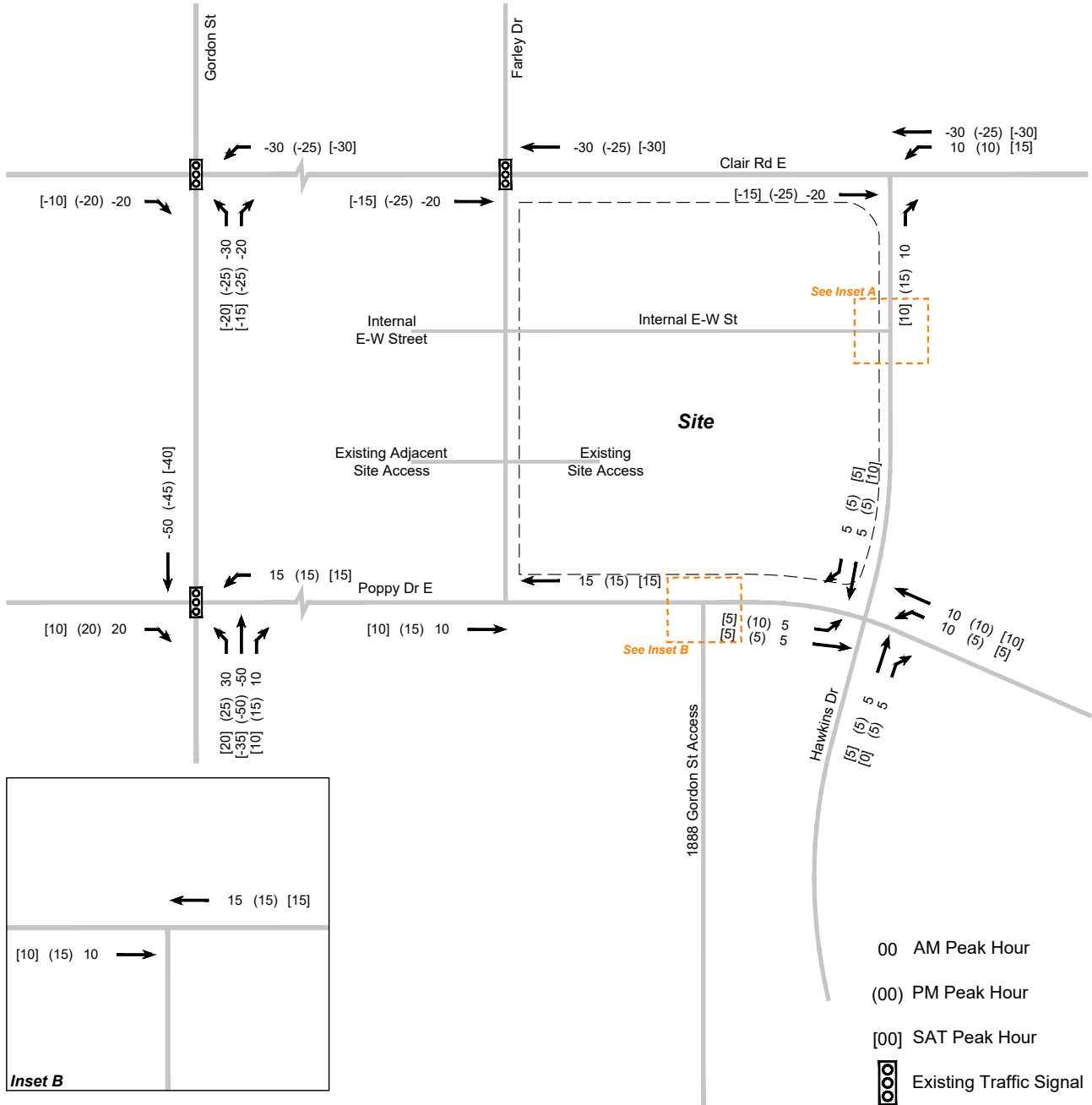
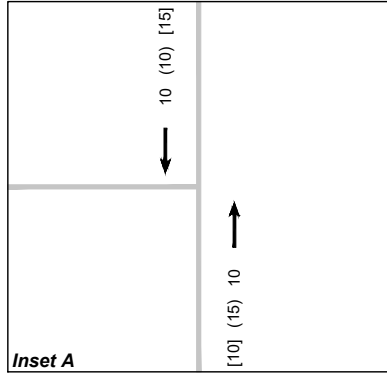
10.4.3 Reassignment of Traffic to Future Corridors


As the future collector road network planned as part of the Clair-Maltby Secondary Plan is built out, it is expected that some background traffic on the area road network will reassign to these new routes, particularly as the Plan continues to be built out and area traffic continues to increase.

As discussed in **Section 11.2.1**, the future Hawkins Drive extension and the future Poppy Drive West extension are assumed to be complete for the 2033 and 2038 horizon periods, enhancing the area road network and providing increased routing choice in South Guelph. The reassignment of existing traffic (including horizon period corridor growth) to reflect the availability of alternative routing options for the 2033 and 2038 horizons is illustrated in **Figure 13** and **Figure 14**.

Background development traffic, including traffic associated with the build-out of the Clair-Maltby Secondary Plan and the additional background developments considered in this study, were also reassigned to the future collector road connections. This reassignment of background development traffic is reflected in the future background traffic figures.

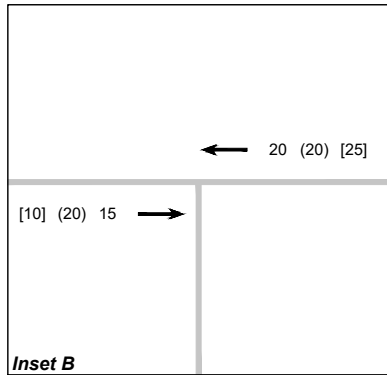
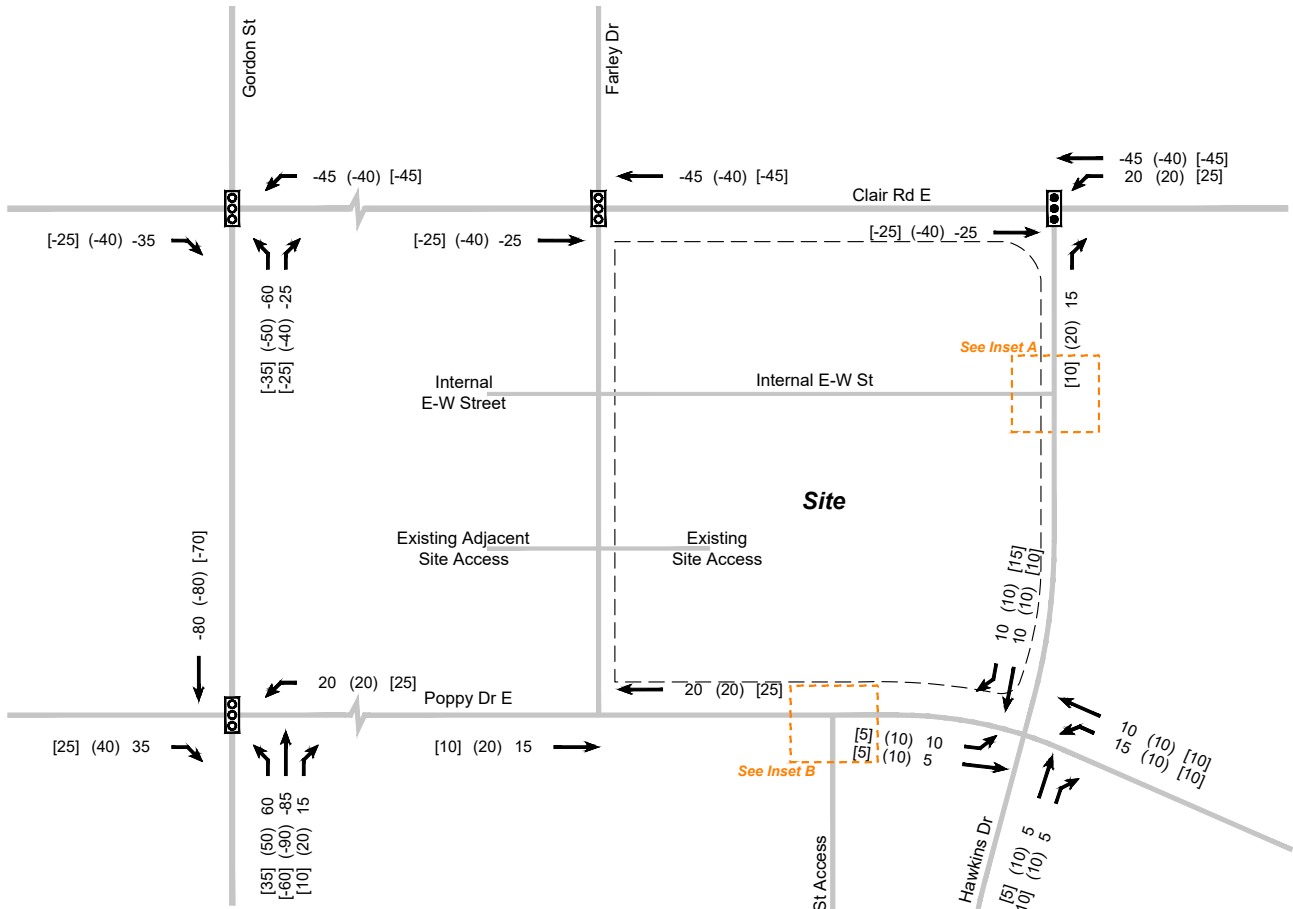
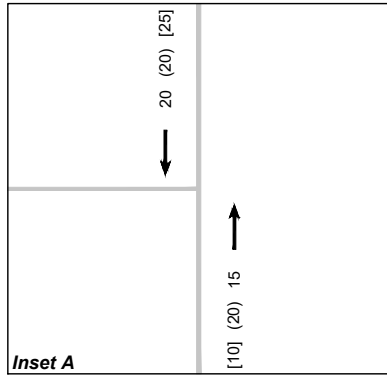




- 00 AM Peak Hour
- (00) PM Peak Hour
- [00] SAT Peak Hour
-  Existing Traffic Signal

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FIGURE 13 2033 EXISTING AND CORRIDOR GROWTH TRAFFIC REASSIGNMENT



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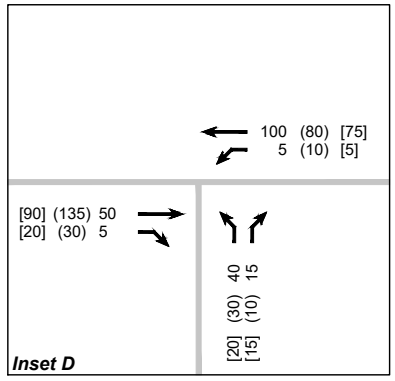
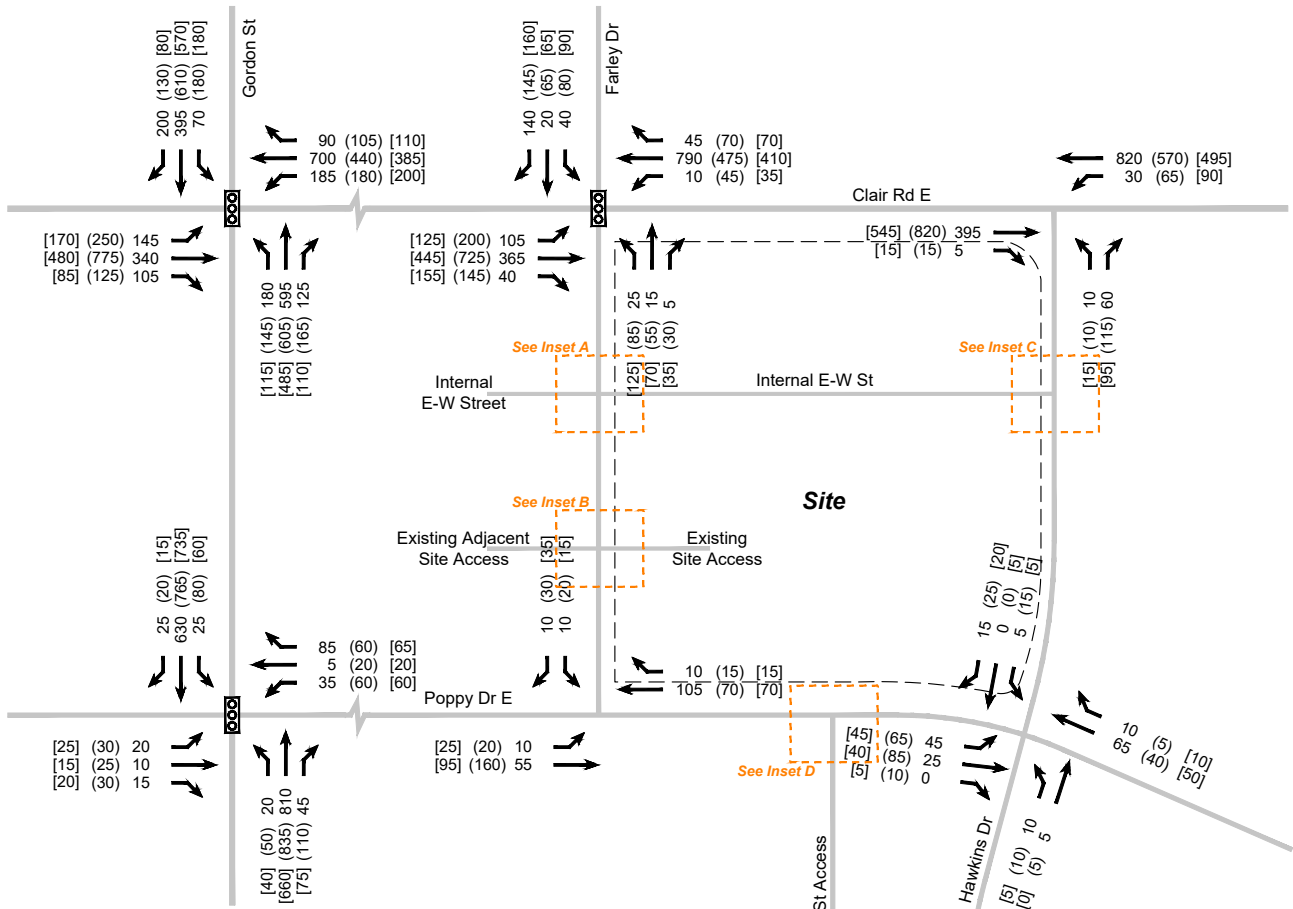
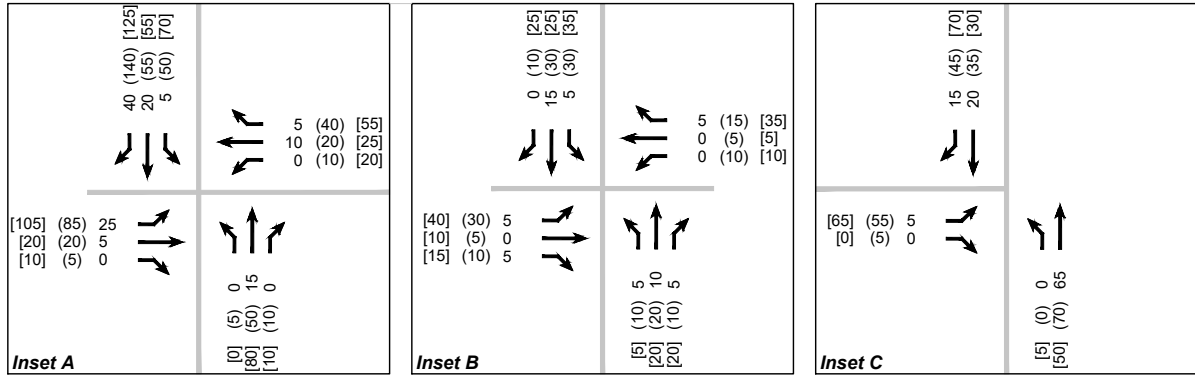
- 00 AM Peak Hour
- (00) PM Peak Hour
- [00] SAT Peak Hour
- Existing Traffic Signal
- Potential Future Traffic Signal

FIGURE 14 2038 EXISTING AND CORRIDOR GROWTH TRAFFIC REASSIGNMENT

10.4.4 Future Background Traffic Volumes

Future background traffic volumes adopt the addition of existing area traffic volumes, corridor growth, the morning and afternoon peak hour site traffic volumes from the individual traffic studies for both the CMSP and area background developments, and the expected reassignment of traffic on the future collector road network. Saturday peak hour traffic adopted for the CMSP and area background developments considered a - 4% and - 37% scaling factor, respectively, from afternoon peak hours trips in order to assign Saturday peak hour traffic for related background development site trips to the area road network. Future background traffic volumes for the horizon years 2028, 2033, and 2038 are provided in **Figure 15**, **Figure 16**, and **Figure 17**, respectively.

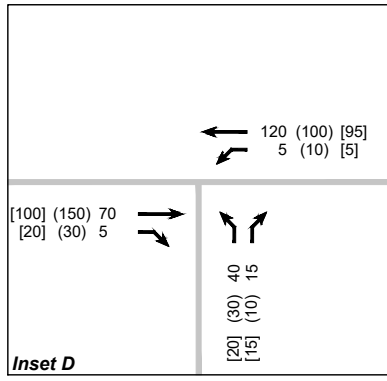
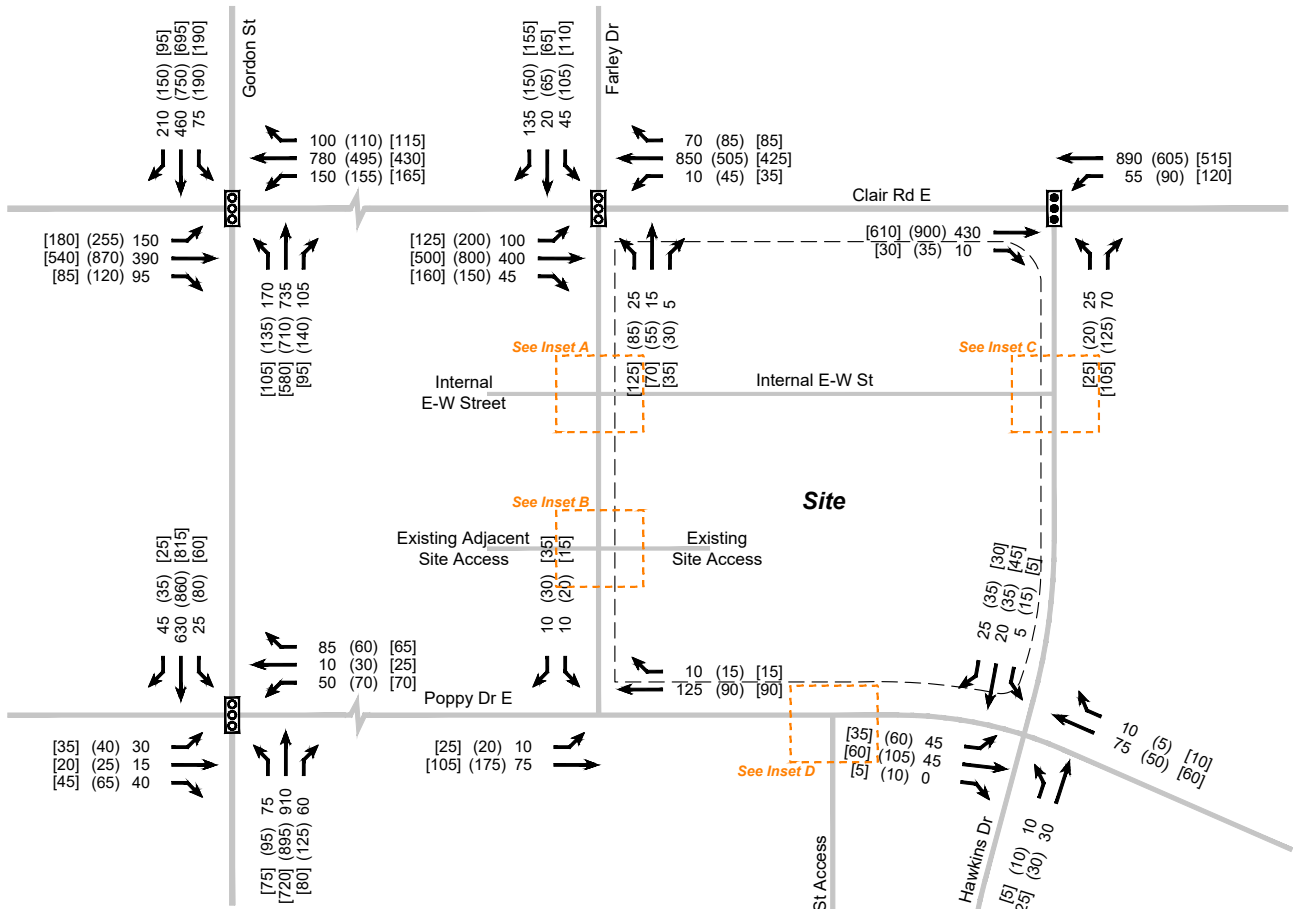
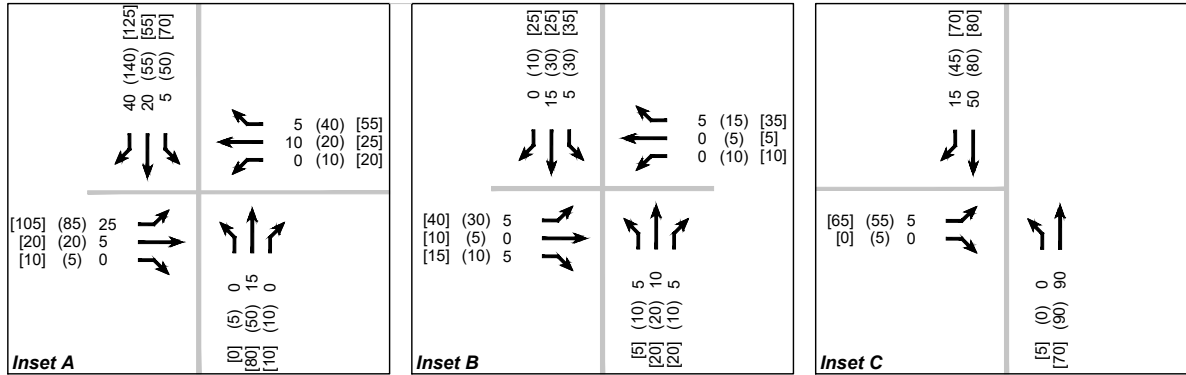




- 00 AM Peak Hour
- (00) PM Peak Hour
- [00] SAT Peak Hour
- Existing Traffic Signal

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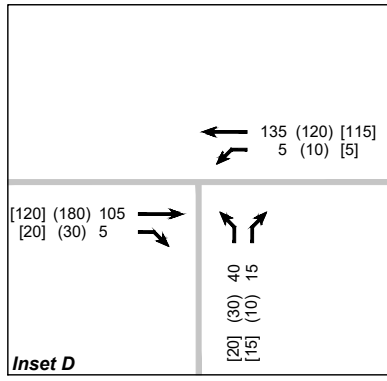
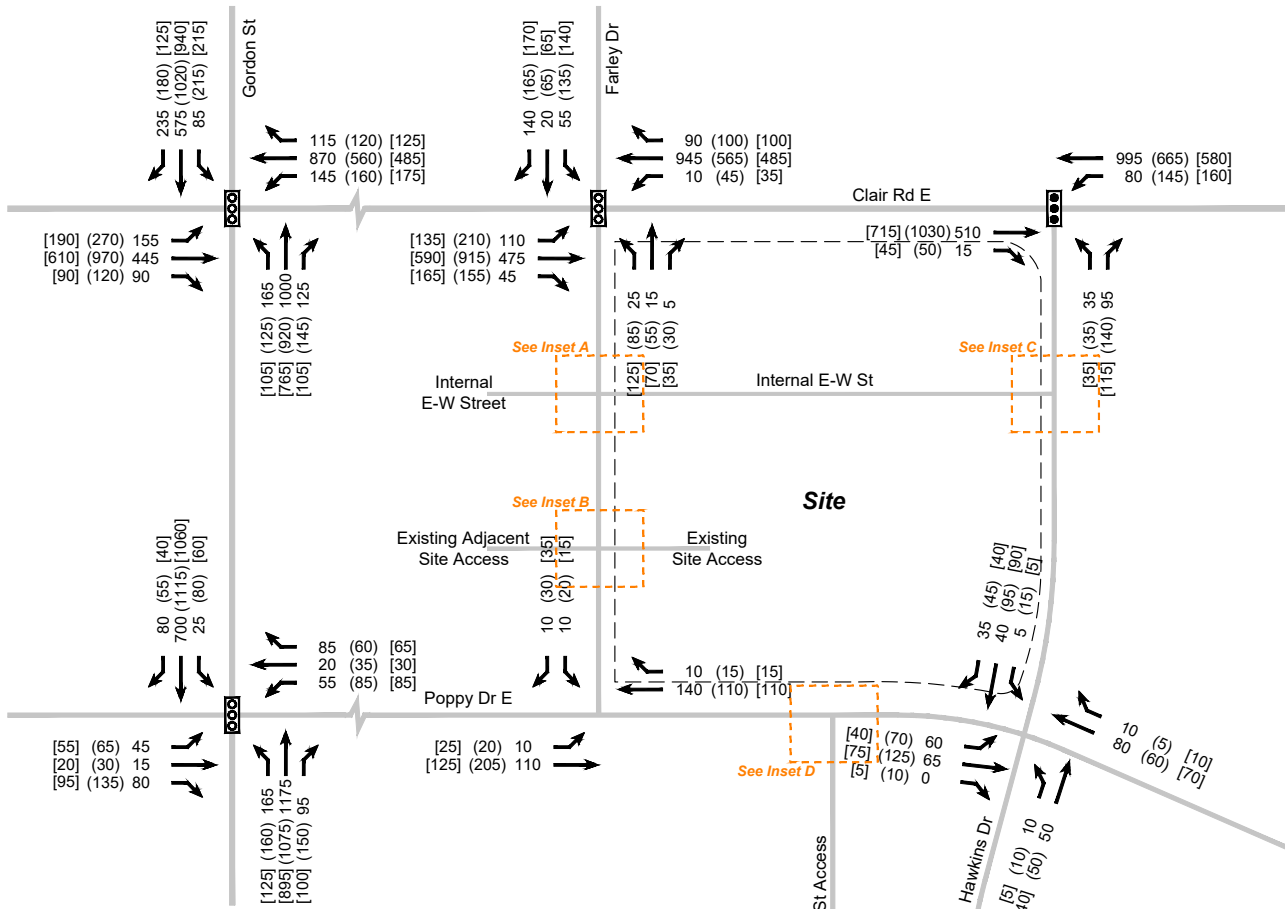
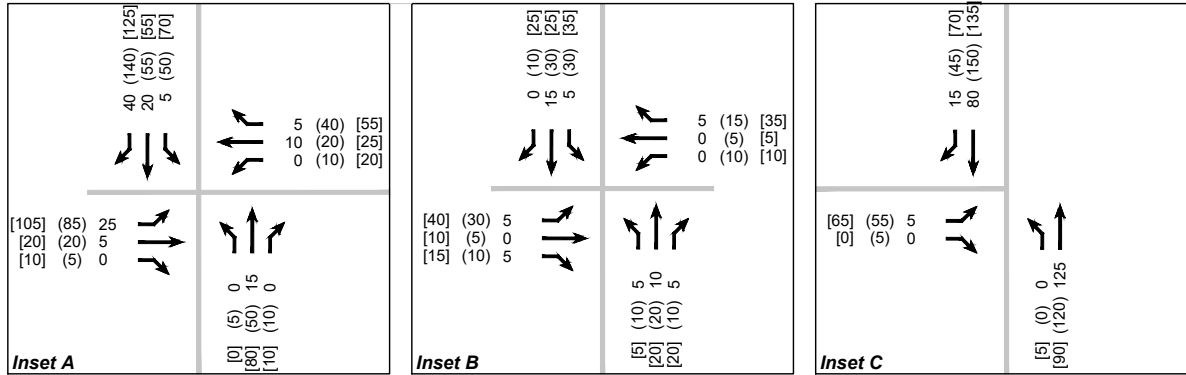
FIGURE 15 2028 FUTURE BACKGROUND TRAFFIC VOLUMES



- 00 AM Peak Hour
- (00) PM Peak Hour
- [00] SAT Peak Hour
- Existing Traffic Signal
- Potential Future Traffic Signal

Date Plotted: December 14, 2023 Filename: P:\70\36\41\Graphics\CAD\Fig16-00-FB2033.dwg

FIGURE 16 2033 FUTURE BACKGROUND TRAFFIC VOLUMES



- 00 AM Peak Hour
- (00) PM Peak Hour
- [00] SAT Peak Hour
- Existing Traffic Signal
- Potential Future Traffic Signal

Date Plotted: December 14, 2023 Filename: P:\70\36\41\Graphics\CAD\Fig17-00-FB2038.dwg

FIGURE 17 2038 FUTURE BACKGROUND TRAFFIC VOLUMES

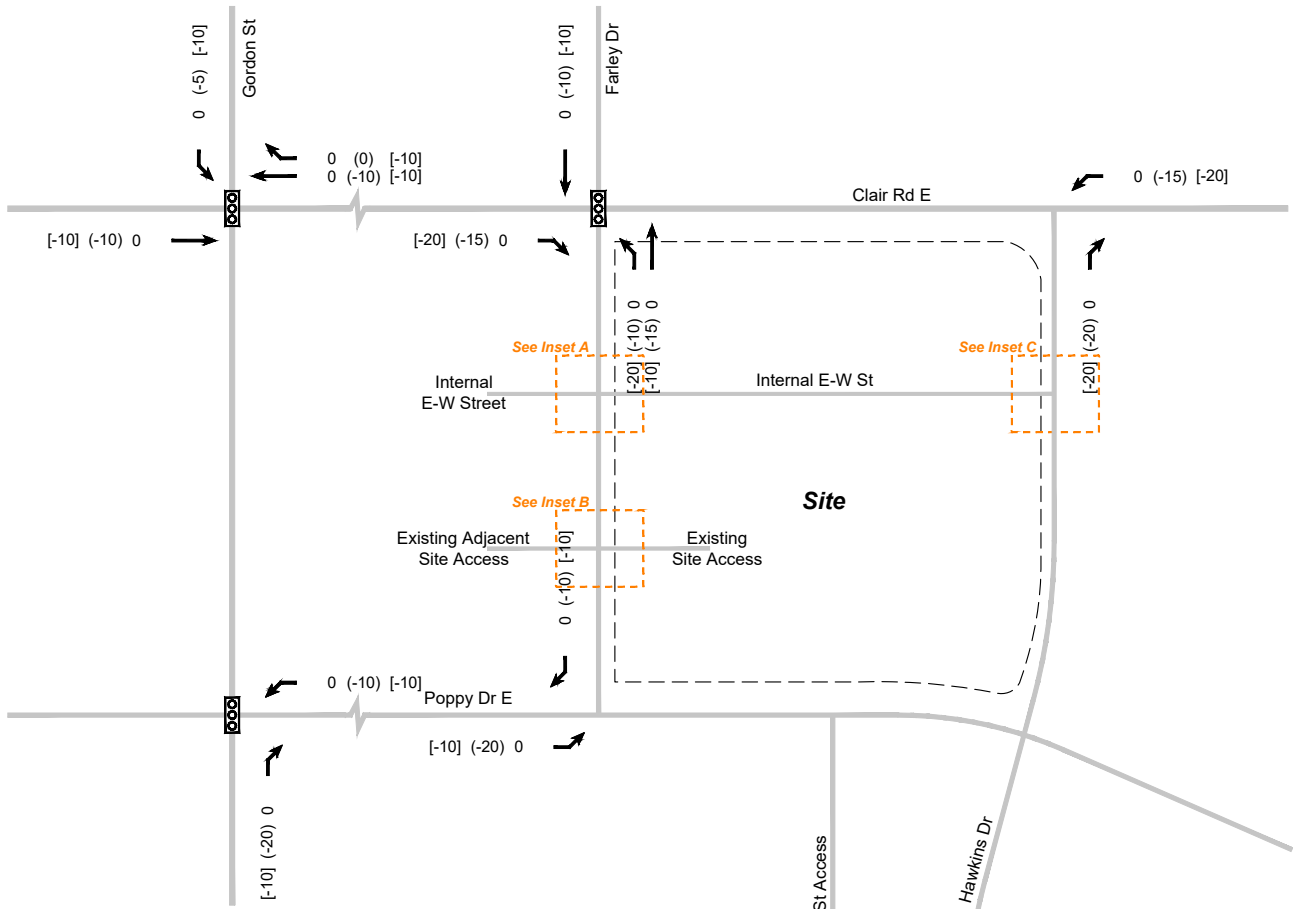
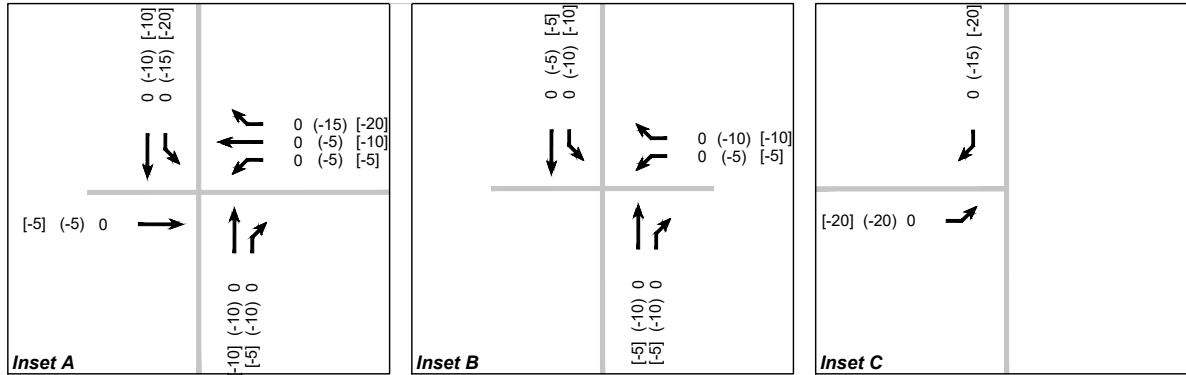
10.5 Site-Generated Traffic Forecasts

10.5.1 Existing Site Traffic Volumes

Vehicular traffic is currently generated by the Site's existing commercial uses, including the Cineplex, Harvey's, Beer Store, and State & Main plaza. Through the development of the Site, the Farley Drive / Existing Site Access / Adjacent Site access intersection is proposed to undergo a reconfiguration to remove the existing Site access. As discussed in **Section 10.5.2**, commercial Site traffic is utilized as the basis for future forecast retail vehicular traffic, with some traffic removals in the afternoon and Saturday peak hours to reflect ITE Supermarket trip rates. As such, traffic using the existing Site access at the adjacent site access was locally reassigned to the proposed future Site accesses.

Existing commercial Site traffic removal is illustrated in **Figure 18**.





- 00 AM Peak Hour
- (00) PM Peak Hour
- [00] SAT Peak Hour
- Existing Traffic Signal

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FIGURE 18 EXISTING SITE TRAFFIC REMOVAL

10.5.2 New Vehicular Traffic Volumes Forecast

BA Group has established travel demand forecasts for auto-based and multimodal trips associated with the Site. Generally, the *ITE Trip Generation Manual, 11th Ed.* was referenced in forecasting vehicular trips associated with the Site, and 2016 Transportation Tomorrow Survey (TTS) mode split data was referenced in forecasting multimodal trips associated with the Site.

10.5.2.1 RESIDENTIAL VEHICLE TRIP GENERATION FORECAST

Residential vehicle trip generation forecasting was undertaken through review of *ITE Trip Generation Manual, 11th Ed.* trip rates for residential Multifamily Housing (Mid-Rise) (LUC 221). Residential vehicle trip generation forecasts during the weekday morning and afternoon peak hours, and the Saturday peak hour are provided in **Table 20**.

Table 20 Residential Vehicle Trip Generation Rates

Units		AM Peak Hour			PM Peak Hour			SAT Peak Hour		
		In	Out	2-Way	In	Out	2-Way	In	Out	2-Way
Multifamily Housing (Mid-Rise) (LUC 221)		0.09	0.28	0.37	0.24	0.15	0.39	0.20	0.19	0.39
Phase 1	189 Units	15	55	70	45	30	75	40	35	75
Phase 2	250 Units	20	70	90	60	35	95	50	45	95
Phase 3	282 Units	25	80	105	65	45	110	55	55	110
Total	721 Units	60	205	265	170	110	280	145	135	280

Notes:

1. Based on Site statistics provided by SvN Architects, dated December 13th, 2023.
2. Vehicle Trips have been rounded to the nearest 5 trips.

10.5.2.2 RETAIL VEHICLE TRIP GENERATION FORECAST

Currently, the Site's commercial uses generate vehicular traffic, the corresponding trip rates of which have been compared to various *ITE Trip Generation Manual 11th Ed.* rates to determine if the existing observed Site-generated traffic may be considered a reasonable proxy for future forecasted vehicle traffic. Notably, operating hours for businesses currently located on the Site were considered in calculating existing observed vehicle trip rates during the weekday morning and afternoon peak hours, as well as the Saturday peak hour. The assessed peak hour of existing vehicular traffic was matched to the determined design periods for all peak hours, as discussed in greater detail in **Section 10.2**.

Existing observed commercial trips generated by the Site are provided in **Table 21**, below.



Table 21 Existing Site Commercial Trips

	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
	In	Out	2-Way	In	Out	2-Way	In	Out	2-Way
Survey Date	Wed. Sept. 20 th , 2023						Sat. Oct. 14 th , 2023		
Observed Trips ¹	20	15	35	150	135	285	205	175	380
Existing Site GFA Considered	1,457 m ² GFA			4,524 m ²					
Trip Rate²	1.58	0.96	2.54	3.07	2.45	5.53	3.07	2.45	5.53

Notes:

1. Observed trips omit observed cut-through traffic which travelled along the existing Internal East-West Street without interacting with an commercial uses on the Site.
2. Trip Rate reflects GFA of open commercial uses in AM, trip rates for PM and SAT periods reflect full existing Site GFA.

The precise nature of proposed future retail uses on the Site are not currently known. As such, vehicular trip rates for two potentially comparable future uses have been considered as part of this comparison, including strip retail plaza use (LUC 822) and supermarket use (LUC 850). In both instances, the fitted curve equation was used to better align the forecasted vehicular trip generation rates with the proposed GFA of the retail uses on the Site.

A comparison of the observed existing commercial trips on the Site with forecast future Site retail trips generated by *ITE Trip Generation Manual 11th Ed.* Strip Retail Plaza and Supermarket rates when applied to the future Site retail GFA of 1,841 m² is provided in **Table 22**.

Table 22 Commercial Trip Generation Rates Comparison

ITE Land Use Code & Survey Date	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
	In	Out	2-Way	In	Out	2-Way	In	Out	2-Way
ITE Trip Generation Manual 11th Ed.¹									
Strip Retail Plaza (LUC 822)	1.47	0.98	2.45	3.43	3.43	6.86	3.61	3.47	7.07
	25	20	45	65	65	125	65	65	130
Supermarket (LUC 850)	1.82	1.26	3.08	5.65	5.65	11.31	7.48	7.48	14.97
	35	25	55	105	105	215	140	140	280
Pergola Commons (East of Farley Drive)									
Existing Observed Site Trips	1.24	0.76	2.00	8.00	7.30	15.30	11.08	9.57	20.65
	20	15	35	150	135	285	205	175	380
Adopted Retail Trip Rates	1.24	0.76	2.00	5.65	5.65	11.31	7.48	7.48	14.97

Notes:

1. ITE Trip Generation Manual 11th Ed. Commercial vehicular trip rates converted to reflect rates per 100 m² GFA.
2. All trips rounded to the nearest 5 trips.



With the future removal of the Cineplex on the Site, the afternoon and Saturday retail vehicle trip generation rates associated with ITE Supermarket uses (LUC 850) have been adopted for the purposes of this analysis, which is a small reduction in retail trips compared to existing uses. Supermarket uses are considered conservative and represent a worst-case (or highest trip generator) scenario relative to permitted uses for the site.

10.5.2.3 INTERACTION CONSIDERATIONS

The mixed-use nature of the Site in both the interim and ultimate development condition results in a potential reduction in trips generated by the Site as a proportion of trips may be captured internal to the Site boundaries. To assess the potential for internal trip capture on the Site, *ITE Trip Generation Handbook, 3rd Ed.* (2017) internal capture rates were applied to the interim and ultimate development statistics. Details regarding this assessment are provided in **Appendix D**.

The following Site statistics were considered for Site interaction between land uses:

Phase 1 & 2

- Phase 1 & 2 residential unit count: 439 units.
- Existing retail GFA located north of Internal East-West Street: 1,399 m² GFA.

Build Out

- Build out residential unit count (all Phases): 721 units.
- Future retail on Site: 1,841 m² GFA.

Notably, *ITE Trip Generation Handbook, 3rd Ed.* does not provide interaction rates for Saturday peak periods; therefore, afternoon peak period interaction rates were used to represent Saturday interaction activity for the purposes of this analysis. Internalization of trips under both the interim scenario, where Phase 1 and Phase 2 are constructed, and the build out scenario are summarized in **Table 23**.

The Site is directly adjacent to considerable commercial uses on all corners of the Gordon Street / Clair Street intersection that could be captured as potential walking trips by future residents. For the purpose of this study, we have only considered interaction with retail proposed internal to the Site – which is considered to be a conservative assumption.



Table 23 Summary of Site Trip Interaction Reductions

Category	AM Peak Hour			PM Peak Hour			SAT Peak Hour ²		
	In	Out	2-Way	In	Out	2-Way	In	Out	2-Way
Phase 1 & 2									
Residential Trips	35	125	160	105	65	170	90	80	170
Retail Trips	20	15	35	45	40	85	65	55	120
<i>Residential Interaction</i>	0	0	0	-10	-5	-15	-15	-5	-20
<i>Retail Interaction</i>	0	0	0	-5	-10	-15	-5	-15	-20
Primary Residential Trips	35	125	160	95	60	155	75	75	150
Primary Retail Trips	20	15	35	40	30	70	60	40	100
Primary Phase 1 & 2 Trips	55	140	195	135	90	225	135	115	250
Build Out									
Residential Trips	60	205	265	170	110	280	145	135	280
Retail Trips	25	15	40	105	105	210	140	140	280
<i>Residential Interaction</i>	0	0	0	-25	-10	-35	-35	-15	-50
<i>Retail Interaction</i>	0	0	0	-10	-25	-35	-15	-35	-50
Primary Residential Trips	60	205	265	145	100	245	110	120	230
Primary Retail Trips	25	15	40	95	80	175	125	105	230
Primary Build Out Trips	85	220	305	240	180	420	235	225	460

Notes:

1. All vehicular trips rounded to the nearest 5.
2. SAT Peak Hour interaction rates assumed to be equal to PM Peak Hour interaction rates for the purposes of this study.

As demonstrated above, no interaction reduction is considered during the morning peak hour for either the interim or build out horizons, with 15- and 20-trip reductions considered during the interim afternoon and Saturday peak hours, and 40- and 50-trip reductions during the build out afternoon and Saturday peak hours.



10.5.2.4 SUMMARY OF VEHICULAR TRIP GENERATION FORECASTS

A summary of primary vehicular trip generation forecasts for the Site in both the interim and build out scenarios is provided in **Table 24**.

Table 24 Summary of Primary Vehicular Trip Generation

Category		AM Peak Hour			PM Peak Hour			SAT Peak Hour		
		In	Out	2-Way	In	Out	2-Way	In	Out	2-Way
Existing Site Traffic										
Existing Retail		20	15	35	150	135	285	205	175	380
Phase 1 & 2										
Residential	439 units	0.09	0.28	0.37	0.24	0.15	0.39	0.20	0.19	0.39
		35	125	160	105	65	170	90	80	170
Existing Remaining Retail ²	1,399 m ² GFA ³	1.58	0.96	2.36	3.27	2.98	6.26	4.53	3.91	8.44
		20	15	35	45	40	85	65	55	120
<i>Residential Interaction</i>		0	0	0	-10	-5	-15	-15	-5	-20
<i>Retail Interaction</i>		0	0	0	-5	-10	-15	-5	-15	-20
Primary Residential Trips		35	125	160	95	60	155	75	75	150
Primary Existing Remaining Retail Trips		20	15	35	40	30	70	60	40	100
Primary Phase 1 & 2 Trips		55	140	195	135	90	225	135	115	250
Net New Site Trips		+35	+125	+160	-15	-45	-60	-70	-60	-130
<i>Table Continued on Next Page</i>										

Build Out										
Residential	721 units	0.09	0.28	0.37	0.24	0.15	0.39	0.20	0.19	0.39
		60	205	265	170	110	280	145	135	280
Proposed Retail	1,841 m ² GFA	1.24	0.76	2.00	5.65	5.65	11.31	7.48	7.48	14.97
		25	15	40	105	105	210	140	140	280
<i>Residential Interaction</i>		0	0	0	-25	-10	-35	-35	-15	-50
<i>Retail Interaction</i>		0	0	0	-10	-25	-35	-15	-35	-50
Primary Residential Trips		60	205	265	145	100	245	110	120	230
Primary Retail Trips		25	15	40	95	80	175	125	105	230
Net New Retail Trips		+5	0	+5	-55	-55	-110	-80	-70	-150
Primary Build Out Trips		85	220	305	240	180	420	235	225	460
Net New Site Trips		+65	+205	+270	+90	+45	+135	+30	+50	+80

Notes:

1. All vehicular trips rounded to the nearest 5.
2. Phase 1 & 2 retail trip generation rates derived from existing observed area turning movement counts.
3. Phase 1 & 2 retail GFA is derived from interim existing to remain commercial located north of Internal East-West Street.

When compared to existing conditions, retail traffic is expected to decrease for the Site, while residential traffic is expected to increase, with some interaction between land uses.

With the removal of the Harvey's and Cineplex in Phases 1 and 2, and the introduction of 439 residential units, there is estimated to be a net decrease in vehicle traffic in the afternoon and Saturday peak hours (-60 and -130 two-way trips, respectively) compared to existing observed retail trips. During the morning peak hour, vehicle trips are estimated to increase by approximately 160 two-way trips, considering existing retail is less active or not operating in the morning peak hour.

At full build-out, net new vehicle Site trips will be +270, +135, and +80 two-way during the morning, afternoon, and Saturday peak hours respectively, compared to existing observed retail trips.

10.5.3 Multimodal Travel Demand Forecasts

Multimodal travel demand forecasts have been prepared to estimate Site-related trips across various travel modes. Details of the multimodal travel demand forecasting assessment are provided below.

10.5.3.1 AREA MODAL SHARE

South Guelph is an expanding and evolving area of the City, which has in part been subject to a recent secondary planning process, which included the completion of a transportation master planning study entitled: *Clair-Maltby Secondary Plan Transportation Master Plan Study (2019)*. This master planning study assessed a variety of data sources to determine an appropriate modelled future modal split for the Clair-Maltby Secondary Plan area, including 2016 Transportation Tomorrow Survey data and proxy development area modal splits in Markham, Oakville, and Burlington.

To maintain consistency with the *Clair-Maltby Secondary Plan Transportation Master Plan Study*, the modal splits adopted for the key outbound movement (weekday morning peak hour) and key inbound movement (weekday afternoon peak hour) have been utilized in this Study. The Clair-Maltby modal splits are presented in **Table 25**. For the purposes of this Study, adopted modal splits were applied to both retail and residential uses.

Table 25 Adopted Area Modal Splits

Mode	Outbound	Inbound
Auto	60%	72%
Passenger	10%	10%
Transit	10%	10%
Walk	10%	3%
Cycle	3%	2%
Other	7%	3%
Total	100%	100%

10.5.3.2 MULTIMODAL FORECASTS

A proportion of the future trips associated with the Site will be made using alternative travel modes to the personal automobile, including transit, cycling, and walking. Multimodal forecasts have been derived by factoring forecasted traffic volumes by the adopted area modal splits, provided in **Table 24**, and considering the internalization of trips derived in **Section 10.5.2.3**. For the purpose of this analysis, internal trips that were deducted from auto trips as interaction have been added to walking trips.

Multimodal trips have been provided in **Table 26** for both the interim (Phase 1 & 2 constructed) and build-out (all Phases constructed) horizons, to align with the modelled horizon periods.

Table 26 Multimodal Travel Demand Summary

Travel Mode	Units / GFA	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
		In	Out	2-Way	In	Out	2-Way	In	Out	2-Way
Phase 1 & 2³										
Residential										
Auto	439 units	35	125	160	95	60	155	75	75	150
Passenger		10	20	30	15	10	25	10	10	20
Transit		10	20	30	15	10	25	10	10	20
Walk		10	20	30	15	5	20	15	5	20
Cycle		0	10	10	0	0	0	0	0	0
Other		0	15	15	5	0	5	0	0	0
Total			65	210	275	145	85	230	110	100
Build-Out										
Residential										
Auto	721 Units	60	205	265	145	100	245	110	120	230
Passenger		15	35	50	25	20	45	20	20	40
Transit		15	35	50	25	20	45	20	20	40
Walk		15	35	50	40	20	60	45	25	70
Cycle		0	15	15	5	0	5	5	5	10
Other		5	25	30	15	5	20	5	5	10
Total			110	350	460	255	165	420	205	195
<i>Table Continued on Next Page</i>										

Retail										
Auto	1,841 m ² GFA	25	15	40	95	80	175	125	105	230
Passenger		5	5	10	15	15	30	20	20	40
Transit		5	5	10	15	15	30	20	20	40
Walk		5	5	10	15	30	45	20	40	60
Cycle		0	0	0	5	5	10	5	5	10
Other		5	0	5	5	5	10	5	5	10
Total			45	30	75	150	150	300	195	195
Build Out Total										
Auto	721 Units 1,841 m ² GFA	85	220	305	240	180	420	235	225	460
Passenger		20	40	60	40	35	75	40	40	80
Transit		20	40	60	40	35	75	40	40	80
Walk		20	40	60	55	50	105	65	65	130
Cycle		0	15	15	10	5	15	10	10	20
Other		10	25	35	20	10	30	10	10	20
Total			155	380	535	405	315	720	400	390

Notes:

1. Based on Site statistics provided by SVN Architects, dated December 13th, 2023.
2. All trips rounded to the nearest 5.
3. Phase 1 & 2 (interim horizon) retail trips are considered to be part of the existing condition and are therefore not considered in this multimodal forecast.

As demonstrated above, the Site is expected to generate in the order of 275, 230, and 210 two-way person trips during the weekday morning, weekday afternoon, and Saturday peak hours under the interim development condition, respectively.

Under the full build-out development condition, where all 3 Phases are constructed, a total of 535, 720, and 790 two-way person trips are forecast during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.



10.5.4 Site Trip Distribution

Residential Site vehicular trips have been distributed to the area road network based on results from 2016 TTS queries and existing area traffic patterns. 2016 TTS query data used as part of this exercise is provided in **Appendix G**. Forecast retail trips utilized existing movements for retail trips observed in the turning movement counts provided in **Appendix E**.

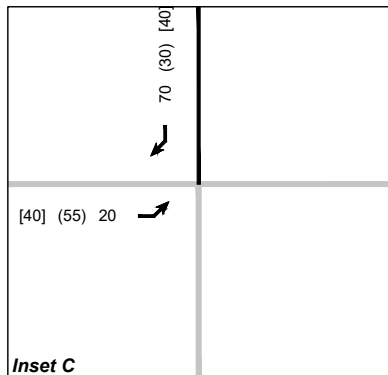
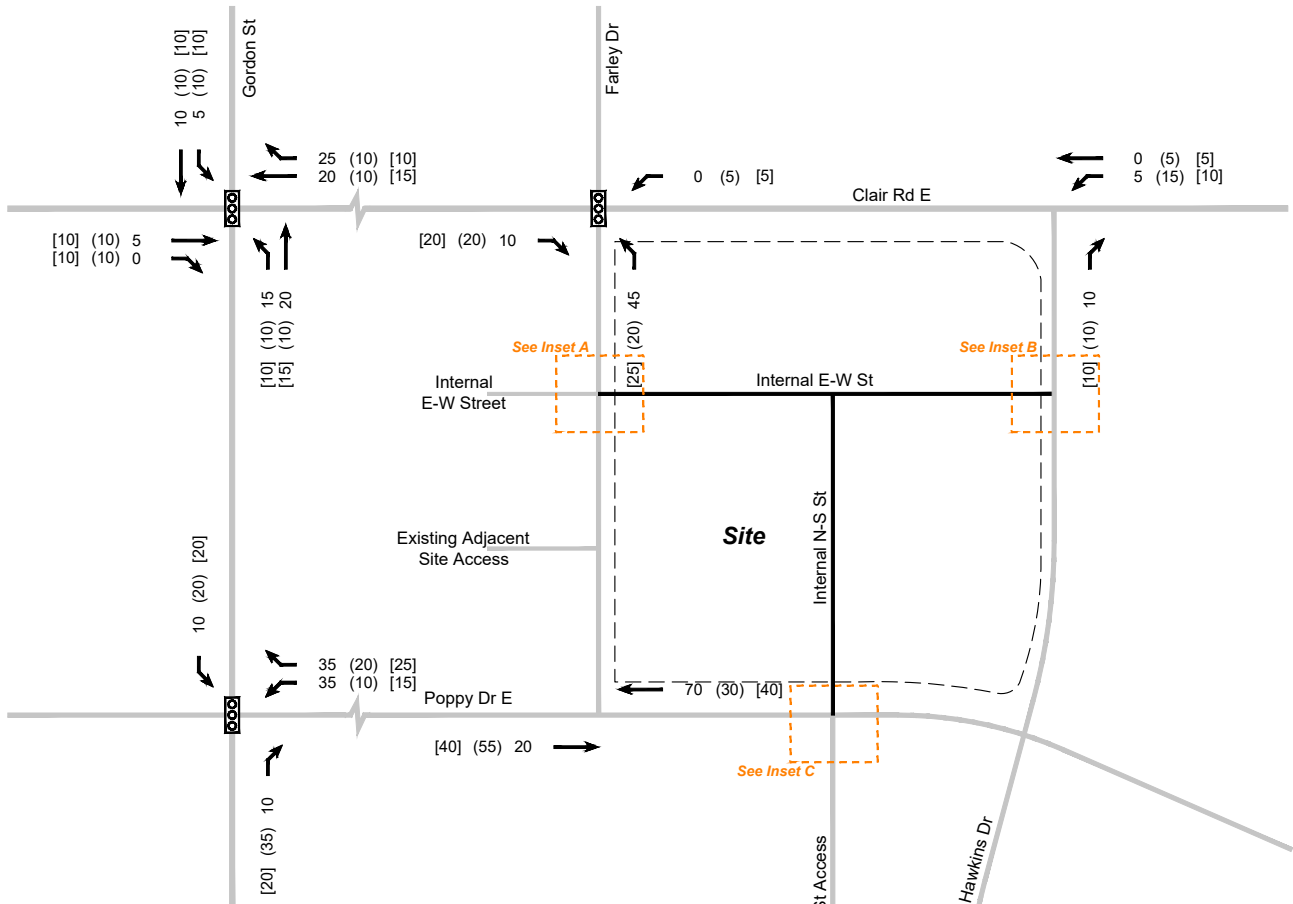
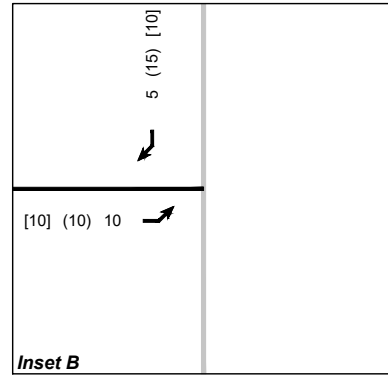
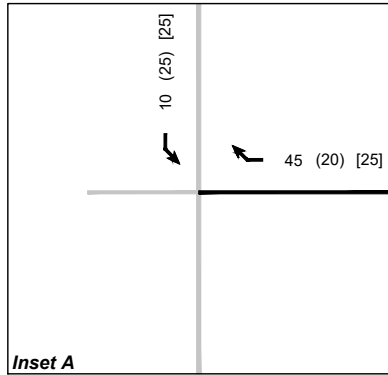
Direction of approach proportions are provided in **Table 27**.

Table 27 Residential Site Trip Distribution

Major Street	Direction	Inbound	Outbound
Gordon Street	North	25%	35%
	South	35%	25%
Clair Road	East	20%	10%
	West	20%	30%
Total		100%	100%

Site-generated trips for the 2028, 2033, and 2038 horizon periods are provided in Figure 19, **Figure 20**, and **Figure 21**, respectively.

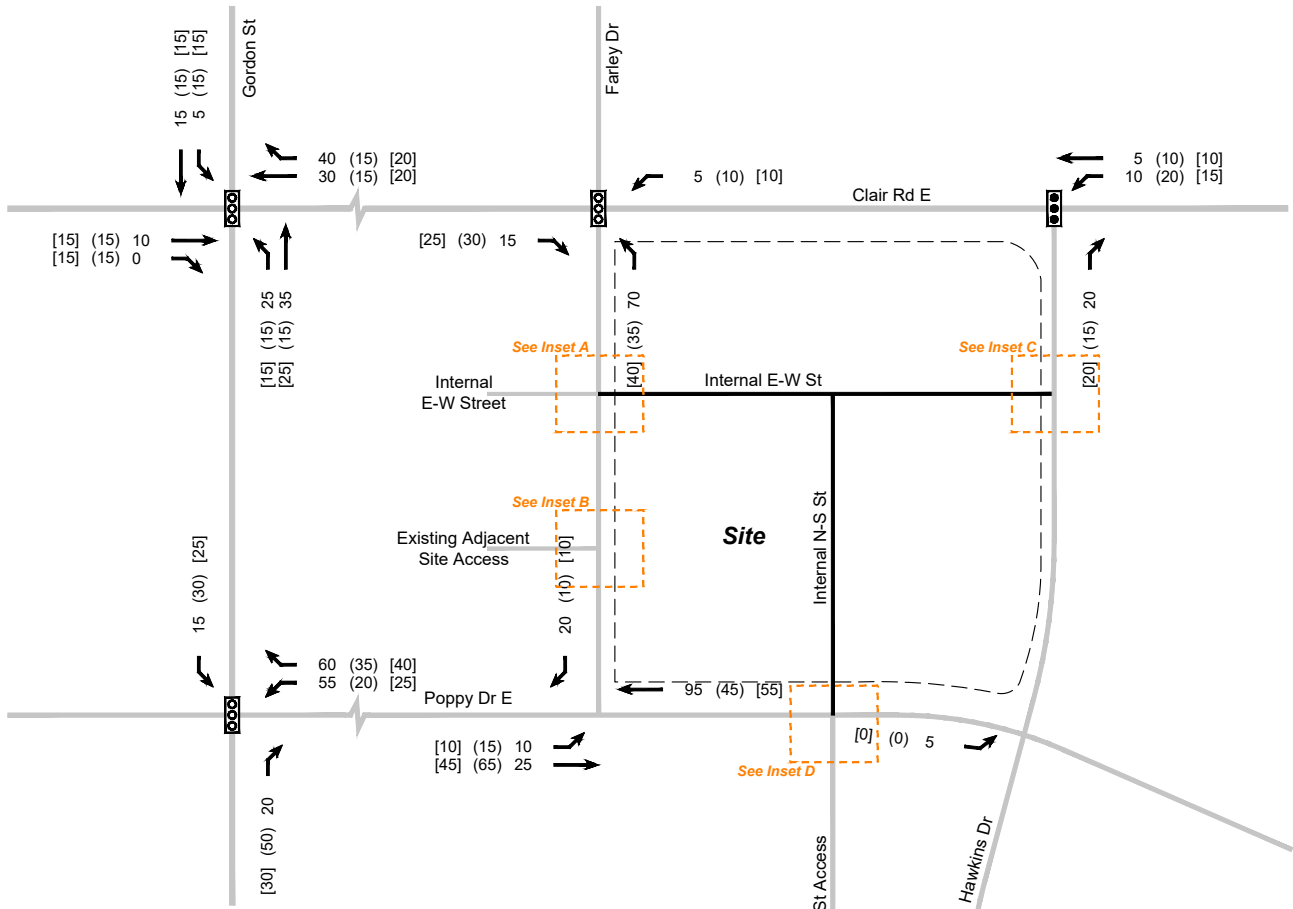
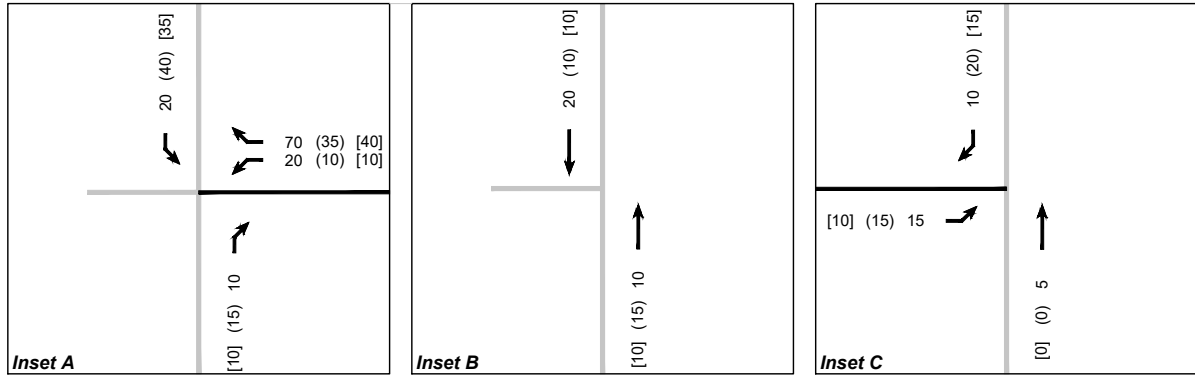




- 00 AM Peak Hour
- (00) PM Peak Hour
- [00] SAT Peak Hour
- Existing Traffic Signal

Date Plotted: December 14, 2023 Filename: P:\70\36\41\Graphics\CAD\Fig19-00-ST2028.dwg

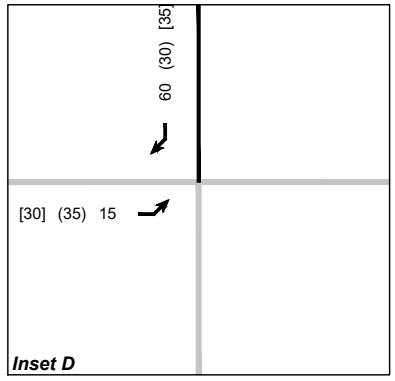
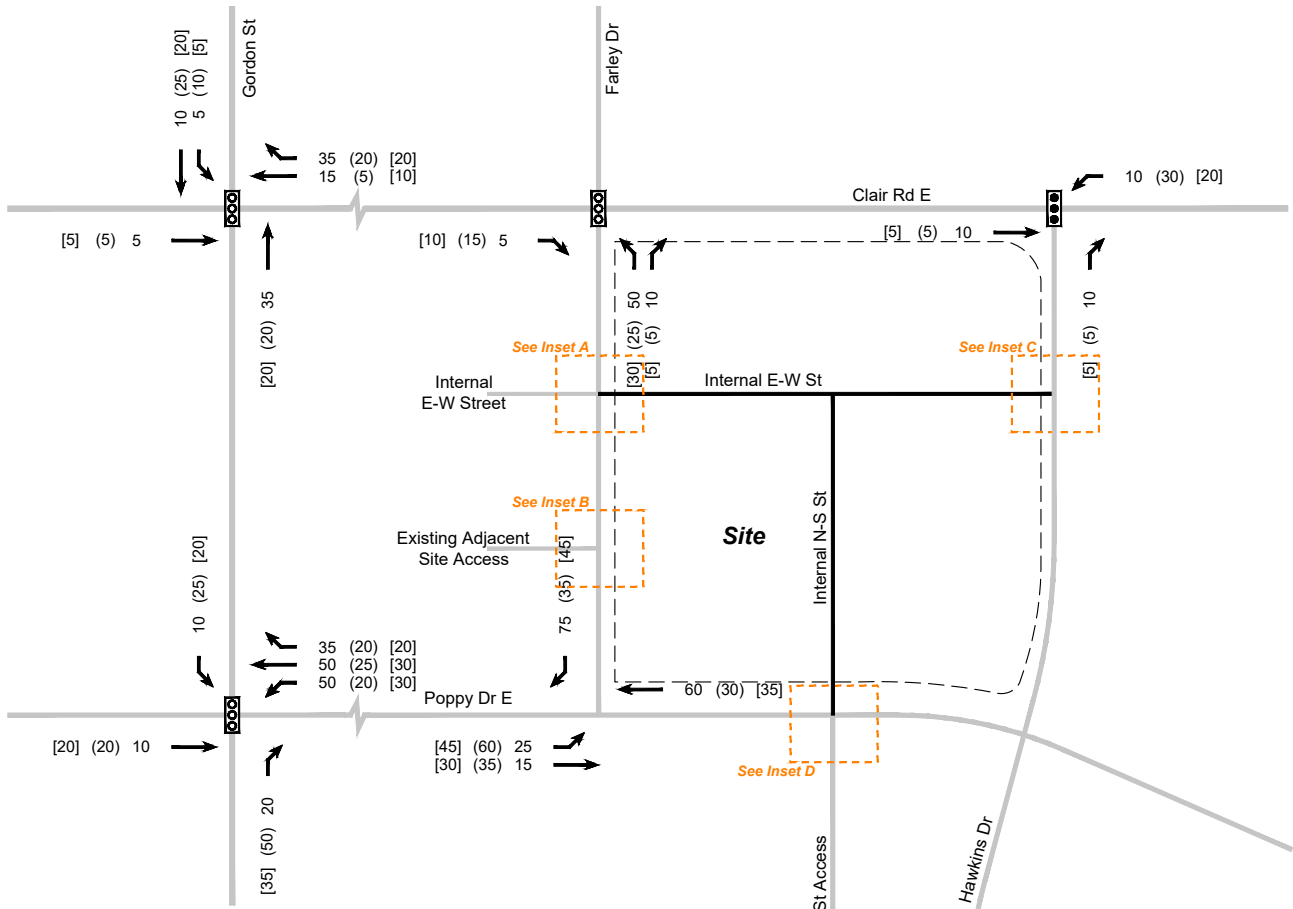
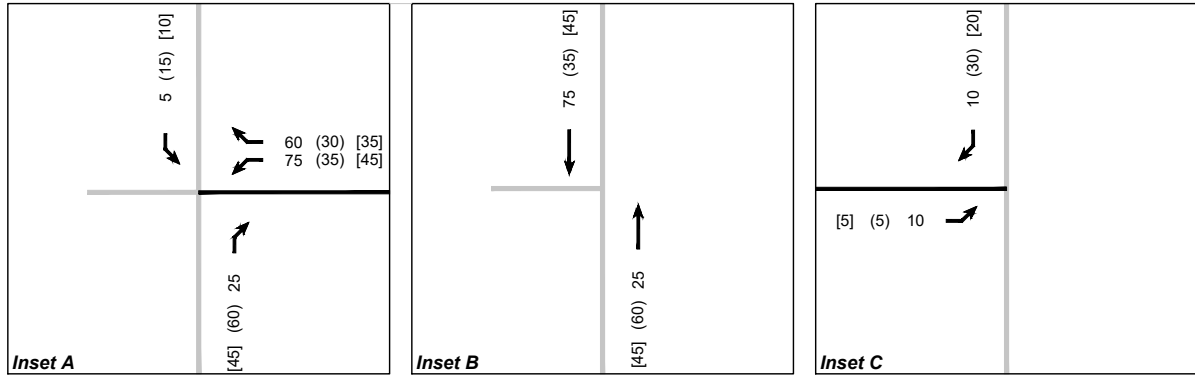
FIGURE 19 2028 SITE-GENERATED TRAFFIC VOLUMES



- 00 AM Peak Hour
- (00) PM Peak Hour
- [00] SAT Peak Hour
- Existing Traffic Signal
- Potential Future Traffic Signal

Date Plotted: December 14, 2023 Filename: P:\70\36\41\Graphics\CAD\Fig20-00-ST2033.dwg

FIGURE 20 2033 SITE-GENERATED TRAFFIC VOLUMES



- 00 AM Peak Hour
- (00) PM Peak Hour
- [00] SAT Peak Hour
- 000 Existing Traffic Signal
- 00 Potential Future Traffic Signal

Date Plotted: December 14, 2023 Filename: P:\7036\41\Graphics\CAD\Fig21+00-ST2038.dwg

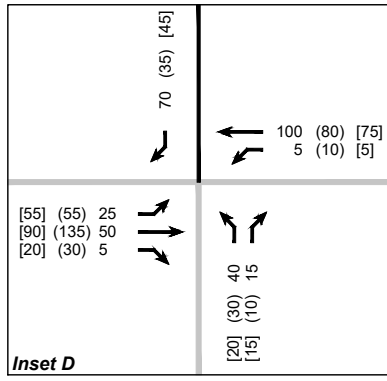
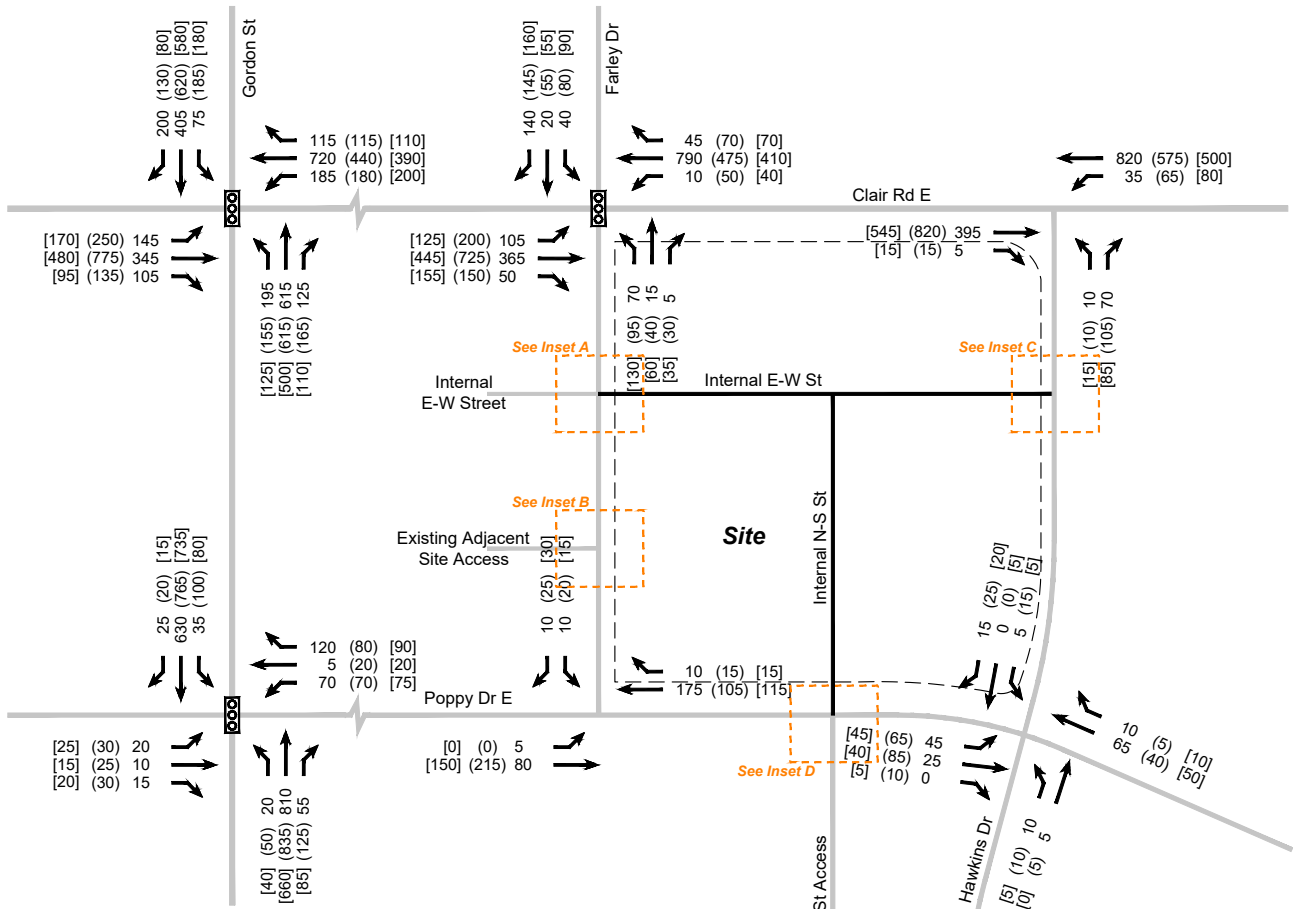
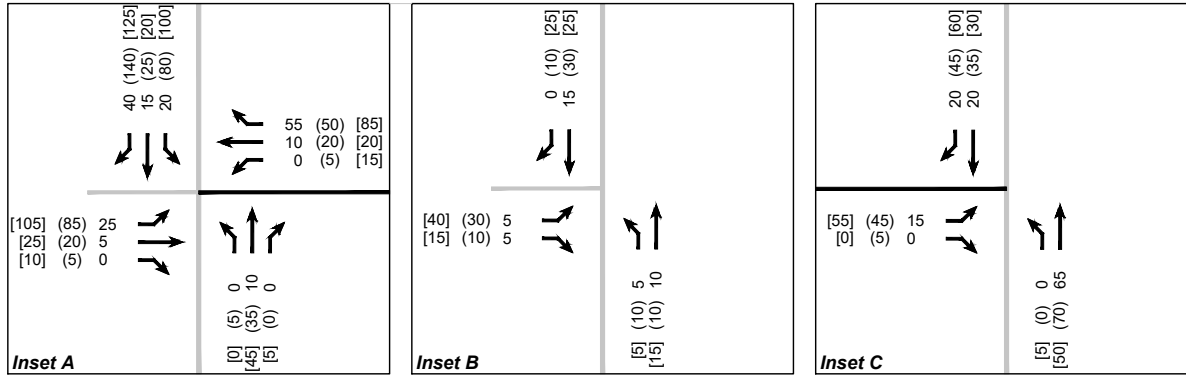
FIGURE 21 2038 SITE-GENERATED TRAFFIC VOLUMES

10.6 Future Total Traffic Volumes

Future total traffic volumes have been established for the weekday morning, weekday afternoon, and Saturday peak hours through the addition of future background traffic volumes and future forecast Site traffic volumes for all horizon years.

Future total traffic volumes for the 2028, 2033, and 2038 horizon years are provided in **Figure 22**, **Figure 23**, and **Figure 24**, respectively.

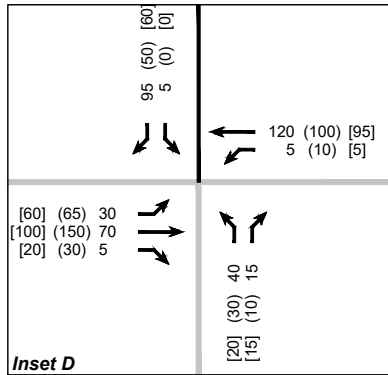
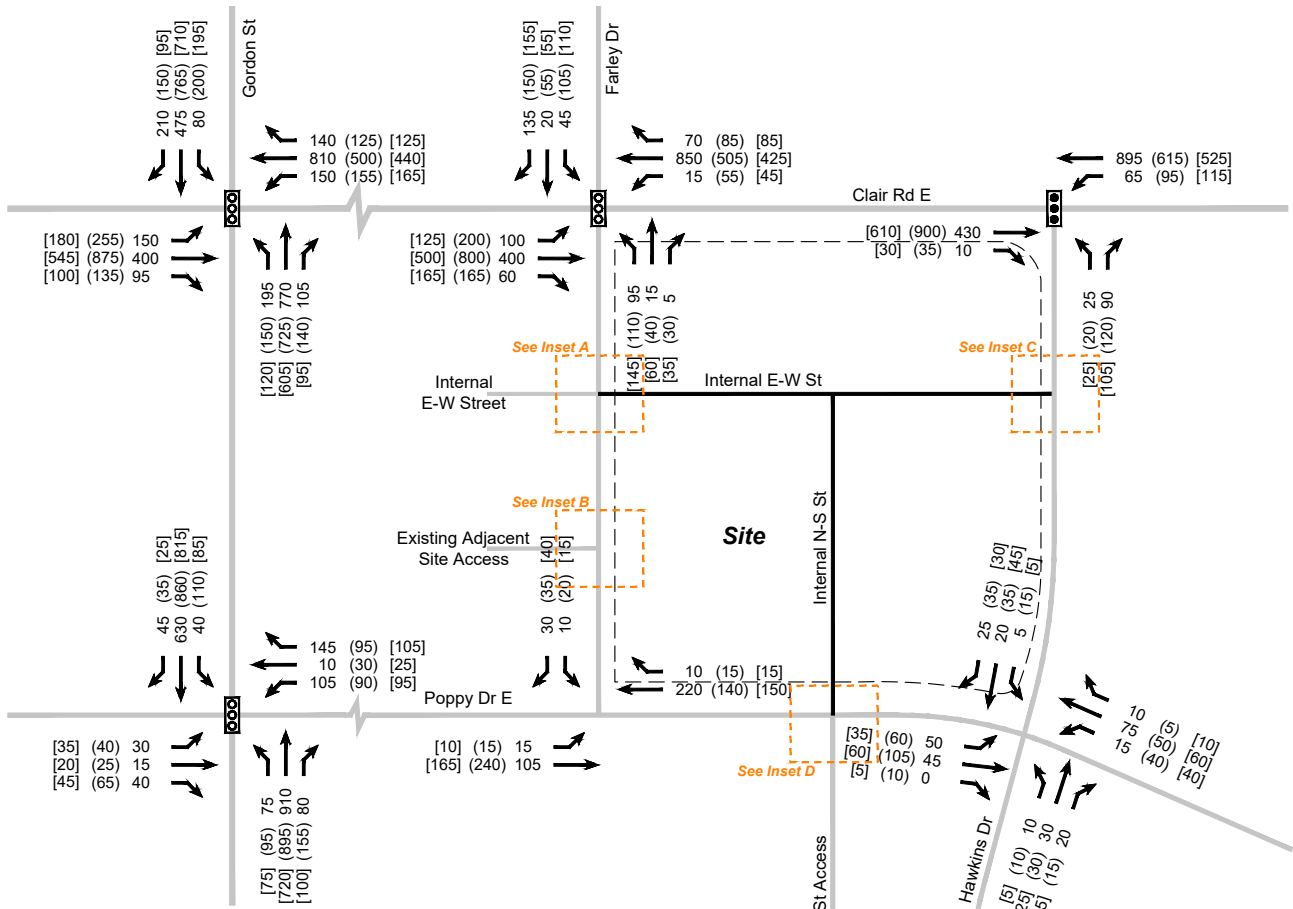
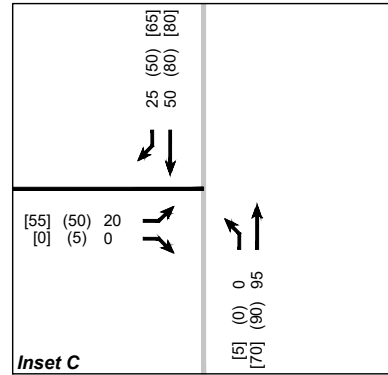
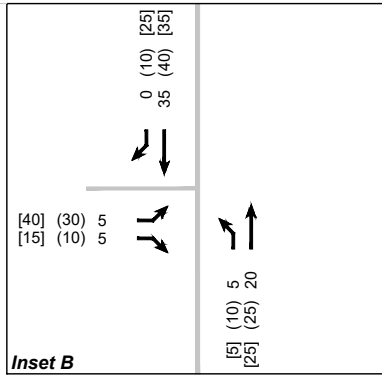
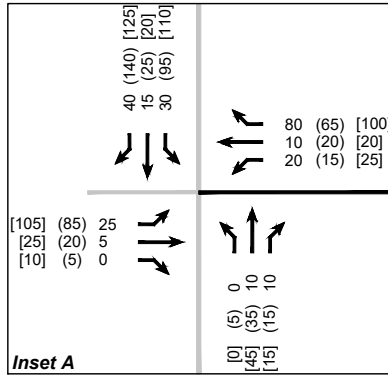




- 00 AM Peak Hour
- (00) PM Peak Hour
- [00] SAT Peak Hour
- Existing Traffic Signal

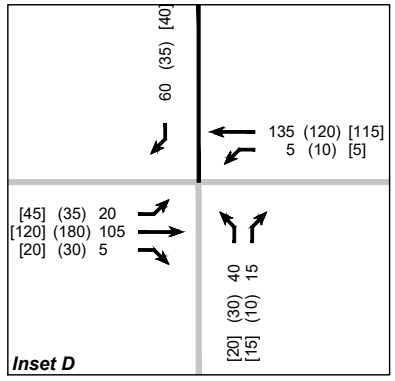
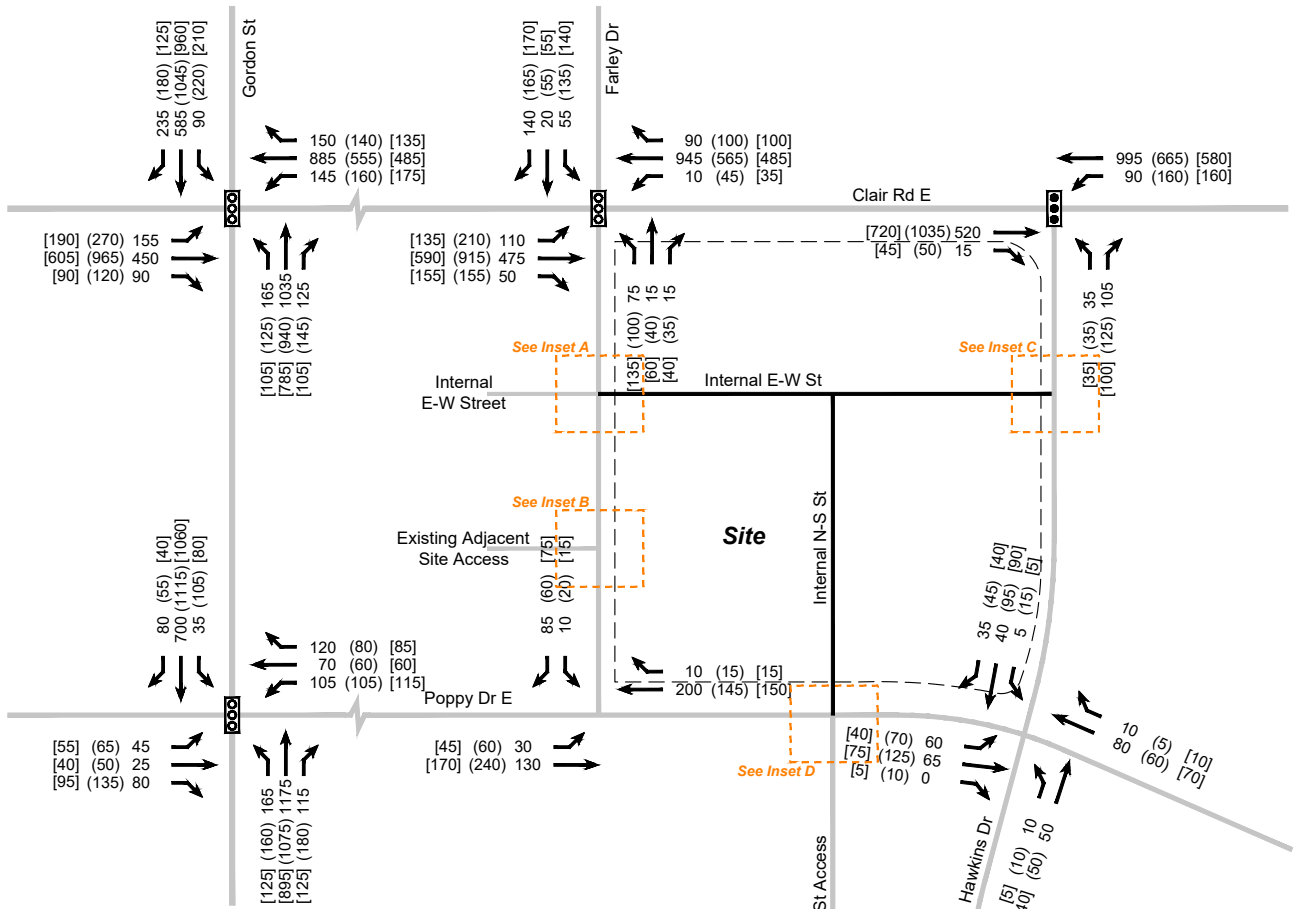
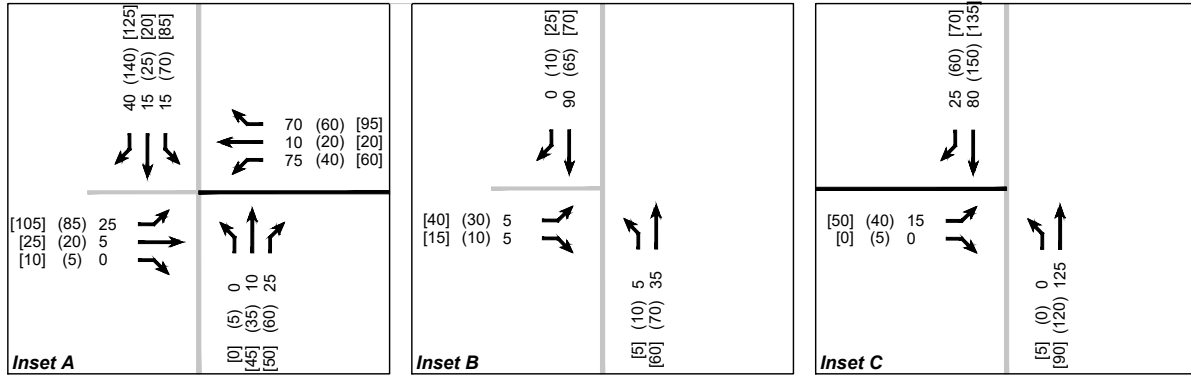
Date Plotted: December 14, 2023 Filename: P:\70\36\41\Graphics\CAD\Fig22-00-FT2028.dwg

FIGURE 22 2028 FUTURE TOTAL TRAFFIC VOLUMES



Date Plotted: December 14, 2023 Filename: P:\70\36\41\Graphics\CAD\Fig23-00-FT2033.dwg

FIGURE 23 2033 FUTURE TOTAL TRAFFIC VOLUMES



- 00 AM Peak Hour
- (00) PM Peak Hour
- [00] SAT Peak Hour
- Existing Traffic Signal
- Potential Future Traffic Signal

Date Plotted: December 14, 2023 File name: P:\70\36\41\Graphics\CAD\Fig24-00-FT2038.dwg

FIGURE 24 2038 FUTURE TOTAL TRAFFIC VOLUMES

11.0 TRAFFIC OPERATIONS ASSESSMENT

11.1 Analysis Methodology

Traffic operations assessments have been undertaken at the study area intersections using standard capacity analysis procedures for signalized and unsignalized intersections as follows.

Signalized Intersections

Analyses undertaken at intersections under signalized traffic control utilize methodologies and procedures outlined in the Highway Capacity Manual (HCM) 2000 and Synchro Version 11, and in accordance with the City of Guelph's *Transportation Impact Study Guidelines (2023)*. Outputs of the signalized intersection assessment include volume to capacity ratios (v/c), whereby a v/c index of 1.00 indicates 'at or near capacity' conditions. Intersection movements and overall intersection operations are also assigned a level-of-service, in accordance with HCM 2000 criteria for signalized intersections, as follows:

- LOS A: Control Delay $\leq 10s$
- LOS B: $10s < \text{Control Delay} \leq 20s$
- LOS C: $20s < \text{Control Delay} \leq 35s$
- LOS D: $35s < \text{Control Delay} \leq 55s$
- LOS E: $55s < \text{Control Delay} \leq 80s$
- LOS F: Control Delay $> 80s$

Unsignalized Intersections

Unsignalized intersection analyses have been carried out using standard capacity procedures for intersections operating under "two-way" and "all-way" STOP control and in accordance with HCM 2000 methodologies. Outputs of the unsignalized intersection assessment includes a level-of-service designation, ranging from A to F, providing a relative indication of the level of delay experienced by motorists completing a movement at an intersection. LOS A represents conditions under which motorists would experience little delay, while LOS F represents conditions where motorists would experience extended delays. HCM 2000 LOS criteria for unsignalized intersections are as follows:

- LOS A: Control Delay $\leq 10s$
- LOS B: $10s < \text{Control Delay} \leq 15s$
- LOS C: $15s < \text{Control Delay} \leq 25s$
- LOS D: $25s < \text{Control Delay} \leq 35s$
- LOS E: $35s < \text{Control Delay} \leq 50s$
- LOS F: Control Delay $> 50s$

Turning Lane Warrant Analysis

A left-turn lane warrant was undertaken for the east approach of the Clair Road East / Hawkins Drive intersection under all analyzed scenarios in accordance with the criteria provided in Chapter 9 of the *Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (2017)* (TAC Geometric Design Guide) and the *Ontario Ministry of Transportation (MTO) Design Supplement (2023)*. The left-turn lane warrant is discussed in **Section 11.3**.

Signal Warrant Analysis

A signal warrant analysis was undertaken to assess current and potential future need for signalization. The traffic signal warrant was undertaken in accordance with the Ontario Traffic Manual (OTM) Book 12 signalization Justifications 1 – 4. The signal warrant analysis is discussed in **Section 11.4**.



11.2 Network-Wide Parameters

Network-wide parameters have been determined through the Terms of Reference correspondence with the City of Guelph Transportation Staff and the City's *Transportation Impact Study Guidelines (2023)*. The following network-wide parameters have been employed as part of this analysis.

11.2.1 Future Network Configuration Assumptions

The following future network configuration assumptions have been adopted as part of this analysis:

2028 Horizon Year

- Introduction of Site access at the existing Poppy Drive East / 1888 Gordon Street site access intersection.
- Widening of Gordon Street south of its intersection with Gosling Gardens to 4 lanes (2 travel lanes in each direction).
- Under existing traffic conditions, a left-turn lane is warranted for the east approach of the Clair Road East / Hawkins Drive intersection, and has therefore been considered as part of the 2028 horizon period road network. Discussion of the left-turn lane warrant is provided in **Section 11.3**.

2033 Horizon Year

- Completed extension of Poppy Drive West from the future South End Centre in the East to the existing Poppy Drive West / Gosling Gardens intersection in the west.
- Completed extension of Hawkins Drive as part of the future development associated with the Clair-Maltby Secondary Plan area.
- Under 2033 horizon future background traffic conditions, a signal is warranted at the Clair Road East / Hawkins Drive intersection, and has therefore been considered as part of the 2033 and 2038 horizon period road network. Discussion of the left-turn lane warrant is provided in **Section 11.4**.

2038 Horizon Year

- An alternative future configuration of the Clair Road / Gordon Street intersection where auxiliary right-turn lanes are implemented for the south, east, and north approaches, consistent with the recommended future road network identified in the *Clair-Maltby Transportation Master Plan Study*. This alternative configuration is further discussed in **Section 11.5.1**.

11.2.2 Signal Timings

Existing Signal Timings

Existing signal timing plans, including signal phasing and cycle lengths, were obtained from the City of Guelph. Existing signal timing plans used as part of this Study are provided in **Appendix H**.

Future Signal Timings

The analysis of future traffic scenarios maintained existing signal timing plans at all currently existing signalized intersections with optimized splits under the existing cycle length of 90 seconds.

The modelled signalization of the Clair Road East / Hawkins Drive intersection adapted the existing signal timing plan for the adjacent Clair Road East / Farley Drive intersection, utilizing the same parameters for the morning peak, afternoon peak, and Saturday peak periods. Details regarding the modelled signal timing plan for the Clair Road East / Hawkins Drive intersection are provided in **Appendix K**.



11.2.3 Base Saturation Flow Rates

A base saturation flow rate of 1,900 pcuphlg (passenger car units per hour per lane green) has been adopted under all traffic analysis scenarios.

11.2.4 Heavy Vehicle Assumptions

Heavy vehicle percentages used for this analysis are consistent with those observed in the existing intersection turning movement counts.

11.2.5 Lost Time Adjustment

For the purposes of this analysis, a lost time adjustment of 0 seconds has conservatively been employed under all traffic analysis scenarios.

11.2.6 Lane Utilization Factors

Default Synchro lane utilization factors (LUF) have been adopted under all traffic analysis scenarios for this analysis.

11.2.7 Peak Hour Factors

For the purposes of this analysis, peak hour factors (PHF) observed as part of existing intersection turning movement counts have been adopted under all traffic analysis scenarios. Where PHF data was unavailable, a factor of 0.92 has been adopted.



11.3 Left-Turn Lane Warrant Analysis

As part of the analysis for this study, a left-turn lane warrant was conducted for the east approach of the Clair Road East / Hawkins Drive intersection. The warrant was undertaken utilizing the criteria provided in Chapter 9 of the *Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (2017)* (TAC Geometric Design Guide) and the *Ontario Ministry of Transportation (MTO) Design Supplement (2023)*. Detailed results of the warrant are provided in **Appendix I**.

The left-turn lane warrant determined that a westbound auxiliary left-turn lane is warranted under all analyzed scenarios, with the exception of the existing morning peak period. As part of the left-turn lane warrant, the TAC Geometric Design Guide provides additional guidance regarding storage lengths as a function of left-turn volumes and opposing approach volumes. These recommended storage lengths are compared to the forecast 95th percentile queues modelled in Synchro under all scenarios which warrant a left-turn lane in **Table 28**. Notably, a signal is warranted under the 2033 and 2038 horizon periods; therefore, left-turn lane warrants were not conducted for these scenarios.

Table 28 Left-Turn Lane Warrant Analysis – Storage Length Comparison

Design Period		TAC Recommended Storage Length	Forecast 95 th Percentile Queue
Existing Conditions			
AM Peak Period		Not Warranted	--
PM Peak Period		15 m	1.4 m
SAT Peak Period		15 m	1.8 m
2028 Horizon			
Future Background	AM Peak Period	15 m	0.8 m
	PM Peak Period	15 m	1.9 m
	SAT Peak Period	25 m	2.4 m
Future Total	AM Peak Period	15 m	0.9 m
	PM Peak Period	25 m	1.9 m
	SAT Peak Period	15 m	2.1 m
2033 & 2038 Horizons			
Future Background	AM Peak Period	Signal warranted under 2033 and 2038 horizons – See Section 11.4 .	
	PM Peak Period		
	SAT Peak Period		
Future Total	AM Peak Period		
	PM Peak Period		
	SAT Peak Period		

Under existing and 2028 future background and future total scenarios, the storage lengths recommended by the TAC Geometric Design Guide do not exceed 25 metres.

11.4 Signal Warrant Analysis

In addition to the left-turn lane warrant at the Clair Road East / Hawkins Drive intersection, a signal warrant analysis has been undertaken to assess current and potential future need for signalization. The traffic signal warrant was undertaken in accordance with the Ontario Traffic Manual (OTM) Book 12 signalization justifications. Specifically, justifications 1 – 4 were assessed to determine potential future need for intersection signalization. Detailed results of the OTM Book 12 signal warrant analysis are provided in **Appendix J**.

Justification 4 has two distinct lower thresholds for signalization when assessing intersections, where one road has 2 or more approach lanes, and the other road has 1 approach lane. Given the major street (Clair Road East) has 2 approach lanes and the minor street (Hawkins Drive) has 1 approach lane, a threshold of 80 was determined to be applicable for use in this signal warrant analysis base on guidance in OTM Book 12.

The warrant assessment determined that signalization of the Clair Road East / Hawkins Drive intersection is not warranted under existing traffic conditions or 2028 conditions. Signalization is warranted under 2033 future background conditions by Justification 4: 4-Hour Volume. Additionally, signalization is warranted through Justification 4 under 2038 future background conditions, where all 3 phases of the Site are complete, and the Clair-Maltby Secondary Plan is built out.

The exact timeline for signalization of the Clair Road East / Hawkins Drive intersection is not tied directly to Site-related traffic volumes, but rather continued growth of area development. Signalization of the Clair Road East / Hawkins Drive intersection should be monitored to establish timing of implementation relative to growth of the Clair-Maltby Secondary Plan and relative to the City's desired intersection control at this location. Given the intersection is approximately 165 metres from the Clair Road East / Farley Drive intersection, it could be considered for signalization (T-intersection with pedestrian and cycling crossing) or partial moves (controlled by a median along Clair Road East) and should be evaluated in conjunction with the City's planned widening of Clair Road East to the east of the site and active transportation network.



11.5 Signalized Intersections Analysis Results

Traffic operations analysis results for the area signalized intersections under existing, future background, and future total conditions during the 2028, 2033, and 2038 horizon periods are summarized below. Detailed Synchro capacity analysis reports are provided in **Appendix K**.

11.5.1 Clair Road / Gordon Street Intersection Capacity Results

The Clair Road / Gordon Street intersection has a 90 second cycle length during the weekday morning, weekday afternoon, and Saturday peak hours. The existing cycle length was maintained in all analysis scenarios, with optimized splits employed under future background and future total scenarios.

11.5.1.1 2028 HORIZON YEAR

A summary of intersection capacity results for existing, future background, and future total traffic conditions during the 2028 horizon year are provided in **Table 29**.

Table 29 Clair Road / Gordon Street Capacity Results – 2028 Horizon

Movement	Existing Traffic		Future Background Traffic		Future Total Traffic	
	V/C	LOS	V/C	LOS	V/C	LOS
EBL	0.59 (0.64) [0.50]	C (C) [C]	0.71 (0.70) [0.52]	C (C) [C]	0.72 (0.70) [0.52]	C (C) [C]
EBTR	0.44 (0.78) [0.62]	C (C) [C]	0.49 (0.89) [0.72]	C (D) [D]	0.48 (0.89) [0.72]	C (D) [D]
WBL	0.45 (0.52) [0.51]	C (C) [C]	0.61 (0.72) [0.66]	C (D) [C]	0.61 (0.72) [0.66]	C (D) [C]
WBTR	0.77 (0.51) [0.55]	D (C) [C]	0.87 (0.54) [0.59]	D (C) [C]	0.90 (0.54) [0.60]	D (C) [C]
NBL	0.45 (0.35) [0.22]	B (B) [A]	0.68 (0.60) [0.36]	C (C) [B]	0.77 (0.66) [0.39]	C (C) [B]
NBTR	0.49 (0.54) [0.33]	B (B) [B]	0.69 (0.74) [0.50]	C (C) [B]	0.73 (0.76) [0.51]	C (C) [B]
SBL	0.21 (0.45) [0.33]	B (B) [B]	0.33 (0.73) [0.48]	B (C) [B]	0.37 (0.77) [0.49]	B (C) [B]
SBTR	0.45 (0.50) [0.34]	C (C) [B]	0.57 (0.71) [0.53]	C (C) [C]	0.59 (0.73) [0.54]	C (C) [C]
Overall	0.60 (0.64) [0.44]	C (C) [C]	0.78 (0.79) [0.60]	C (C) [C]	0.83 (0.81) [0.61]	C (C) [C]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].

Under existing conditions, the intersection operates at overall v/c ratios of 0.60, 0.64, and 0.44 during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.

Under future background conditions, the intersection operates at overall v/c ratios of 0.78, 0.79, and 0.60 during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.

Under future total conditions, the intersection operates at overall v/c ratios of 0.83, 0.81, and 0.61 during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.

In addition to overall intersection capacity, all individual movement under all scenarios are expected to operate within capacity and at acceptable levels of service.

A summary of 95th percentile queues for existing, future background, and future total traffic conditions during the 2028 horizon year are provided in **Table 30**.



Table 30 Clair Road / Gordon Street 95th Percentile Queues – 2028 Horizon

Movement	Approximate Existing Available Storage (m) ²	Existing Traffic	Future Background Traffic	Future Total Traffic
EBL	75 m	#28.8 (#44.8) [31.2]	#42.2 (#50.8) [31.4]	#43.1 (#51.6) [31.4]
EBT	200 m	37.9 (77.8) [45.2]	49.4 (#115.1) [60.7]	50.1 (#117.0) [61.3]
WBL	30 m	43.4 (26.3) [m25.1]	52.1 (#49.1) [#38.2]	49.6 (#49.0) [#37.1]
WBT	180 m	86.4 (37.7) [28.2]	#111.0 (57.7) [41.6]	#120.5 (57.9) [42.0]
NBL	60 m	13.0 (7.6) [7.0]	#36.3 (26.3) [7.9]	#28.0 (#33.1) [9.5]
NBT	145 m	55.8 (15.2) [17.7]	37.9 (26.1) [25.7]	46.3 (34.1) [27.0]
SBL	160 m	14.7 (29.0) [28.3]	15.4 (#39.7) [33.2]	16.1 (#43.8) [33.2]
SBT	195 m	49.1 (59.6) [51.8]	61.1 (82.0) [70.1]	63.2 (83.4) [71.3]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].
2. Storage measurement approximate. Turning Lane Storage measured as Storage plus ~1/3 of taper; Through Lane Storage measured from stop-bar to pedestrian crosswalk at upstream intersection.

As demonstrated above, under existing, future background, and future total conditions for the 2028 horizon period, select movements (westbound left) are expected to have 95th percentile queues that exceed available storage. The westbound left turn lane length is currently constrained by a back-to-back left turn along Clair Road. Future conditions do not significantly alter queuing conditions for the westbound left (a change of 1-2 car lengths). Considering the opposing eastbound left turns along Clair Road exceed the westbound left storage at Clair Road East / Gordon Street, the City could consider monitoring the queuing on left turns along Clair Road to better balance storage lane requirements, if required, as part of any future reconstruction projects along Clair Road.



11.5.1.2 2033 HORIZON YEAR

A summary of intersection capacity results for existing, future background, and future total traffic conditions during the 2033 horizon year are provided in **Table 31**.

Table 31 Clair Road / Gordon Street Capacity Results – 2033 Horizon

Movement	Existing Traffic		Future Background Traffic		Future Total Traffic	
	V/C	LOS	V/C	LOS	V/C	LOS
EBL	0.59 (0.64) [0.50]	C (C) [C]	0.80 (0.81) [0.61]	D (D) [C]	0.80 (0.84) [0.62]	D (D) [C]
EBTR	0.44 (0.78) [0.62]	C (C) [C]	0.51 (0.92) [0.74]	C (D) [D]	0.50 (0.96) [0.75]	C (D) [D]
WBL	0.45 (0.52) [0.51]	C (C) [C]	0.52 (0.73) [0.63]	C (D) [C]	0.53 (0.72) [0.64]	C (D) [C]
WBTR	0.77 (0.51) [0.55]	D (C) [C]	0.91 (0.56) [0.65]	D (C) [C]	0.96 (0.60) [0.66]	D (C) [C]
NBL	0.45 (0.35) [0.22]	B (B) [A]	0.75 (0.68) [0.39]	C (C) [B]	0.92 (0.75) [0.44]	E (D) [B]
NBTR	0.49 (0.54) [0.33]	B (B) [B]	0.83 (0.81) [0.55]	C (C) [B]	0.88 (0.81) [0.59]	C (C) [B]
SBL	0.21 (0.45) [0.33]	B (B) [B]	0.43 (0.85) [0.55]	C (D) [B]	0.49 (0.89) [0.58]	C (D) [B]
SBTR	0.45 (0.50) [0.34]	C (C) [B]	0.66 (0.85) [0.60]	C (D) [C]	0.69 (0.85) [0.65]	C (D) [C]
Overall	0.60 (0.64) [0.44]	C (C) [C]	0.87 (0.88) [0.66]	C (C) [C]	0.94 (0.92) [0.68]	D (D) [C]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].

Under future background conditions, the intersection operates at overall v/c ratios of 0.87, 0.88, and 0.66 during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.

Under future total conditions, the intersection operates at overall v/c ratios of 0.94, 0.92, and 0.68 during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.

In addition to overall intersection capacity, all individual movement under all scenarios are expected to operate within capacity and at acceptable levels of service.

A summary of 95th percentile queues for existing, future background, and future total traffic conditions during the 2033 horizon year are provided in **Table 32**.

Table 32 Clair Road / Gordon Street 95th Percentile Queues – 2033 Horizon

Movement	Approximate Existing Available Storage (m) ²	Existing Traffic	Future Background Traffic	Future Total Traffic
EBL	75m	#28.8 (#44.8) [31.2]	#46.8 (#61.0) [33.9]	#48.4 (#66.3) [33.9]
EBT	200m	37.9 (77.8) [45.2]	55.6 (#131.1) [68.1]	56.8 (#139.4) [70.3]
WBL	30m	43.4 (26.3) [m25.1]	36.5 (#40.9) [#33.1]	36.3 (#41.1) [#34.2]
WBT	180m	86.4 (37.7) [28.2]	#129.1 (60.1) [45.7]	#148.2 (60.5) [48.2]
NBL	60m	13.0 (7.6) [7.0]	#28.9 (#34.4) [8.0]	#46.6 (#41.9) [16.4]
NBT	145m	55.8 (15.2) [17.7]	#112.0 (45.2) [20.6]	#117.2 (55.8) [25.7]
SBL	160m	14.7 (29.0) [28.3]	16.5 (#55.2) [#34.5]	17.0 (#60.0) [35.0]
SBT	195m	49.1 (59.6) [51.8]	74.7 (#113.9) [86.8]	75.9 (#107.8) [89.2]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].
2. Storage measurement approximate. Turning Lane Storage measured as Storage plus ~1/3 of taper; Through Lane Storage measured from stop-bar to pedestrian crosswalk at upstream intersection.

As demonstrated above, under future background and future total conditions for the 2033 horizon period and consistent with 2028 conditions, select movements (westbound left) are expected to have 95th percentile queues that exceed available storage. The westbound left turn lane length is currently constrained by a back-to-back left turn along Clair Road. Future conditions do not significantly alter queuing conditions for the westbound left (a change of 1-2 car lengths). Considering the opposing eastbound left turns along Clair Road exceed the westbound left storage at Clair Road / Gordon Street, the City could consider monitoring the queuing on left turns along Clair Road to better balance storage lane requirements, if required, as part of any future reconstruction projects along Clair Road.



11.5.1.3 2038 HORIZON YEAR

Baseline Configuration

A summary of intersection capacity results for existing, future background, and future total traffic conditions during the 2038 horizon year under the baseline existing lane configuration are provided in **Table 33**.

Table 33 Clair Road / Gordon Street Capacity Results – 2038 Horizon Baseline Configuration

Movement	Existing Traffic		Future Background Traffic		Future Total Traffic	
	V/C	LOS	V/C	LOS	V/C	LOS
EBL	0.59 (0.64) [0.50]	C (C) [C]	0.85 (1.01) [0.75]	D (F) [C]	0.85 (1.03) [0.76]	D (F) [D]
EBTR	0.44 (0.78) [0.62]	C (C) [C]	0.57 (1.04) [0.78]	C (E) [D]	0.57 (1.03) [0.77]	C (E) [C]
WBL	0.45 (0.52) [0.51]	C (C) [C]	0.56 (0.78) [0.80]	C (D) [D]	0.57 (0.78) [0.80]	C (D) [D]
WBTR	0.77 (0.51) [0.55]	D (C) [C]	1.03 (0.64) [0.68]	E (C) [C]	1.09 (0.65) [0.69]	F (C) [C]
NBL	0.45 (0.35) [0.22]	B (B) [A]	0.84 (0.63) [0.56]	D (D) [C]	0.85 (0.63) [0.56]	D (D) [D]
NBTR	0.49 (0.54) [0.33]	B (B) [B]	1.08 (0.96) [0.74]	E (D) [C]	1.12 (0.98) [0.76]	F (D) [C]
SBL	0.21 (0.45) [0.33]	B (B) [B]	0.52 (1.04) [0.74]	C (F) [C]	0.55 (1.06) [0.73]	C (F) [C]
SBTR	0.45 (0.50) [0.34]	C (C) [B]	0.81 (1.10) [0.80]	C (F) [C]	0.82 (1.12) [0.82]	D (F) [C]
Overall	0.60 (0.64) [0.44]	C (C) [C]	1.05 (1.06) [0.82]	D (E) [C]	1.09 (1.07) [0.82]	E (E) [C]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].

Under future background conditions, the intersection operates at overall v/c ratios of 1.05, 1.06, and 0.82 during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.

Under future total conditions, the intersection operates at overall v/c ratios of 1.09, 1.07, and 0.82 during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.

Under both future background and future total conditions, the morning and afternoon peak hour operations at the Clair Road / Gordon Street intersection are expected to operate over capacity in the 2038 horizon period. This condition is a result of significant planned area development, including significant planned development related to the Clair-Maltby Secondary Plan.

There are a number of forecasting assumptions that are relevant in assessing whether over capacity conditions at the Clair Road / Gordon Street intersection under future background scenarios are accurate to the 2038 horizon:

- This study assumes full build-out of the Clair-Maltby Secondary Plan under the 2038 horizon period. This may be considered a conservative assumption relative to the actual build-out timing for the entire Secondary Plan lands.
- The Clair-Maltby Secondary Plan Transportation Master Plan Study analyzed the maximum density development scenario, which assumed residential development in the order of 10,000 units and 333 jobs south of the Site. Numerous factors may contribute to either different or lesser development scenarios being realized long-term.
- This study does not include any specific reduction or significant rerouting of existing corridor traffic that may move from single occupant vehicle to transit, cycling or carpooling over time.
- This study only considers local area rerouting through the future collector road network, and particularly two future road extensions (Hawkins Drive and Poppy Drive West). Broader network expansion is proposed as part of Clair-Maltby Secondary Plan, including the extension of Clairfields Drive West as a north-south collector road west of Gordon Street. It is likely that this future extension, in tandem with the remaining planned network improvements, will provide relief at the Clair Road / Gordon Street intersection.
- This study includes a number of conservative forecasting and analysis assumptions, mentioned specifically in **Sections 10.0** and **11.0** that could overemphasize the area estimated vehicle traffic generation and operations results.

An alternative configuration for the Clair Road / Gordon Street intersection was considered in the Clair-Maltby Secondary Plan Transportation Master Plan Study, which included auxiliary right-turn lanes on the north, south, and west approaches and is assessed below. Assessment of 2038 forecast volumes on the alternative intersection configuration (with right-turn lanes) results in improved capacity results for vehicles, with the majority of individual movements operating at or below capacity. This configuration notably favours vehicle capacity over other modes in a conservative forecasting scenario and should not be considered in advance of monitoring growth of traffic and promoting transit priority and enhanced pedestrian and active transportation design in the local area to promote a shift to other modes.

A summary of 95th percentile queues for existing, future background, and future total traffic conditions during the 2038 horizon year under the baseline existing configuration are provided in **Table 34**.



Table 34 Clair Road / Gordon Street 95th Percentile Queues – 2038 Horizon Baseline Configuration

Movement	Approximate Existing Available Storage (m) ²	Existing Traffic	Future Background Traffic	Future Total Traffic
EBL	75m	#28.8 (#44.8) [31.2]	#49.3 (#76.9) [#38.5]	#49.3 (#78.3) [#39.5]
EBT	200m	37.9 (77.8) [45.2]	62.6 (#157.6) [77.7]	63.4 (#156.3) [77.1]
WBL	30m	43.4 (26.3) [m25.1]	30.4 (m#43.0) [m#40.6]	29.6 (m#42.9) [m#40.1]
WBT	180m	86.4 (37.7) [28.2]	#156.0 (75.1) [60.5]	#166.5 (74.1) [61.1]
NBL	60m	13.0 (7.6) [7.0]	#55.9 (m29.2) [27.0]	m#41.5 (m26.2) [m25.1]
NBT	145m	55.8 (15.2) [17.7]	#177.1 (#139.7) [57.2]	#185.3 (#144.5) [63.9]
SBL	160m	14.7 (29.0) [28.3]	17.9 (#70.4) [#62.6]	18.8 (#73.2) [#62.2]
SBT	195m	49.1 (59.6) [51.8]	98.0 (#176.5) [#143.1]	#101.0 (#181.9) [#147.2]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].
2. Storage measurement approximate. Turning Lane Storage measured as Storage plus ~1/3 of taper; Through Lane Storage measured from stop-bar to pedestrian crosswalk at upstream intersection.

As demonstrated above, under future background and future total conditions for the 2038 horizon period and consistent with both the 2028 and 2033 conditions, select left-turn movements (westbound left and eastbound left) are expected to have 95th percentile queues that exceed available storage. The westbound and eastbound left-turn lane lengths are currently constrained by back-to-back left turns along Clair Road. Future conditions do not significantly alter queuing conditions for either left turn (a change of 1-2 car lengths). As with previous recommendations for the 2028 and 2033 horizon conditions, the City could consider monitoring the queuing on left turns along Clair Road to better balance storage lane requirements, if required, as part of any future reconstruction projects along Clair Road.

Under 2038 horizon conditions, the northbound through movement is also expected to exceed available storage under both future background and future total scenarios. The Clair-Maltby Secondary Plan considers the extension of Clairfields Drive West as an alternative north-south collector corridor travelling parallel to the west of Gordon Street. While not directly considered as part of this study, this corridor will likely act as supplemental relief for the Clair Road / Gordon Street intersection.



Alternative Configuration

The *Clair-Maltby Secondary Plan Transportation Master Plan Study* considered an alternative configuration for the Clair Road / Gordon Street intersection, which included auxiliary right-turn lanes on the north, south, and west approaches. A summary of intersection capacity results for future background and future total traffic conditions during the 2038 horizon year under the alternative lane configuration recommended in the *Clair-Maltby Secondary Plan Transportation Master Plan Study* are provided in **Table 35**.

Table 35 Clair Road / Gordon Street Capacity Results – 2038 Horizon Alternative Configuration

Movement	Future Background Traffic		Future Total Traffic	
	V/C	LOS	V/C	LOS
EBL	0.84 (0.94) [0.74]	D (E) [C]	0.85 (0.98) [0.76]	D (E) [D]
EBT	0.47 (0.90) [0.72]	C (D) [C]	0.46 (0.90) [0.72]	C (D) [C]
EBR	0.07 (0.10) [0.06]	C (C) [C]	0.07 (0.10) [0.06]	C (C) [C]
WBL	0.49 (0.76) [0.70]	C (D) [C]	0.48 (0.77) [0.70]	C (D) [C]
WBTR	1.03 (0.66) [0.73]	E (C) [C]	1.05 (0.67) [0.74]	E (C) [C]
NBL	0.63 (0.63) [0.47]	C (D) [C]	0.66 (0.63) [0.48]	C (D) [C]
NBT	0.94 (0.86) [0.63]	D (C) [C]	1.00 (0.87) [0.64]	D (C) [C]
NBR	0.16 (0.13) [0.07]	C (C) [B]	0.16 (0.14) [0.07]	C (C) [C]
SBL	0.52 (0.96) [0.65]	C (E) [B]	0.55 (1.00) [0.65]	C (E) [B]
SBT	0.56 (0.93) [0.69]	C (D) [C]	0.58 (0.94) [0.70]	C (D) [C]
SBR	0.21 (0.20) [0.11]	C (C) [B]	0.22 (0.20) [0.11]	C (C) [B]
Overall	0.95 (0.97) [0.73]	D (D) [C]	0.99 (1.01) [0.74]	D (D) [C]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].

Under future background conditions, the intersection operates at overall v/c ratios of 0.95, 0.97, and 0.73 during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.

Under 2038 future total conditions, the intersection operates at overall v/c ratios of 0.99, 1.01, and 0.74 during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.

Both future background and future total conditions are demonstrated to significantly improve through the application of the recommended intersection configuration presented in the *Clair-Maltby Secondary Plan Transportation Master Plan Study*, and are comparable to those provided in the study under future total conditions when the recommended configuration was applied.

The potential implementation of the recommended configuration changes to the Clair Road / Gordon Street intersection, as well as additional mitigation measures, are discussed in greater detail, below.



11.5.1.4 MITIGATION MEASURES

Significant planned area developments, including the Clair-Maltby Secondary Plan and additional area developments, are expected to increase long-term travel demand on the existing and future South Guelph road network. As indicated in this study, continued growth in the area is expected to result in the Clair Road / Gordon Street intersection exceeding capacity long-term based on the forecast estimates, particularly at the build out of development associated with the Clair-Maltby Secondary Plan. Notwithstanding, opportunities exist to improve long-term area transportation network capacity, as summarized through the potential mitigation measures provided, below.

- **Future configuration change at the Clair Road / Gordon Street intersection.** As indicated above, implementation of the intersection configuration recommended in the *Clair-Maltby Secondary Plan Transportation Master Plan Study* would be expected to improve traffic operations for vehicle capacity in the long-term. The provision of auxiliary right-turn lanes for the north, south, and west approaches would improve v/c ratios along both corridors and improve intersection through-put. However, reconfiguration of this intersection to increase vehicular capacity will ultimately reduce the pedestrian and active transportation-oriented qualities envisioned for both corridors in the long-term by increasing required crossing distances, adding travel lanes, and generally supporting increased vehicle use in the area. This configuration should not be considered in advance of monitoring growth of traffic and promoting alternative travel options, including transit and active transportation, in the local area to encourage a shift to other modes.
- **Signal timing plan adjustments.** In conjunction with the potential future reconfiguration of the Clair Road / Gordon Street intersection, increasing the signal's cycle length to 110 seconds would increase intersection throughput by permitting extended green times for all movements. Consideration of changes to cycle length should be considered in tandem with support a pedestrian and active transportation-oriented environment in the area.
- **Increased investment in transit and active transportation infrastructure.** As an alternative to increasing vehicle capacity, opportunities may be explored to reduce vehicular travel demand in South Guelph through continued and increased investment in transit services and active transportation infrastructure. The Guelph TMP and Clair-Maltby Secondary Plan both envision Gordon Street as an enhanced corridor that supports high levels of transit services, augmented with quality active transportation infrastructure to provide mode choice to residents and visitors for local and City-wide trips. Increasing the proportion of trips using alternative travel modes long-term will reduce vehicular travel demand, and improve network capacity, including at the Clair Road / Gordon Street intersection.
- **Increased use of area collector road network.** As the Poppy Drive extension is completed to the west and the Clair Maltby Secondary Plan collector road networks (north-south and east-west) are completed to the south, further routing options will become available to existing vehicle trips, that are not captured in detail as part of this study. Poppy Drive, under existing and future total conditions, is underutilized as a collector corridor and has the capacity to accommodate shifts in traffic from Clair Road while remaining within a Collector road designation and characteristics.

While there are no immediate capacity issues observed at the Clair Road / Gordon Street intersection, significant planned area development traffic, if realized based on conservative forecasting assumptions, is expected to constrain this intersection in medium- and long-term planning horizons. We recommended that the City continue to monitor intersection operations, particularly as the Clair-Maltby Secondary Plan nears build-out, and assess potential mitigation measures in accordance with City transportation and mobility objectives.

Under all scenarios, Site related impacts to the Clair Road East / Gordon Street intersection are minor.



11.5.2 Other Study Area Intersection Capacity Results

The Clair Road East / Farley Drive intersection and Poppy Drive / Gordon Street intersection both operate with a 90 second cycle length during the weekday morning, weekday afternoon, and Saturday peak hours. The existing cycle length was maintained for all scenarios, with optimized splits employed for future background and future total conditions.

2028 Horizon Year

A summary of intersection capacity results for existing, future background, and future total traffic conditions during the 2028 horizon year are provided in **Table 36**.

Table 36 Other Area Intersection Capacity Results – 2028 Horizon

Movement	Existing Traffic		Future Background Traffic		Future Total Traffic	
	V/C	LOS	V/C	LOS	V/C	LOS
Clair Road East / Farley Drive						
EBL	0.18 (0.29) [0.19]	A (A) [A]	0.27 (0.35) [0.23]	A (A) [A]	0.28 (0.35) [0.23]	A (A) [A]
EBTR	0.16 (0.34) [0.23]	A (A) [A]	0.21 (0.46) [0.33]	A (A) [A]	0.22 (0.45) [0.33]	A (A) [A]
WBL	0.02 (0.10) [0.07]	A (A) [A]	0.02 (0.12) [0.08]	A (A) [A]	0.02 (0.14) [0.09]	A (A) [A]
WBTR	0.33 (0.22) [0.20]	A (B) [B]	0.46 (0.31) [0.30]	B (B) [B]	0.48 (0.31) [0.29]	B (B) [B]
NBL	0.30 (0.61) [0.82]	D (D) [E]	0.30 (0.60) [0.82]	D (D) [E]	0.71 (0.68) [0.86]	D (D) [E]
NBTR	0.08 (0.18) [0.24]	C (C) [C]	0.07 (0.18) [0.22]	C (C) [C]	0.07 (0.14) [0.19]	C (C) [C]
SBTLR	0.39 (0.70) [0.71]	D (D) [D]	0.45 (0.73) [0.76]	D (D) [D]	0.41 (0.72) [0.73]	D (D) [D]
Overall	0.33 (0.43) [0.39]	B (B) [B]	0.44 (0.53) [0.47]	B (B) [B]	0.50 (0.52) [0.47]	B (B) [B]
Poppy Drive / Gordon Street						
EBTLR	0.14 (0.17) [0.16]	D (C) [C]	0.25 (0.29) [0.23]	D (D) [C]	0.22 (0.29) [0.21]	C (C) [C]
WBTLR	0.24 (0.42) [0.43]	D (D) [D]	0.27 (0.46) [0.51]	D (D) [D]	0.54 (0.53) [0.61]	D (D) [D]
NBL	0.02 (0.07) [0.06]	A (A) [A]	0.04 (0.09) [0.08]	A (A) [A]	0.04 (0.10) [0.09]	A (A) [A]
NBTR	0.29 (0.35) [0.27]	A (A) [A]	0.40 (0.45) [0.37]	A (A) [A]	0.43 (0.46) [0.38]	A (B) [A]
SBL	0.05 (0.16) [0.11]	A (A) [A]	0.06 (0.20) [0.14]	A (A) [A]	0.09 (0.26) [0.19]	A (A) [A]
SBTR	0.23 (0.25) [0.26]	A (A) [A]	0.30 (0.36) [0.36]	A (A) [A]	0.31 (0.36) [0.37]	A (A) [A]
Overall	0.27 (0.35) [0.28]	A (B) [A]	0.37 (0.43) [0.38]	A (B) [B]	0.43 (0.46) [0.41]	B (B) [B]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].

Under existing conditions, both the Clair Road East / Farley Drive and Poppy Drive / Gordon Street intersections operate at acceptable levels of capacity during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.

Under future background and future total conditions, the intersections continue to operate at acceptable levels of capacity during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.

In addition to overall intersection capacities, all individual movements under all scenarios are expected to operate within capacity and at acceptable levels of service.



A summary of 95th percentile queues for existing, future background, and future total traffic conditions during the 2028 horizon year are provided in **Table 37**.

Table 37 Other Area Intersection 95th Percentile Queues – 2028 Horizon

Movement	Approximate Existing Available Storage (m) ²	Existing Traffic	Future Background Traffic	Future Total Traffic
Clair Road East / Farley Drive				
EBL	130 m	10.4 (m14.0) [21.0]	m21.8 (m9.6) [14.9]	m21.7 (m9.4) [15.0]
EBT	180 m	32.0 (65.5) [36.4]	41.2 (m88.2) [57.2]	41.8 (m88.0) [57.5]
WBL	65 m	2.7 (7.3) [6.8]	2.7 (7.3) [6.9]	2.7 (7.8) [7.6]
WBT	555 m	60.3 (35.4) [31.1]	88.2 (51.1) [47.2]	88.2 (51.1) [47.4]
NBL	40 m	10.7 (28.0) [41.1]	10.8 (28.2) [#42.1]	25.0 (31.4) [#44.3]
NBT	35 m	7.9 (19.0) [23.9]	7.9 (19.0) [23.4]	7.9 (15.9) [20.2]
SBT	130 m	26.9 (58.3) [63.8]	30.6 (64.2) [70.3]	30.6 (60.2) [66.5]
Poppy Drive / Gordon Street				
EBT	200 m	9.6 (14.1) [13.1]	13.1 (20.0) [16.3]	13.2 (20.1) [16.3]
WBT	795 m	18.6 (27.2) [28.0]	19.7 (30.2) [33.5]	36.0 (36.0) [42.7]
NBL	95 m	2.4 (6.7) [5.8]	3.9 (7.2) [6.5]	3.9 (7.2) [6.5]
NBT	170 m	50.6 (62.9) [46.7]	74.7 (83.6) [65.5]	76.1 (86.7) [67.5]
SBL	50 m	m3.2 (m6.7) [6.1]	m2.3 (m4.8) [m5.1]	m3.2 (m6.0) [m6.9]
SBT	145 m	38.5 (29.6) [30.3]	44.5 (m38.6) [45.5]	43.8 (m37.5) [46.8]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].
2. Storage measurement approximate. Turning Lane Storage measured as Storage plus ~1/3 of taper; Through Lane Storage measured from stop-bar to pedestrian crosswalk at upstream intersection.

As demonstrated above, under existing, future background, and future total traffic conditions for the 2028 horizon period, the northbound left turning movement (95th percentile) is reported to approach or exceed available storage. There are numerous modelling and network assumptions to be considered when assessing the acceptability of future modelled queuing activity for this turning movement:

- The observed 95th percentile queue lengths for the northbound left turn at the Clair Road East / Farley Drive intersection (provided in **Section 10.3.2**) are shorter than what is modelled in Synchro for existing conditions. The observed queuing activity suggests a 95th percentile queue length of approximately 35 metres in the existing condition, whereas Synchro indicates a queue length of approximately 41 metres.
- 95th percentile queues represent an occasional condition at peak times – 50th percentile queues, which are more commonly observed, regularly do not exceed the available storage.
- Synchro Version 11 uses a conservative assumption for the stored passenger car length of 8 metres. This default parameter may result in overestimated 95th percentile queue lengths, as typical vehicle lengths do not exceed

approximately 6 metres. Additionally, in a constrained scenario, passenger vehicles are more likely to queue closer together, resulting in a reduced effective vehicle length.

- The forecast queue lengths do not increase significantly under future conditions (about 1 car length or less), and in some cases queuing under future conditions improves as a result of actuated green time variation between forecasted scenarios.
- Future Site access connections to Poppy Drive, with enhanced routing choice, also reduce demand for specific movements at individual intersections across the site.

Based on the above considerations, the future queuing activity for the south approach of the Clair Road East / Farley Drive intersection during the 2028 horizon period is not expected to present capacity or functional operation concerns within the Site or on the area road network.

2033 Horizon Year

A summary of intersection capacity results for existing, future background, and future total traffic conditions during the 2033 horizon year are provided in **Table 38**.

Table 38 Other Area Intersection Capacity Results – 2033 Horizon

Movement	Existing Traffic		Future Background Traffic		Future Total Traffic	
	V/C	LOS	V/C	LOS	V/C	LOS
Clair Road East / Farley Drive						
EBL	0.18 (0.29) [0.19]	A (A) [A]	0.30 (0.39) [0.25]	A (A) [A]	0.32 (0.38) [0.25]	A (A) [A]
EBTR	0.16 (0.34) [0.23]	A (A) [A]	0.23 (0.52) [0.38]	A (B) [A]	0.25 (0.54) [0.38]	A (B) [A]
WBL	0.02 (0.10) [0.07]	A (A) [A]	0.02 (0.15) [0.09]	A (A) [A]	0.03 (0.17) [0.11]	A (A) [A]
WBTR	0.33 (0.22) [0.20]	A (B) [B]	0.50 (0.35) [0.33]	B (B) [B]	0.53 (0.35) [0.33]	B (B) [B]
NBL	0.30 (0.61) [0.82]	D (D) [E]	0.27 (0.50) [0.72]	D (C) [D]	0.77 (0.66) [0.83]	E (D) [E]
NBTR	0.08 (0.18) [0.24]	C (C) [C]	0.07 (0.16) [0.21]	C (C) [C]	0.06 (0.13) [0.18]	C (C) [C]
SBTLR	0.39 (0.70) [0.71]	D (D) [D]	0.50 (0.76) [0.77]	D (D) [D]	0.43 (0.75) [0.75]	C (D) [D]
Overall	0.33 (0.43) [0.39]	B (B) [B]	0.48 (0.59) [0.49]	B (B) [B]	0.56 (0.60) [0.51]	B (B) [B]
Poppy Drive / Gordon Street						
EBTLR	0.14 (0.17) [0.16]	D (C) [C]	0.35 (0.39) [0.32]	D (D) [C]	0.25 (0.35) [0.28]	C (C) [C]
WBTLR	0.24 (0.42) [0.43]	D (D) [D]	0.39 (0.58) [0.57]	D (D) [D]	0.71 (0.69) [0.70]	D (D) [D]
NBL	0.02 (0.07) [0.06]	A (A) [A]	0.13 (0.20) [0.17]	A (A) [A]	0.15 (0.21) [0.18]	A (A) [A]
NBTR	0.29 (0.35) [0.27]	A (A) [A]	0.46 (0.49) [0.41]	A (B) [A]	0.53 (0.53) [0.44]	B (B) [B]
SBL	0.05 (0.16) [0.11]	A (A) [A]	0.07 (0.22) [0.15]	A (A) [A]	0.13 (0.32) [0.23]	A (A) [A]
SBTR	0.23 (0.25) [0.26]	A (A) [A]	0.33 (0.43) [0.43]	A (B) [A]	0.37 (0.45) [0.45]	A (B) [A]
Overall	0.27 (0.35) [0.28]	A (B) [A]	0.44 (0.49) [0.43]	B (B) [B]	0.55 (0.55) [0.49]	B (B) [B]
<i>Table Continued on Next Page</i>						



Clair Road East / Hawkins Drive						
EBTR	-- (--) [--]	-- (--) [--]	0.23 (0.43) [0.30]	A (A) [A]	0.24 (0.43) [0.30]	A (A) [A]
WBL	-- (--) [--]	-- (--) [--]	0.09 (0.21) [0.21]	A (A) [A]	0.11 (0.22) [0.20]	A (A) [A]
WBT	-- (--) [--]	-- (--) [--]	0.40 (0.23) [0.21]	A (A) [A]	0.41 (0.24) [0.21]	A (A) [A]
NBLR	-- (--) [--]	-- (--) [--]	0.20 (0.16) [0.17]	D (C) [C]	0.19 (0.16) [0.17]	D (D) [D]
Overall	-- (--) [--]	-- (--) [--]	0.39 (0.37) [0.28]	A (A) [A]	0.39 (0.37) [0.28]	A (A) [A]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].

Under future background and future total conditions, both the Clair Road East / Farley Drive, Poppy Drive / Gordon Street, and Clair Road East / Hawkins Drive intersections continue to operate at acceptable levels of capacity during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.

In addition to overall intersection capacities, all individual movements under all scenarios are expected to operate within capacity and at acceptable levels of service.

A summary of 95th percentile queues for existing, future background, and future total traffic conditions during the 2033 horizon year are provided in **Table 39**.

Table 39 Other Area Intersection 95th Percentile Queues – 2033 Horizon

Movement	Approximate Existing Available Storage (m) ²	Existing Traffic	Future Background Traffic	Future Total Traffic
Clair Road East / Farley Drive				
EBL	130 m	10.4 (m14.0) [21.0]	m22.4 (m22.8) [19.8]	m22.4 (m20.2) [m20.9]
EBT	180 m	32.0 (65.5) [36.4]	m47.9 (m101.8) [67.6]	m48.0 (m98.8) [71.1]
WBL	65 m	2.7 (7.3) [6.8]	2.7 (7.9) [7.2]	3.5 (9.1) [8.9]
WBT	135 m	60.3 (35.4) [31.1]	97.6 (55.3) [52.0]	97.6 (55.3) [52.7]
NBL	40 m	10.7 (28.0) [41.1]	10.7 (26.5) [39.3]	32.6 (34.4) [45.8]
NBT	35 m	7.9 (19.0) [23.9]	7.9 (18.1) [22.7]	7.9 (15.3) [19.4]
SBT	130 m	26.9 (58.3) [63.8]	33.9 (71.0) [74.6]	33.9 (68.3) [70.3]
<i>Table Continued on Next Page</i>				



Poppy Drive / Gordon Street				
EBT	200 m	9.6 (14.1) [13.1]	19.1 (26.6) [22.4]	18.7 (26.7) [22.5]
WBT	795 m	18.6 (27.2) [28.0]	25.8 (37.1) [38.9]	55.9 (49.6) [54.4]
NBL	95 m	2.4 (6.7) [5.8]	10.0 (11.8) [10.3]	10.6 (11.8) [10.3]
NBT	170 m	50.6 (62.9) [46.7]	88.5 (92.6) [72.6]	95.5 (98.6) [76.4]
SBL	50 m	m3.2 (m6.7) [6.1]	m2.5 (m3.6) [m4.9]	m4.3 (m5.2) [m6.2]
SBT	145 m	38.5 (29.6) [30.3]	35.1 (m34.6) [50.3]	33.7 (m32.2) [49.0]
Clair Road East / Hawkins Drive				
EBT	135 m	-- (--) [--]	16.0 (22.0) [25.3]	15.8 (21.8) [24.9]
WBL	25 m	-- (--) [--]	8.8 (12.4) [16.0]	10.1 (12.8) [15.5]
WBT	395 m	-- (--) [--]	67.1 (38.0) [32.7]	67.7 (38.6) [33.5]
NBL	160 m	-- (--) [--]	13.8 (14.0) [15.4]	14.7 (14.3) [15.4]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].
2. Storage measurement approximate. Turning Lane Storage measured as Storage plus ~1/3 of taper; Through Lane Storage measured from stop-bar to pedestrian crosswalk at upstream intersection.

As demonstrated above, under future background and future total traffic conditions for the 2033 horizon period, the northbound left turning movement (95th percentile) is reported to approach or exceed available storage. There are numerous modelling and network assumptions to be considered when assessing the acceptability of future modelled queuing activity for this turning movement:

- The observed 95th percentile queue lengths for the northbound left turn at the Clair Road East / Farley Drive intersection (provided in **Section 10.3.2**) are shorter than what is modelled in Synchro for existing conditions. The observed queuing activity suggests a 95th percentile queue length of approximately 35 metres in the existing condition, whereas Synchro indicates a queue length of approximately 41 metres.
- 95th percentile queues represent an occasional condition at peak times – 50th percentile queues, which are more commonly observed, regularly do not exceed the available storage.
- Synchro Version 11 uses a conservative assumption for the stored passenger car length of 8 metres. This default parameter may result in overestimated 95th percentile queue lengths, as typical vehicle lengths do not exceed approximately 6 metres. Additionally, in a constrained scenario, passenger vehicles are more likely to queue closer together, resulting in a reduced effective vehicle length.
- The forecast queue lengths do not increase significantly under future conditions (about 1 car length or less), and in some cases queuing under future conditions improves as a result of actuated green time variation between forecasted scenarios.
- Future Site access connections to Poppy Drive, with enhanced routing choice, also reduce demand for specific movements at individual intersections across the site.

Based on the above considerations, the future queuing activity for the south approach of the Clair Road East / Farley Drive intersection during the 2033 horizon period is not expected to present capacity or functional operation concerns within the Site or on the area road network.



2038 Horizon Year

A summary of intersection capacity results for existing, future background, and future total traffic conditions during the 2038 horizon year are provided in **Table 40**.

Table 40 Other Area Intersection Capacity Results – 2038 Horizon

Movement	Existing Traffic		Future Background Traffic		Future Total Traffic	
	V/C	LOS	V/C	LOS	V/C	LOS
Clair Road East / Farley Drive						
EBL	0.18 (0.29) [0.19]	A (A) [A]	0.37 (0.46) [0.31]	A (A) [A]	0.37 (0.45) [0.31]	A (A) [A]
EBTR	0.16 (0.34) [0.23]	A (A) [A]	0.27 (0.62) [0.47]	A (B) [B]	0.28 (0.61) [0.45]	A (B) [B]
WBL	0.02 (0.10) [0.07]	A (A) [A]	0.02 (0.18) [0.11]	A (B) [B]	0.02 (0.18) [0.11]	A (B) [B]
WBTR	0.33 (0.22) [0.20]	A (B) [B]	0.59 (0.43) [0.41]	B (B) [B]	0.59 (0.43) [0.40]	B (B) [B]
NBL	0.30 (0.61) [0.82]	D (D) [E]	0.25 (0.43) [0.61]	C (C) [C]	0.72 (0.51) [0.67]	E (C) [D]
NBTR	0.08 (0.18) [0.24]	C (C) [C]	0.07 (0.14) [0.18]	C (C) [C]	0.08 (0.12) [0.16]	C (C) [C]
SBTLR	0.39 (0.70) [0.71]	D (D) [D]	0.57 (0.81) [0.80]	D (D) [D]	0.56 (0.81) [0.80]	D (D) [D]
Overall	0.33 (0.43) [0.39]	B (B) [B]	0.56 (0.68) [0.58]	B (B) [B]	0.59 (0.67) [0.57]	B (B) [B]
Poppy Drive / Gordon Street						
EBTLR	0.14 (0.17) [0.16]	D (C) [C]	0.50 (0.66) [0.53]	D (D) [D]	0.40 (0.66) [0.51]	C (D) [C]
WBTLR	0.24 (0.42) [0.43]	D (D) [D]	0.55 (0.75) [0.71]	D (D) [D]	0.84 (0.84) [0.82]	D (D) [D]
NBL	0.02 (0.07) [0.06]	A (A) [A]	0.32 (0.43) [0.37]	A (A) [A]	0.38 (0.47) [0.42]	A (B) [B]
NBTR	0.29 (0.35) [0.27]	A (A) [A]	0.62 (0.61) [0.52]	B (B) [B]	0.75 (0.68) [0.59]	B (B) [B]
SBL	0.05 (0.16) [0.11]	A (A) [A]	0.11 (0.29) [0.20]	A (A) [A]	0.19 (0.43) [0.31]	A (B) [A]
SBTR	0.23 (0.25) [0.26]	A (A) [A]	0.41 (0.61) [0.60]	A (B) [A]	0.48 (0.65) [0.66]	B (B) [A]
Overall	0.27 (0.35) [0.28]	A (B) [A]	0.60 (0.64) [0.60]	B (B) [B]	0.76 (0.72) [0.68]	B (B) [B]
Clair Road East / Hawkins Drive						
EBTR	-- (--) [--]	-- (--) [--]	0.28 (0.52) [0.37]	A (A) [A]	0.29 (0.53) [0.37]	A (A) [A]
WBL	-- (--) [--]	-- (--) [--]	0.15 (0.36) [0.31]	A (A) [A]	0.17 (0.39) [0.32]	A (A) [A]
WBT	-- (--) [--]	-- (--) [--]	0.46 (0.26) [0.24]	A (A) [A]	0.46 (0.26) [0.24]	A (A) [A]
NBLR	-- (--) [--]	-- (--) [--]	0.25 (0.23) [0.22]	D (D) [D]	0.25 (0.22) [0.21]	D (D) [D]
Overall	-- (--) [--]	-- (--) [--]	0.44 (0.46) [0.34]	A (A) [A]	0.44 (0.47) [0.34]	A (A) [A]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].

Under future background and future total conditions, both the Clair Road East / Farley Drive, Poppy Drive / Gordon Street, and Clair Road East / Hawkins Drive intersections continue to operate at acceptable levels of capacity during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.



In addition to overall intersection capacities, all individual movements under all scenarios are expected to operate within capacity and at acceptable levels of service.

A summary of 95th percentile queues for existing, future background, and future total traffic conditions during the 2038 horizon year are provided in **Table 41**.

Table 41 Other Area Intersection 95th Percentile Queues – 2038 Horizon

Movement	Approximate Existing Available Storage (m)²	Existing Traffic	Future Background Traffic	Future Total Traffic
Clair Road East / Farley Drive				
EBL	130 m	10.4 (m14.0) [21.0]	m24.2 (m18.2) [m26.5]	m24.0 (m17.6) [m25.9]
EBT	180 m	32.0 (65.5) [36.4]	m55.8 (m101.5) [89.4]	m56.0 (m100.3) [88.5]
WBL	65 m	2.7 (7.3) [6.8]	2.7 (8.3) [8.0]	2.7 (8.0) [7.8]
WBT	135 m	60.3 (35.4) [31.1]	113.0 (67.4) [62.3]	113.0 (66.0) [61.9]
NBL	40 m	10.7 (28.0) [41.1]	10.7 (25.6) [36.3]	26.4 (30.3) [40.1]
NBT	35 m	7.9 (19.0) [23.9]	7.9 (17.7) [21.1]	9.2 (15.4) [18.8]
SBT	130 m	26.9 (58.3) [63.8]	39.9 (83.5) [83.7]	40.0 (81.5) [81.7]
Poppy Drive / Gordon Street				
EBT	200 m	9.6 (14.1) [13.1]	28.2 (47.6) [37.3]	31.8 (55.0) [42.8]
WBT	795 m	18.6 (27.2) [28.0]	33.6 (46.5) [47.6]	#84.3 (#65.8) [69.7]
NBL	95 m	2.4 (6.7) [5.8]	19.5 (18.4) [15.8]	20.2 (19.1) [17.5]
NBT	170 m	50.6 (62.9) [46.7]	133.3 (116.4) [94.4]	140.7 (124.0) [105.0]
SBL	50 m	m3.2 (m6.7) [6.1]	m1.8 (m2.4) [m3.0]	m2.5 (m3.3) [m4.1]
SBT	145 m	38.5 (29.6) [30.3]	m31.7 (m26.3) [34.5]	m31.1 (m25.4) [34.1]
Clair Road East / Hawkins Drive				
EBT	135 m	-- (--) [--]	18.8 (27.2) [32.7]	20.5 (30.9) [29.7]
WBL	25 m	-- (--) [--]	11.8 (18.6) [20.6]	13.0 (20.2) [20.6]
WBT	395 m	-- (--) [--]	78.3 (42.2) [37.3]	78.3 (42.2) [37.3]
NBL	160 m	-- (--) [--]	18.1 (17.8) [18.4]	m17.7 (m17.9) [18.2]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].
2. Storage measurement approximate. Turning Lane Storage measured as Storage plus ~1/3 of taper; Through Lane Storage measured from stop bar to pedestrian crosswalk at upstream intersection.



As demonstrated above, under future background and future total traffic conditions for the 2038 horizon period, the northbound left turning movement (95th percentile) is reported to approach or exceed available storage. There are numerous modelling and network assumptions to be considered when assessing the acceptability of future modelled queuing activity for this turning movement:

- The observed 95th percentile queue lengths for the northbound left turn at the Clair Road East / Farley Drive intersection (provided in **Section 10.3.2**) are shorter than what is modelled in Synchro for existing conditions. The observed queuing activity suggests a 95th percentile queue length of approximately 35 metres in the existing condition, whereas Synchro indicates a queue length of approximately 41 metres.
- 95th percentile queues represent an occasional condition at peak times – 50th percentile queues, which are more commonly observed, regularly do not exceed the available storage.
- Synchro Version 11 uses a conservative assumption for the stored passenger car length of 8 metres. This default parameter may result in overestimated 95th percentile queue lengths, as typical vehicle lengths do not exceed approximately 6 metres. Additionally, in a constrained scenario, passenger vehicles are more likely to queue closer together, resulting in a reduced effective vehicle length.
- The forecast queue lengths do not increase significantly under future conditions (about 1 car length or less), and in some cases queuing under future conditions improves as a result of actuated green time variation between forecasted scenarios.
- Future Site access connections to Poppy Drive, with enhanced routing choice, also reduce demand for specific movements at individual intersections across the site.

Based on the above considerations, the future queuing activity for the south approach of the Clair Road East / Farley Drive intersection during the 2038 horizon period is not expected to present capacity or functional operation concerns within the Site or on the area road network.



11.6 Unsignalized Intersections Analysis Results

Traffic operations analysis results for the area unsignalized intersections under existing, future background, and future total conditions during the 2028, 2033, and 2038 horizon periods are summarized below.

11.6.1 2028 Horizon Year

A summary of unsignalized intersection capacity results for existing, future background, and future total traffic conditions during the 2028 horizon year are provided in **Table 42**.

Table 42 Unsignalized Intersection Capacity Results – 2028 Horizon

Movement	Existing		Future Background		Future Total	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
Clair Road East / Hawkins Drive						
EBT	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]
EBTR	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]
WBL	-- (--)	-- (--)	A (A) [A]	8.3 (9.4) [8.8]	A (A) [A]	8.3 (9.4) [8.8]
WBT	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]
WBTL	A (A) [A]	1.1 (2.8) [3.7]	-- (--)	-- (--)	-- (--)	-- (--)
NBLR	B (B) [B]	11.6 (11.2) [11.7]	B (B) [B]	12.2 (11.7) [12.3]	B (B) [B]	12.1 (11.8) [12.3]
Poppy Drive East / Hawkins Drive						
EBTLR	A (A) [A]	3.4 (2.2) [1.9]	A (A) [A]	5.0 (3.3) [3.8]	A (A) [A]	5.0 (3.3) [3.8]
WBTLR	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]
NBTLR	B (B) [A]	10.5 (11.2) [9.8]	B (B) [B]	11.3 (12.2) [10.5]	B (B) [B]	11.3 (12.2) [10.5]
SBTLR	A (B) [A]	9.7 (10.2) [9.4]	A (B) [A]	9.8 (10.3) [9.5]	A (B) [A]	9.8 (10.3) [9.5]
Poppy Drive East / Farley Drive						
EBTL	A (A) [A]	2.0 (1.1) [2.2]	A (A) [A]	1.3 (1.0) [1.7]	A (A) [A]	0.5 (0.0) [0.0]
WBTR	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]
SBLR	A (A) [A]	9.4 (9.7) [9.3]	A (A) [A]	9.5 (9.9) [9.4]	B (B) [A]	10.1 (10.2) [9.7]
Poppy Drive East / 1888 Gordon Street Site Access / Internal N-S Street						
EBTR	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]	-- (--)	-- (--)
EBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (A) [A]	2.4 (2.1) [2.6]
WBTL	A (A) [A]	0.4 (1.0) [0.6]	A (A) [A]	0.4 (0.9) [0.5]	A (A) [A]	0.4 (0.9) [0.5]
NBLR	A (A) [A]	9.4 (9.9) [9.3]	A (B) [A]	9.6 (10.2) [9.6]	-- (--)	-- (--)
NBTLR	-- (--)	-- (--)	-- (--)	-- (--)	B (B) [B]	11.1 (12.1) [11.0]
SBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (A) [A]	9.2 (8.9) [8.9]
<i>Table Continued on Next Page</i>						



Movement	Existing		Future Background		Future Total	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
Farley Drive / Internal E-W Street						
EBTLR	A (A) [A]	7.6 (8.9) [9.5]	A (A) [A]	7.6 (8.9) [9.5]	A (A) [A]	7.7 (8.8) [9.4]
WBTLR	A (A) [A]	7.1 (8.0) [8.6]	A (A) [A]	7.1 (8.0) [8.6]	A (A) [A]	7.1 (7.9) [8.5]
NBTLR	A (A) [A]	7.3 (8.1) [8.7]	A (A) [A]	7.3 (8.1) [8.7]	A (A) [A]	7.4 (8.0) [8.4]
SBTLR	A (A) [A]	7.1 (9.1) [10.0]	A (A) [A]	7.1 (9.1) [10.0]	A (A) [A]	7.5 (9.1) [9.9]
Hawkins Drive / Internal E-W Street						
EBLR	A (A) [A]	9.2 (9.4) [9.5]	A (A) [A]	9.4 (9.6) [9.7]	A (A) [A]	9.5 (9.6) [9.6]
NBTL	A (A) [A]	0.0 (0.0) [1.2]	A (A) [A]	0.0 (0.0) [0.7]	A (A) [A]	0.0 (0.0) [0.7]
SBTR	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]
Farley Drive / Existing Adjacent Site Access / Existing Site Access						
EBTLR	A (A) [A]	6.9 (7.5) [7.7]	A (A) [A]	6.9 (7.5) [7.7]	-- (--)	-- (--)
EBLR	-- (--)	-- (--)	-- (--)	-- (--)	A (A) [A]	6.8 (7.3) [7.4]
WBTLR	A (A) [A]	6.5 (7.1) [7.2]	A (A) [A]	6.5 (7.1) [7.2]	-- (--)	-- (--)
NBTLR	A (A) [A]	7.3 (7.3) [7.3]	A (A) [A]	7.3 (7.3) [7.3]	-- (--)	-- (--)
NBTL	-- (--)	-- (--)	-- (--)	-- (--)	A (A) [A]	7.2 (7.2) [7.3]
SBTLR	A (A) [A]	7.2 (7.5) [7.7]	A (A) [A]	7.2 (7.5) [7.7]	-- (--)	-- (--)
SBTR	-- (--)	-- (--)	-- (--)	-- (--)	A (A) [A]	7.1 (7.1) [7.0]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].

A summary of 95th percentile queues for the Clair Road East / Hawkins Drive intersection under existing, future background, and future total traffic conditions during the 2028 horizon year are provided in **Table 43**.

Table 43 Clair Road East / Hawkins Drive 95th Percentile Queues – 2028 Horizon

Movement	Approximate Existing Available Storage (m) ²	Existing Traffic	Future Background Traffic	Future Total Traffic
WBTL	395 m	0.6 (1.4) [1.8]	0.8 (1.9) [2.4]	0.9 (1.9) [2.1]
NBLR	160 m	2.3 (4.0) [4.0]	3.9 (5.6) [5.5]	4.3 (5.3) [5.0]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].
2. Storage measurement approximate. Turning Lane Storage measured as Storage plus ~1/3 of taper; Through Lane Storage measured from stop bar to pedestrian crosswalk at upstream intersection.



11.6.2 2033 Horizon Year

A summary of unsignalized intersection capacity results for existing, future background, and future total traffic conditions during the 2033 horizon year are provided in **Table 44**.

Table 44 Unsignalized Intersection Capacity Results – 2033 Horizon

Movement	Existing		Future Background		Future Total	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
Poppy Drive East / Hawkins Drive						
EBTLR	A (A) [A]	3.4 (2.2) [1.9]	A (A) [A]	4.0 (2.9) [2.8]	A (A) [A]	4.2 (2.9) [2.8]
WBTLR	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	1.2 (3.4) [2.8]	A (A) [A]	1.2 (3.4) [2.8]
NBTLR	B (B) [A]	10.5 (11.2) [9.8]	B (B) [B]	11.9 (13.7) [11.2]	B (B) [B]	12.0 (13.7) [11.2]
SBTLR	A (B) [A]	9.7 (10.2) [9.4]	B (B) [B]	11.3 (13.4) [11.4]	B (B) [B]	11.4 (13.4) [11.4]
Poppy Drive East / Farley Drive						
EBTL	A (A) [A]	2.0 (1.1) [2.2]	A (A) [A]	1.0 (0.9) [1.6]	A (A) [A]	1.1 (0.6) [0.5]
WBTR	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]
SBTLR	A (A) [A]	9.4 (9.7) [9.3]	A (B) [A]	9.8 (10.1) [9.6]	B (B) [B]	10.5 (10.7) [10.1]
Poppy Drive East / 1888 Gordon Street Site Access / Internal N-S Street						
EBTR	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]	-- (--)	-- (--)
EBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (A) [A]	2.2 (2.3) [2.7]
WBTL	A (A) [A]	0.4 (1.0) [0.6]	A (A) [A]	0.3 (0.8) [0.4]	A (A) [A]	0.3 (0.8) [0.4]
NBLR	A (A) [A]	9.4 (9.9) [9.3]	A (B) [A]	9.8 (10.4) [9.8]	-- (--)	-- (--)
NBTLR	-- (--)	-- (--)	-- (--)	-- (--)	B (B) [B]	12.1 (13.1) [11.6]
SBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (A) [A]	9.6 (9.1) [9.1]
Farley Drive / Internal E-W Street						
EBTLR	A (A) [A]	7.6 (8.9) [9.5]	A (A) [A]	7.6 (8.9) [9.5]	A (A) [A]	7.8 (9.0) [9.6]
WBTLR	A (A) [A]	7.1 (8.0) [8.6]	A (A) [A]	7.1 (8.0) [8.6]	A (A) [A]	7.6 (8.2) [8.9]
NBTLR	A (A) [A]	7.3 (8.1) [8.7]	A (A) [A]	7.3 (8.1) [8.7]	A (A) [A]	7.3 (8.1) [8.5]
SBTLR	A (A) [A]	7.1 (9.1) [10.0]	A (A) [A]	7.1 (9.1) [10.0]	A (A) [B]	7.9 (9.6) [10.3]
Hawkins Drive / Internal E-W Street						
EBLR	A (A) [A]	9.2 (9.4) [9.5]	A (B) [B]	9.8 (10.1) [10.4]	B (B) [B]	10.1 (10.1) [10.3]
NBTL	A (A) [A]	0.0 (0.0) [1.2]	A (A) [A]	0.0 (0.0) [0.5]	A (A) [A]	0.0 (0.0) [0.5]
SBTR	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]
<i>Table Continued on Next Page</i>						

Movement	Existing		Future Background		Future Total	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
Farley Drive / Existing Adjacent Site Access / Existing Site Access						
EBTLR	A (A) [A]	6.9 (7.5) [7.7]	A (-- [--])	6.9 (-- [--])	-- (-- [--])	-- (-- [--])
EBLR	-- (-- [--])	-- (-- [--])	-- (-- [--])	-- (-- [--])	A (A) [A]	6.9 (7.3) [7.4]
WBTLR	A (A) [A]	6.5 (7.1) [7.2]	A (-- [--])	6.5 (-- [--])	-- (-- [--])	-- (-- [--])
NBTLR	A (A) [A]	7.3 (7.3) [7.3]	A (-- [--])	7.3 (-- [--])	-- (-- [--])	-- (-- [--])
NBTL	-- (-- [--])	-- (-- [--])	-- (-- [--])	-- (-- [--])	A (A) [A]	7.3 (7.3) [7.3]
SBTLR	A (A) [A]	7.2 (7.5) [7.7]	A (-- [--])	7.2 (-- [--])	-- (-- [--])	-- (-- [--])
SBTR	-- (-- [--])	-- (-- [--])	-- (-- [--])	-- (-- [--])	A (A) [A]	7.3 (7.2) [7.2]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].

11.6.3 2038 Horizon Year

A summary of unsignalized intersection capacity results for existing, future background, and future total traffic conditions during the 2038 horizon year are provided in **Table 45**.

Table 45 Unsignalized Intersection Capacity Results – 2038 Horizon

Movement	Existing		Future Background		Future Total	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
Poppy Drive East / Hawkins Drive						
EBTLR	A (A) [A]	3.4 (2.2) [1.9]	A (A) [A]	4.0 (2.9) [2.6]	A (A) [A]	4.0 (2.9) [2.6]
WBTLR	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	2.5 (3.9) [3.1]	A (A) [A]	2.5 (3.9) [3.1]
NBTLR	B (B) [A]	10.5 (11.2) [9.8]	B (C) [B]	14.1 (16.2) [11.9]	B (C) [B]	14.1 (16.2) [11.9]
SBTLR	A (B) [A]	9.7 (10.2) [9.4]	B (C) [B]	13.5 (20.2) [13.3]	B (C) [B]	13.5 (20.2) [13.3]
Poppy Drive East / Farley Drive						
EBTL	A (A) [A]	2.0 (1.1) [2.2]	A (A) [A]	0.7 (0.8) [1.4]	A (A) [A]	1.7 (1.9) [1.8]
WBTR	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]
SBLR	A (A) [A]	9.4 (9.7) [9.3]	B (B) [A]	10.0 (10.4) [9.8]	B (B) [B]	10.6 (11.0) [10.3]
<i>Table Continued on Next Page</i>						



Movement	Existing		Future Background		Future Total	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
Poppy Drive East / 1888 Gordon Street Site Access / Internal N-S Street						
EBTR	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]	-- (--) [--]	-- (--) [--]
EBTLR	-- (--) [--]	-- (--) [--]	-- (--) [--]	-- (--) [--]	A (A) [A]	1.2 (1.3) [2.0]
WBTL	A (A) [A]	0.4 (1.0) [0.6]	A (A) [A]	0.3 (0.7) [0.4]	A (A) [A]	0.3 (0.7) [0.4]
NBLR	A (A) [A]	9.4 (9.9) [9.3]	B (B) [B]	10.2 (10.8) [10.0]	-- (--) [--]	-- (--) [--]
NBTLR	-- (--) [--]	-- (--) [--]	-- (--) [--]	-- (--) [--]	B (B) [B]	11.8 (12.6) [11.4]
SBTLR	-- (--) [--]	-- (--) [--]	-- (--) [--]	-- (--) [--]	A (A) [A]	9.3 (9.1) [9.1]
Farley Drive / Internal E-W Street						
EBTLR	A (A) [A]	7.6 (8.9) [9.5]	A (A) [A]	7.6 (8.9) [9.5]	A (A) [A]	7.9 (9.1) [9.8]
WBTLR	A (A) [A]	7.1 (8.0) [8.6]	A (A) [A]	7.1 (8.0) [8.6]	A (A) [A]	8.4 (8.7) [9.6]
NBTLR	A (A) [A]	7.3 (8.1) [8.7]	A (A) [A]	7.3 (8.1) [8.7]	A (A) [A]	7.4 (8.2) [8.7]
SBTLR	A (A) [A]	7.1 (9.1) [10.0]	A (A) [A]	7.1 (9.1) [10.0]	A (A) [B]	7.9 (9.5) [10.2]
Hawkins Drive / Internal E-W Street						
EBLR	A (A) [A]	9.2 (9.4) [9.5]	B (B) [B]	10.4 (11.0) [11.2]	B (B) [B]	10.6 (10.9) [11.0]
NBTL	A (A) [A]	0.0 (0.0) [1.2]	A (A) [A]	0.0 (0.0) [0.4]	A (A) [A]	0.0 (0.0) [0.4]
SBTR	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]	A (A) [A]	0.0 (0.0) [0.0]
Farley Drive / Existing Adjacent Site Access / Existing Site Access						
EBTLR	A (A) [A]	6.9 (7.5) [7.7]	A (A) [A]	6.9 (7.5) [7.7]	-- (--) [--]	-- (--) [--]
EBLR	-- (--) [--]	-- (--) [--]	-- (--) [--]	-- (--) [--]	A (A) [A]	7.1 (7.5) [7.7]
WBTLR	A (A) [A]	6.5 (7.1) [7.2]	A (A) [A]	6.5 (7.1) [7.2]	-- (--) [--]	-- (--) [--]
NBTLR	A (A) [A]	7.3 (7.3) [7.3]	A (A) [A]	7.3 (7.3) [7.3]	-- (--) [--]	-- (--) [--]
NBTL	-- (--) [--]	-- (--) [--]	-- (--) [--]	-- (--) [--]	A (A) [A]	7.5 (7.6) [7.6]
SBTLR	A (A) [A]	7.2 (7.5) [7.7]	A (A) [A]	7.2 (7.5) [7.7]	-- (--) [--]	-- (--) [--]
SBTR	-- (--) [--]	-- (--) [--]	-- (--) [--]	-- (--) [--]	A (A) [A]	7.7 (7.4) [7.6]

Notes:

1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [Saturday Peak Hour].



12.0 SUMMARY AND CONCLUSIONS

BA Group has been retained by FCHT Holdings (Ontario) Corporation, a subsidiary of First Capital REIT to provide transportation advisory services in relation to a proposed mixed-use development on the lands municipally known as 1 Clair Road East (the “Site”) in the City of Guelph. This report has been prepared in support of a Zoning By-law Amendment (ZBA) for submission to the City of Guelph, and addresses the transportation related elements of the Site.

Key findings related to BA Group’s review of the transportation related elements of the proposed development are presented below, including the results of the traffic impact assessment completed as part of this study.

Proposed Development

1. The proposed development includes 4 buildings, ranging from 10- to 14-storeys and including a mix of residential and at-grade retail uses.
2. The Site is currently proposed to include 721 residential units and 1,841 m² gross floor area (GFA) of retail space at-grade.
3. Development of the Site is proposed to be undertaken through a phased approach from south to north. The first 2 phases include the lands currently occupied by the existing Cineplex and Harvey’s. Phase 3 (currently occupied by the Beer Store and a mix of retail uses) fronts Clair Road East and interfaces with Phases 1 and 2 through an existing Internal East-West Street.

Planning Policy Context

4. The Site is situated in South Guelph, an area of evolving transportation context in conjunction with its planned significant development and associated population growth. The Site is located immediately north of the City’s Clair-Maltby Secondary Plan (CMSP).
5. The CMSP was approved by City Council in 2022 and provides a detailed planning and policy framework for the lands in south Guelph generally bound by Poppy Drive West in the north, Victoria Road South in the east, Maltby Road in the south, and the eastern limits of the Southgate Business Park in the west.
6. The Guelph Official Plan and the CMSP (OPA 79) provides key mobility policies that will guide the future evolution of the area transportation infrastructure, including the provision of active transportation facilities along all area arterial and collector roads, as well as off-road connections, improved and expanded transit services, and a future multimodal road network that encourages alternative travel modes and discourages auto-based travel.

Area Transportation Context

7. The Site is located near the Clair Road / Gordon Street intersection, at the confluence of 2 major corridors within the City of Guelph that provide access to Downtown Guelph as well as both Highway 6 and Highway 401.
8. Through the continued development of the CMSP, significant new road infrastructure is proposed south of the Site, including the extension of existing area roads as well as the introduction of a new collector road system that will serve the future population of the Secondary Plan area.
9. Transit and active transportation improvements are proposed in the area of the Site, including improvements to transit service along the Gordon Street and Clair Road corridors as well as enhancing area active transportation infrastructure. As part of the Guelph TMP and CMSP,
 - Gordon Street is envisioned as a future transit spine that will connect South Guelph to Downtown Guelph and as an enhanced pedestrian corridor per the Guelph TMP.



- Clair Road East is planned to be widened to 4 lanes east of Clair Road East / Hawkins Drive and will accommodate both expanded transit service and active transportation infrastructure.
- Hawkins Drive is proposed to extend as a collector road that connects to Gordon Street through the CMSP lands to the south.
- An essential north-south active transportation connection is proposed to extend south from Hawkins Drive through the CMSP lands to the south.

As part of community consultation, we heard that pedestrians wanting to cross Poppy Drive north-south find it difficult to find a gap in existing vehicle traffic that is currently free-flow. A controlled pedestrian crossing would be appropriate along Poppy Drive East to address existing concerns and could be considered at either the Poppy Drive East / Farley Drive intersection or the Poppy Drive East / Hawkins Drive intersection, subject to coordination with City Staff on its potential integration with the broader active transportation network. A controlled pedestrian crossing along Poppy Drive East could be facilitated by either STOP control or by a pedestrian crossing treatment designed in accordance with Ontario Traffic Manual (OTM) Book 15.

Functional Site Plan Elements

10. Vehicular access to the Site is proposed to be provided via three accesses, located along Farley Drive (private), Hawkins Drive, and Poppy Drive East. These proposed accesses will provide routing options for Site residents and visitors, and will integrate into the surrounding grid road network.
11. Accesses along the private segment of Farley Drive and Hawkins Drive are proposed to be retained from the existing condition, which also provides essential underground servicing to the existing and proposed future uses. A new access is proposed along Poppy Drive East opposite and aligned with the 1888 Gordon Street site access.
12. At all Site accesses on the Site plan, the available boulevard and building elements are set back greater than the 4.4m sight distance required for drivers, as measured from the travel way, in accordance with Transportation Association of Canada (TAC) sight design guidelines.
13. Subsequent Site plan applications shall continue to confirm that a drivers' sightline be free of obstructions and that any landscape elements within a drivers' sightline shall be reviewed and be limited to a lower tree canopy of 2.5m and an upper planting/object height of 0.85m.
14. Internal vehicular circulation is currently proposed to be facilitated by two internal street segments which create a T-shaped internal street system, providing strong distribution and efficient routing of Site activity to all proposed Site accesses:
 - An Internal East-West Street that connects the proposed Site accesses at Farley Drive and Hawkins Drive; and
 - An Internal North-South Street that connects the proposed Site access at Poppy Drive East to the Internal East-West Street at a future three-legged intersection.
15. Access to vehicular parking facilities for each building will be provided along the Internal North-South Street for Phase 1 and 2, and the Internal East-West Street for Phase 3.
16. Pick-up / drop-off activity is proposed through layby spaces along the Internal East-West Street, in close proximity to the primary lobby entrances for each Phase of development.
17. Measures that are outlined in TAC's guidelines and considered to be effective for traffic calming are proposed to manage vehicular traffic and operations along the Site's Internal East-West and North-South Streets, including:



- **Continuous textured material surfacing** on the Internal North-South Street, indicating to drivers to use caution. The Internal North-South Street is proposed to use bollards and strategically located vegetation (e.g. trees and planters) to delineate permeable separation between pedestrian-only space and vehicle space.
- **On-street parking** for non-residential uses and pick-up / drop-off facilities are proposed to be located along the Internal East-West Street to serve the future retail and residential uses on the Site.
- **Strategically located curb extensions** within the plan that will narrow the travel way for vehicles, encouraging lower vehicle speeds and enhancing pedestrian crossing visibility and reducing crossing distances at this intersection.
- **A tabled intersection** of the internal private streets is proposed to reduce vehicular travel speeds through the Site and provide quality pedestrian connectivity across development phases. The south approach of the intersection is proposed to be flush with the tabletop and the north-south pedestrian connection to its north. This intersection is proposed to be all-way STOP-controlled and will further enhance the north-south active linkage and provide pedestrians with a quality crossing location to access all phases of development.

Vehicular Parking Zoning By-law Requirements

18. The Site is currently subject to the City of Guelph Zoning By-law (1995)-14864 under Specialized Commercial Shopping Centre (CC-20). There is also a Council-approved new City-wide Zoning By-law (2023)-20790 that is currently under appeal.

Required Parking – Existing Commercial Land Uses

19. The CC-20 designation identifies a parking requirement of 1 space / 23m² GFA (4.35 spaces / 100m² GFA).
20. Existing parking observations were undertaken in November 2023 to understand parking demands related to existing commercial uses on the Site. Peak demands were observed as follows:
 - **East of Farley Drive (the Site):** 185 vehicles (4.09 spaces / 100 m² GFA).
 - **West of Farley Drive (existing to remain commercial lands):** 240 vehicles (2.70 spaces / 100 m² GFA).
 - **Overall Pergola Commons Demand:** 425 vehicles (3.17 spaces / 100 m² GFA).

Required Parking – Proposed Land Uses

21. Zoning By-law (1995)-14864 requires 1,019 parking spaces, including 725 resident spaces, 182 residential visitor spaces, and 112 retail establishment parking spaces for an apartment building and retail establishment.
22. Zoning By-law (2023)-20790 (appealed) requires 822 parking spaces, including 721 resident parking spaces (1 space / unit), 73 residential visitor spaces (0.1 spaces / unit), and 28 retail establishment parking spaces (1.5 spaces / 100 m² GFA) for a Mixed Use Building.

Accessible Parking Requirements

23. Zoning By-law (1995)-14864 requires 14 accessible parking spaces.
24. Zoning By-law (2023)-20790 (appealed) requires 19 accessible parking spaces, inclusive of 9 Type A spaces and 10 Type B spaces.



Electric Vehicle Charging Parking Requirements

25. Zoning By-law (1995)-14864 does not require electric vehicle charging.
26. Zoning By-law (2023)-20790 requires 150 parking spaces across the Site to be designated as electric vehicle parking spaces, and 600 parking spaces designated as designed electric vehicle parking spaces.

Proposed Vehicular Parking Supply Strategy

27. 791 parking spaces are currently proposed for the Site, including 269 spaces in Phase 1.
28. Zoning By-law Amendments to the in-force Zoning By-law (1995)-14864 and the Council adopted (appealed) Zoning By-law (2023)-20790 have been drafted in part to support the proposed parking supply for the Site.

Recommended Phase 1 Parking Requirements

29. To ensure that the Project provides an adequate amount of parking for the proposed uses consistent with Zoning By-law (2023)-20790 (appealed) and to avoid any potential off-Site impacts, the following minimum parking requirements are recommended for Phase 1:
 - A minimum resident parking requirement of 1 space / unit.
 - A minimum residential visitor parking requirement of 0.1 spaces / unit.
30. The Phase 1 parking supply of 269 spaces meets and exceeds the Zoning By-law (2023)-20790 (appealed) requirements for a Mixed Use Building and recommendations for Phase 1.

Recommended Full Build-Out Parking Requirements

31. A phased strategy seeks to balance the need to provide parking in the near-term in accordance with Zoning By-law (2023)-20790 (appealed) to accommodate current demands, while capitalizing on the significant investment in area transit and active transportation planned by the City for the long-term.
32. The following long-term parking requirements are proposed for full build-out of the Site:
 - A minimum resident parking requirement of 0.9 spaces / unit.
 - A minimum residential visitor parking requirement of 0.1 spaces / unit for residential visitors
 - A minimum retail space parking requirement of 1.5 spaces / 100 m² GFA.
33. Two sharing provisions are proposed for the Site's parking requirements:
 - a. The ability to share resident parking spaces across different phases of the development. This maximizes the efficiency of Site parking provisions and allows flexibility for delivering parking supply needs at each phase of development.
 - b. The ability to share residential visitor and non-residential parking requirements on a non-exclusive basis. This provision is consistent with making efficient use of the non-residential parking supply and recognizes that different land uses experience peak parking demands at various times through the day and that shared parking is an accepted practice that encourages efficient sharing between land uses and reduces the total number of parking spaces required.
34. The Draft Zoning By-law Amendment reflects the long-term parking rates and sharing provisions.
35. The current development proposal provides 791 parking spaces, including 692 resident spaces and 99 non-residential spaces, meeting the Phase 1 and full build-out recommendations for parking supply.



36. The Draft Zoning By-law Amendment also reflects a retail parking rate of 3.00 spaces / 100 m² GFA for the commercial lands west of Farley Drive, which is consistent with Zoning By-law (2023)-20790 (appealed) for retail establishments and exceeds the existing peak observed parking demands of 2.70 spaces / 100 m² GFA for these commercial lands west of Farley Drive.
37. Monitoring the parking need on the Site would be appropriate for reviewing the overall trends related to parking demand, as the Site builds out. We recommend that Site Plan Applications confirm that the parking supply is consistent with the phased strategy above.

Recommended Accessible Parking Requirements

38. We recommend that the design of the Site complies with the *Accessibility for Ontarians with Disabilities Act*.
39. The current development proposal includes 27 accessible parking spaces, meeting the recommended accessible parking requirements that are consistent with Zoning By-law (2023)-20790 (appealed).
40. The number, location, and design of barrier-free parking stalls will be identified in subsequent Site plan applications for the Site.

Proposed Electric Vehicle Parking Requirements

41. The current development proposal includes 166 electric vehicle parking spaces and 602 designed electric vehicle spaces, meeting the proposed electric vehicle parking requirements that are consistent with Zoning By-law (2023)-20790 (appealed).
42. The number, location, and design of electric vehicle parking stalls will be identified in subsequent Site plan applications for the Site.

Bicycle Parking Considerations

43. The prevailing City of Guelph Zoning By-law (1995)-14864 does not provide bicycle parking requirements for new development.
44. Zoning By-law (2023)-20790 (appealed) requires 800 bicycle parking spaces for the Site, including 721 resident long-term spaces, 73 residential short-term spaces, 2 retail long-term spaces, and 4 retail short-term spaces.
45. The current development concept proposes 858 bicycle parking spaces, including 774 resident long-term spaces, 76 residential long-term spaces, 4 retail long-term spaces, and 4 retail short-term spaces. This supply meets and exceeds the minimum requirements stipulated in Zoning By-law (2023)-20790 (appealed).

Loading Considerations

46. Neither the prevailing City of Guelph Zoning By-law (1995)-14864 nor Zoning By-law (2023)-20790 (appealed) provides specific minimum loading space rate requirements for new development. As such, loading space is allocated to each Phase of development based upon what is considered appropriate for the development context.
47. The City of Guelph provides *Waste Collection Guidelines for Multi-Residential Developments* which provide guidance for the design of loading and refuse facilities.
48. The current development concept proposes 1 dedicated loading facility for each building on the Site to service the requirements of each development Phase.
49. Vehicle manoeuvring diagrams confirm that the current development concept can acceptably accommodate refuse collection.



50. Design of the loading and refuse area, including vehicle manoeuvring diagrams, will be reconfirmed in subsequent Site plan applications for the Site.

Transportation Demand Management

51. A comprehensive Transportation Demand Management (TDM) Plan is proposed to guide the provision of viable alternative transportation options for Site residents and visitors.

Specific TDM measures proposed as part of the development plan include, but are not limited to:

- Quality internal pedestrian connections that facilitate access for residents and Site visitors to the external pedestrian network.
 - Collaborate with City staff and transit providers as part of subsequent site plan applications to identify potential ways to incentivize local transit as an option for new residents..
 - Bicycle parking spaces meeting the minimum Zoning By-law requirement.
 - 1 bike repair station per building for use by residents and visitors to the Site.
 - An unbundled, reduced parking supply to discourage vehicular demand and encourage alternative travel modes.
52. The Site location and context within walking distance of a number of amenities as well as the significant investment in area transit and active transportation planned by the City, will directly contribute to the effectiveness of the TDM measures outlined above.

Existing Traffic Volumes and Travel Patterns

54. Existing Travel Patterns were observed on September 20th, October 10th, November 2nd, and November 4th in 2023.
55. The existing Site (east of Farley Drive), generates 35, 285, and 380 vehicle trips during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.

Existing Cut-through Traffic

56. BA Group reviewed existing cut-through traffic conditions on the Site’s Internal East-West Street. Observations indicate that:
- a. Vehicles are generally not using the Site as a by-pass route around the Clair Road / Gordon Street intersection – Poppy Drive to Hawkins Drive or Dallon Drive are more attractive and appropriate routes for this activity.
 - b. Cut-through traffic currently travelling through the Site are considered to be interacting with the commercial lands to the west of the Site (i.e. west of Farley Drive), and are not considered to be substantial traffic volumes. Several traffic calming measures are also considered as part of the Site’s future development that will deter existing traffic from routing via the east-west street as a ‘cut-through’ in future.



Existing Queuing Activity at Farley Drive

57. BA Group reviewed existing northbound queuing at the signalized intersection of Clair Road / Farley Drive. Observations indicate that queuing can be accommodated within the existing storage length internal to the site without impacting the first internal intersection. Queuing has also been assessed under future conditions, confirming a minor change to queuing lengths (~1 car length), and further connectivity has been incorporated into the Site plan to provide further redundancy in distributing Site traffic onto the area road network that provides additional options for alternate routing in the future.

Existing Pedestrian Activity

58. As mentioned in the Area Transportation Context, the existing free-flow condition of Poppy Drive (east-west) was identified by area residents as an existing obstacle to crossing north-south within the community. A controlled pedestrian crossing along Poppy Drive East is an appropriate measure to address existing conditions and concerns and could be facilitated by either all-way STOP control or by a pedestrian crossing treatment designed in accordance with Ontario Traffic Manual (OTM) Book 15 at Poppy Drive East's intersection with either Farley Drive or Hawkins Drive.

Existing Poppy Drive Access

59. Area residents identified difficulty exiting the existing 1888 Gordon Street site access opposite the future site access onto Poppy, due to large trucks frequently park on the south side of Poppy Drive East that may inhibit pedestrian and driver sightlines. While not directly related to the current development proposal, we believe there are opportunities to improve driver sightlines relative to truck activity parked on the south side of Poppy Drive East. Potential solutions include further restricting no parking zones along Poppy Drive East, and / or providing curb extensions that will improve visibility past parked vehicles, and will physically restrict parking close to the 1888 Gordon Street site access.

Travel Demand Forecasts

Area Background Traffic

60. Area traffic volume growth in the vicinity of the Site has been considered based on an evaluation of changes related to:
- a. General corridor growth along the major area road network.
 - b. Traffic generated by the planned development associated with the Clair-Maltby Secondary Plan (CMSP). The CMSP notably considers the growth in the order of over 10,000 residential units and 333 jobs; and
 - c. Specific area developments.
61. Vehicular traffic generated through the travel demand exercise summarized above was applied to the existing and planned area road network to generate future background traffic volumes.

Site Traffic

62. Multimodal travel demand forecasts have been generated for the Site:

Vehicle Travel Demands

- a. Vehicular travel demand forecasts for the Site's residential uses have been generated using the *ITE Trip Generation Manual, 11th Ed.* trip rates for residential Multifamily Housing (Mid-Rise) (LUC 221).



- b. Retail travel demands were derived by scaling the existing commercial vehicular activity associated with the Site using *ITE Trip Generation Manual, 11th Ed.* trip rates for Supermarket uses (LUC 850) to more closely reflect a conservative potential future retail use.
- c. Accounting for interaction between Site uses, build-out of the Site is expected to generate in the order of 305, 420, and 460 two-way primary vehicle trips during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.
- d. At full build-out, net new vehicle Site trips will be +270, +135, and +80 two-way trips during the morning, afternoon, and Saturday peak hours respectively, compared to existing observed retail trips.

Transit and Active Transportation Travel Demand

- e. Transit and active transportation travel demand was derived by applying mode split data derived from the *Clair-Maltby Secondary Plan Transportation Master Plan Study* to the forecast vehicular travel demand. The following transit and active transportation trips are forecast for full build out of the Site:
 - i. 60, 75, and 80 transit trips during the weekday morning, weekday afternoon, and Saturday peak periods, respectively.
 - ii. 15, 15, and 20 cycling trips during the weekday morning, weekday afternoon, and Saturday peak periods, respectively.
 - iii. 60, 105, and 130 walking trips during the weekday morning, weekday afternoon, and Saturday peak periods, respectively.
- f. Under the full build out development condition, a total of 535, 720, and 790 two-way person trips are forecast during the weekday morning, weekday afternoon, and Saturday peak hours, respectively.
- g. Vehicular traffic generated through the travel demand exercise summarized above were applied to the planned area road network and future background traffic volumes to generate future total traffic volumes.

Warrant Analysis

- 63. The east approach (westbound left) of the Clair Road East / Hawkins Drive intersection was determined to warrant a left-turn lane under existing weekday afternoon and Saturday Peak hours, as well as all 2028 horizon peak hours. An auxiliary left-turn was included in the modelled 2028 horizon scenario onward.
- 64. The Clair Road East / Hawkins Drive intersection was determined to warrant signalization under 2033 future background conditions. As such, this intersection was modelled with a traffic signal under all 2033 and 2038 horizon peak periods. The signal timing plan for the modelled signal was derived from the signal timing plan for the adjacent Clair Road East / Farley Drive intersection.
- 65. Signalization of the Clair Road East / Hawkins Drive intersection should be monitored to establish timing of implementation relative to growth of the Clair-Maltby Secondary Plan and relative to the City's desired intersection control at this location. Given the intersection is approximately 165 metres from the Clair Road East / Farley Drive intersection, it could be considered for signalization (T-intersection with pedestrian and cycling crossing) or partial moves (controlled by a median along Clair Road) and should be evaluated in conjunction with the City's planned widening of Clair Road to the east of the site and active transportation network.



Traffic Operations Assessment

66. Synchro Version 11 and the Highway Capacity Manual (HCM) methodology were used to analyze the study area intersections and proposed Site accesses. All Synchro analyses performed are in accordance with the City of Guelph's *Transportation Impact Study Guidelines (2023)*.

Traffic Operations

67. Under existing conditions, all signalized and unsignalized intersections operate at acceptable capacities and levels-of-service.
68. Under the 2028 and 2033 development horizons, all signalized and unsignalized intersections operate at acceptable capacities and levels-of-service.
69. Under the 2038 development horizon, the Clair Road / Gordon Street intersection operates above capacity with overall intersection v/c ratios in the order of 1.05, 1.06, and 0.82 during the weekday morning, weekday afternoon, and Saturday peak hours under future background conditions, and 1.09, 1.07, and 0.82 during the weekday morning, weekday afternoon, and Saturday peak hours under future total conditions.

Clair Road / Gordon Street Intersection – Forecasting Notes and Operational Considerations

70. There are a number of forecasting assumptions that are relevant in assessing whether over capacity conditions are accurate for the 2038 forecast horizon:
- a. Full build-out of the Clair-Maltby Secondary Plan as assumed for the 2038 horizon period as part of this analysis may be considered conservative relative to actual build-out timing of the entire Secondary Plan lands. The *Clair-Maltby Secondary Plan Transportation Master Plan Study* assumed the maximum density development scenario, which considered residential development in the order of 10,000 units and 333 jobs south of the Site. A number of factors may contribute to either different or lesser development scenarios long-term.
 - b. An alternative configuration for the Clair Road / Gordon Street intersection was considered in the Clair-Maltby Secondary Plan Transportation Master Plan Study, which included auxiliary right-turn lanes on the north, south, and west approaches. Assessment of 2038 forecast volumes on the alternative intersection configuration (with right turn lanes) results in improved capacity results for vehicles, with the majority of individual movements operating at or below capacity. This configuration notably favours vehicle capacity over other modes in a conservative forecasting scenario and should not be considered in advance of monitoring growth of traffic and promoting transit priority and enhanced pedestrian and active transportation design in the local area to promote a shift to other modes.
71. Additional mitigation measures may be considered to address the Clair Road / Gordon Street intersection capacity constraints under long-term background traffic forecast scenarios, including :
- a. Signal timing plan enhancements in conjunction with the implementation of the alternative future intersection configuration; and
 - b. Continued investment in and prioritization towards transit services and active transportation infrastructure in the area to reduce auto-dependence by the planned significant population growth.
72. It is recommended that the City continue to monitor intersection operations, particularly as the Clair-Maltby Secondary Plan nears build out, and assess potential mitigation measures in accordance with City transportation and mobility objectives.



73. Under all scenarios, the impacts of Site-generated traffic on operations at the Clair Road / Gordon Street intersection are minor.
74. Site driveways operate acceptably under all future scenarios.
75. Future queuing activity at site accesses can be acceptably accommodated within the Site.
76. Recommended local Improvements warranted by existing or background conditions (without development of the Site) include:
 - a. A westbound left turn lane at Clair Road / Hawkins Drive that is warranted under existing conditions.
 - b. A future signal-controlled or partial-moves (median-controlled) intersection at Clair Road / Hawkins Drive that is warranted in future (2033 scenario) with growth in the CMSP. The preferred timing and intersection arrangement should be evaluated in conjunction with the City's planned widening of Clair Road to the east of the Site and the essential north-south active transportation network being planned as an extension of Hawkins Drive in the CMSP.
 - c. A controlled pedestrian crossing along Poppy Drive East (currently free-flow) as an appropriate measure to address existing conditions and concerns. This crossing could be facilitated by either all-way STOP control or by a pedestrian crossing treatment designed in accordance with Ontario Traffic Manual (OTM) Book 15 at Poppy Drive East's intersection with either Farley Drive or Hawkins Drive.
 - d. No further measures are recommended on the area road network to facilitate the addition of Site traffic beyond what is already planned or recommended to address existing or background conditions.
77. The Site related traffic impacts on the local area road network are small. Site traffic can be acceptably accommodated on the local area road network and within the planned area infrastructure.



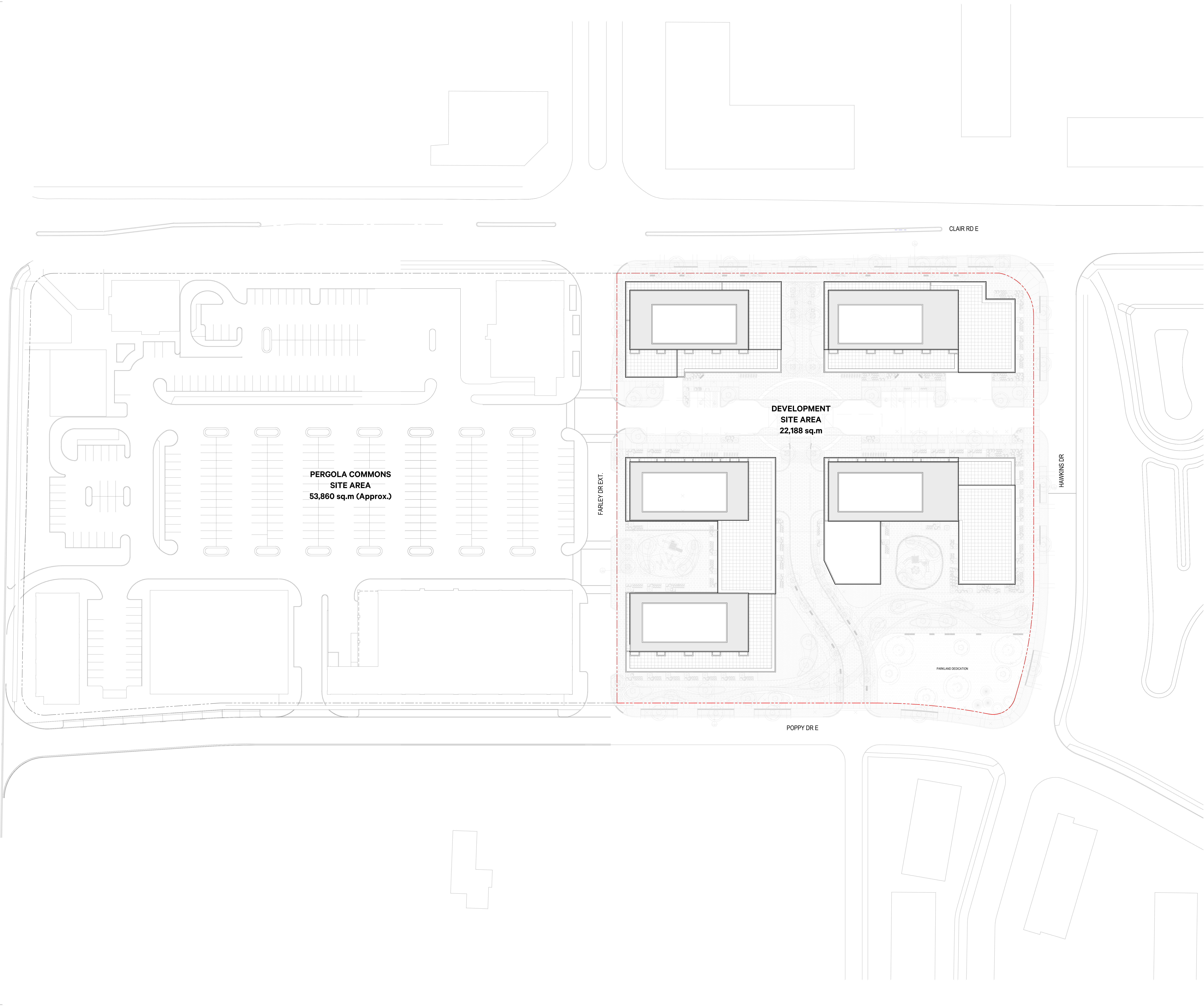
Appendix A: Reduced Scale Architectural Plans



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PERGOLA COMMONS

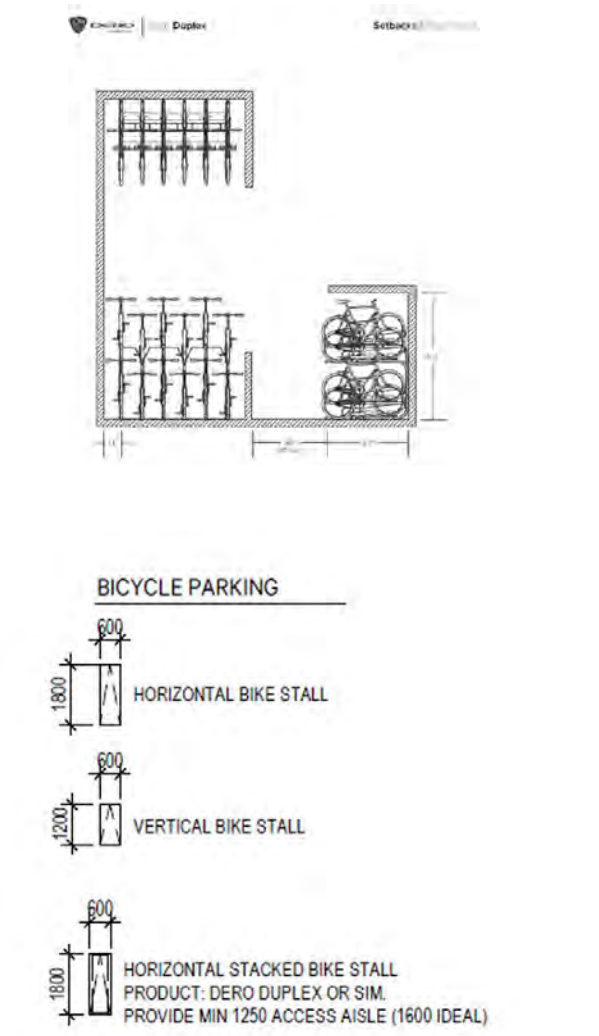
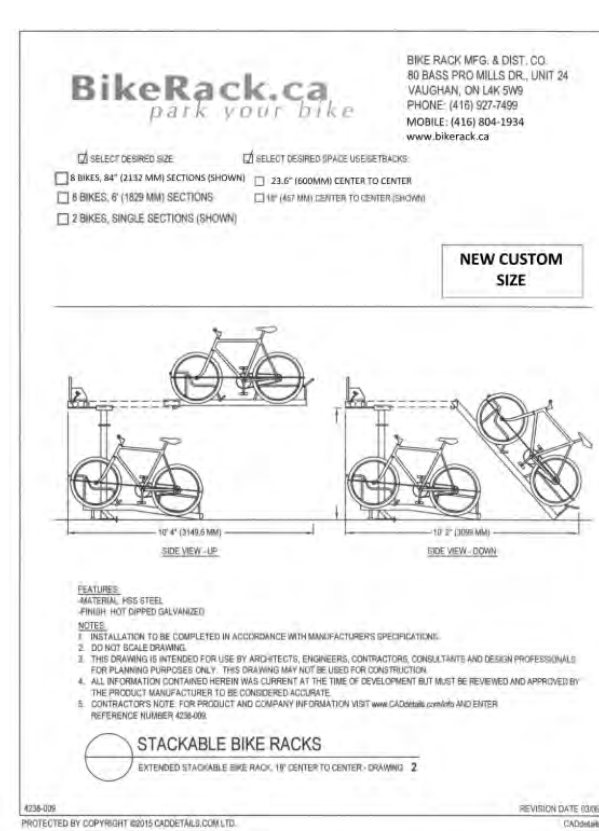
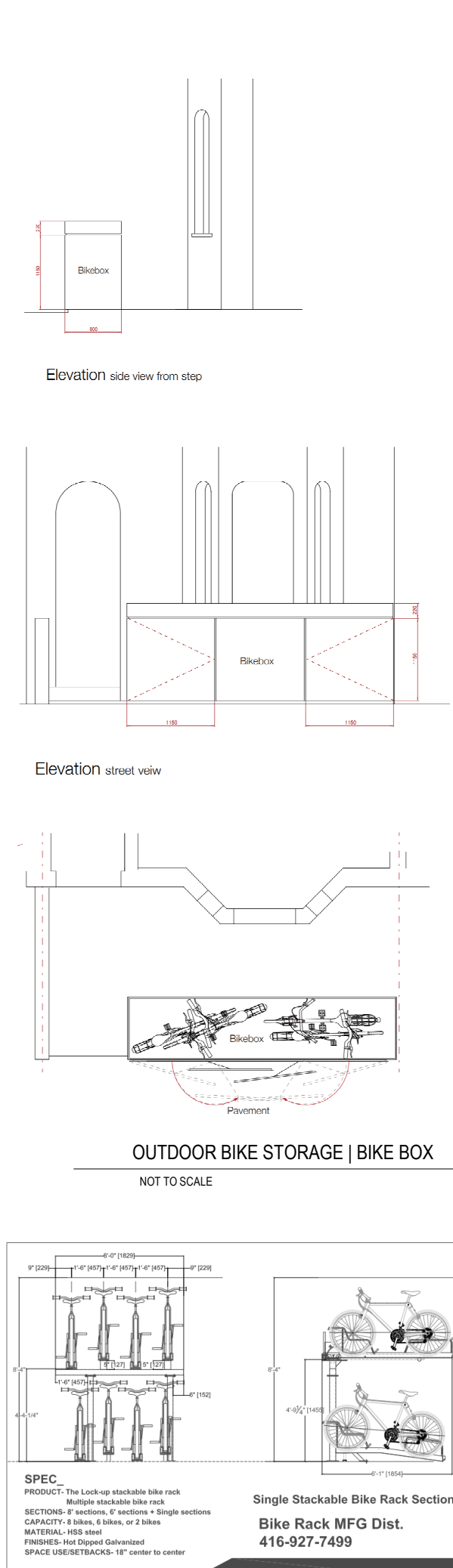
OVERALL SITE PLAN

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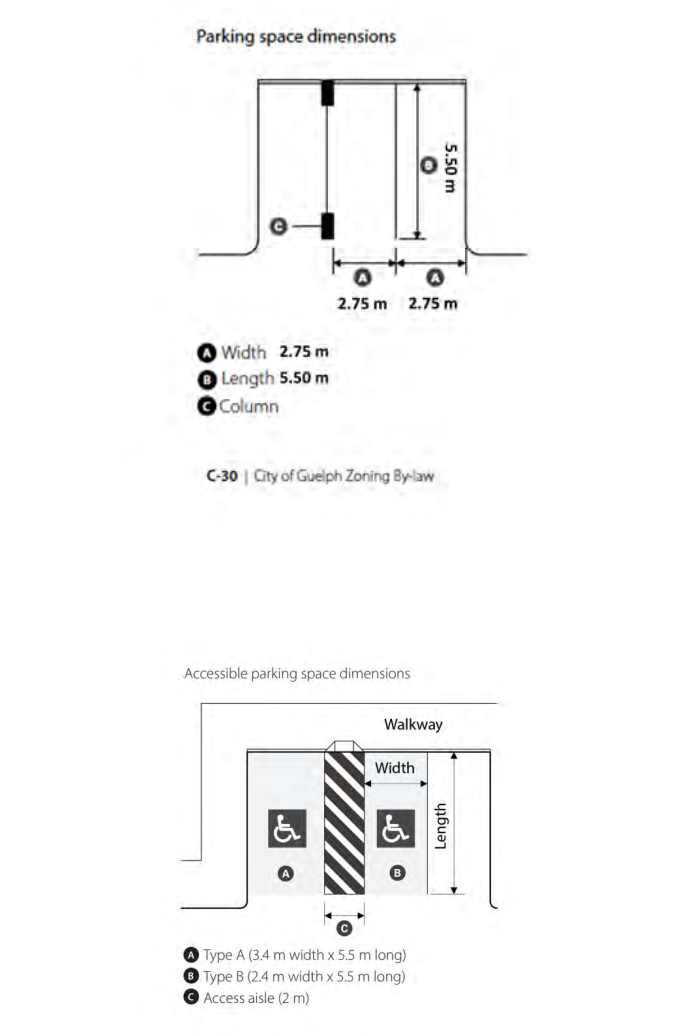


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- GROUND FLOOR PLAN KEY NOTES:**
- LOADING SPACE HAS A LENGTH OF 11.4m, WIDTH OF 6m AND AN UNENCUMBERED VERTICAL CLEARANCE OF 6.5m. IS LEVEL (+/- 2%) AND IS CONSTRUCTED OF A MINIMUM 200mm REINFORCED CONCRETE.
 - STAGING AREA HAS AN UNENCUMBERED VERTICAL CLEARANCE OF 6.5m. IS CONSTRUCTED OF 200mm REINFORCED CONCRETE, AND HAS A SLOPE NO GREATER THAN 2%.
 - ALL ACCESS DRIVEWAYS USED BY WASTE COLLECTION VEHICLE WILL BE LEVEL (+/- 8%), HAVE A MINIMUM VERTICAL CLEARANCE OF 4.4m THROUGHOUT, A MINIMUM OF 4.5m WIDE THROUGHOUT, AND 6m WIDE AT INGRESS/EGRESS.
 - OVERHEAD DOORS THE COLLECTION VEHICLE WILL BE PASSING THROUGH WILL HAVE A MINIMUM WIDTH OF 4m AND A VERTICAL CLEARANCE OF 6.5m.



PERGOLA COMMONS

GROUND LEVEL PLAN

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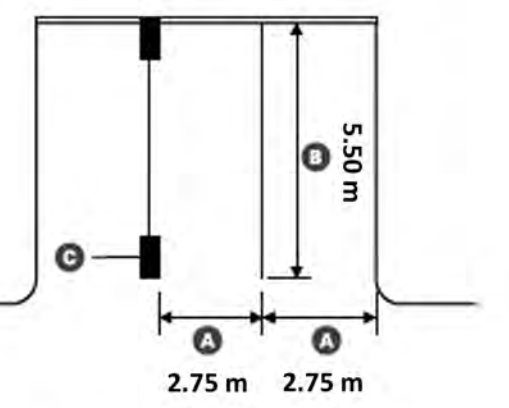
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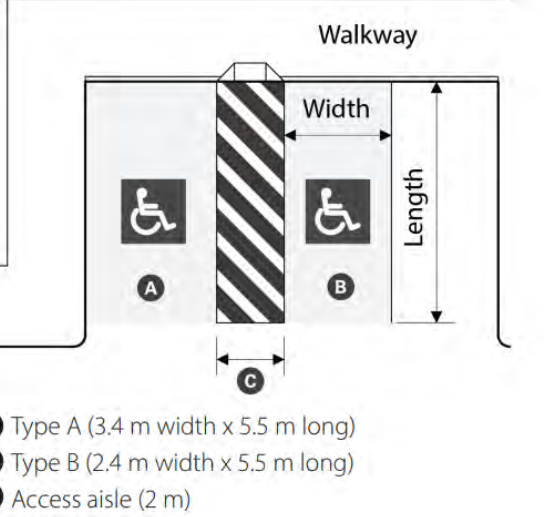
Parking space dimensions



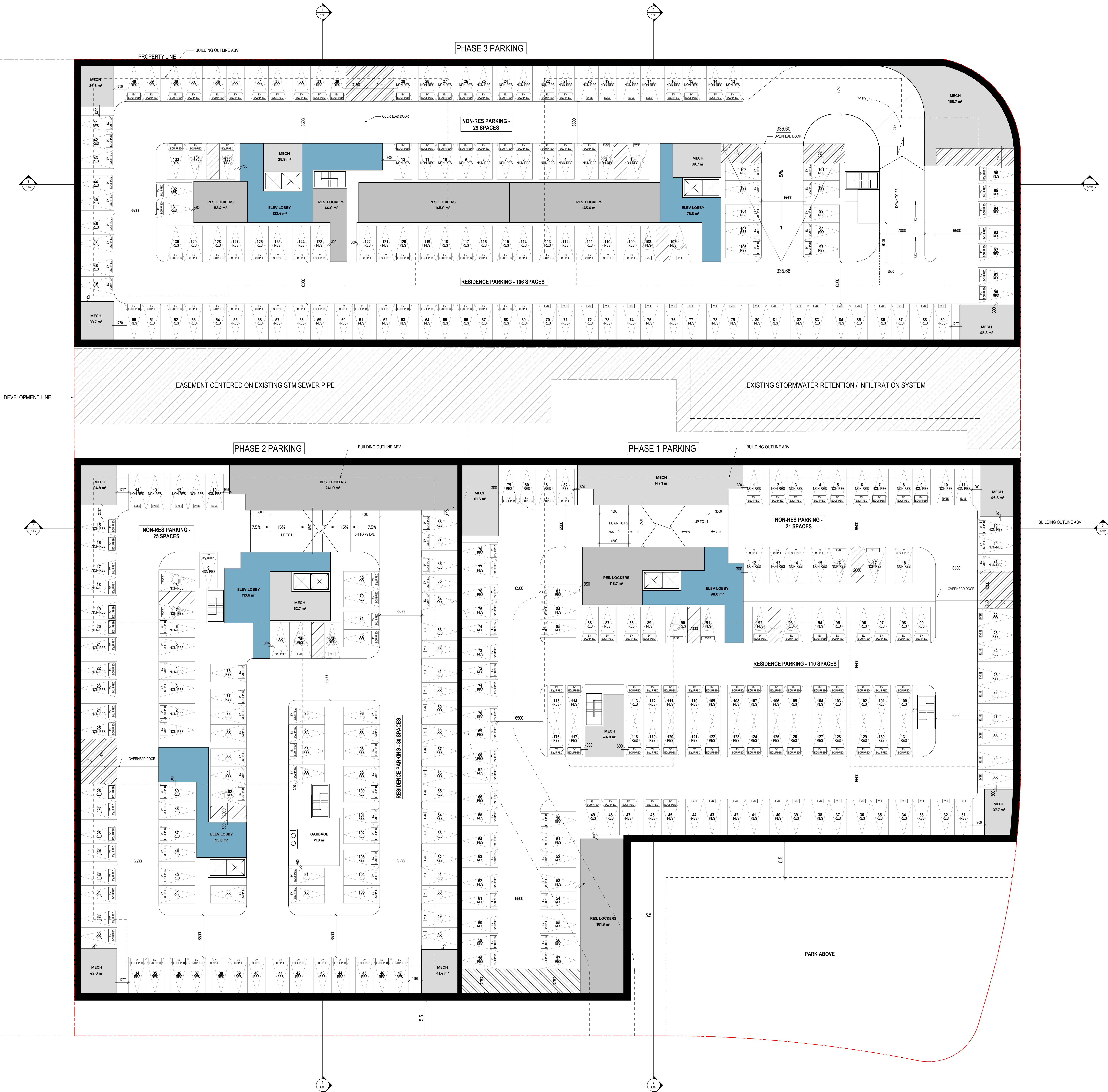
- 1 Width 2.75 m
- 2 Length 5.50 m
- 3 Column

C-30 | City of Guelph Zoning By-law

Accessible parking space dimensions



C-37 | City of Guelph Zoning By-law



SvN
100 HURONTARIO ST. TORONTO, ON M5C 1B9
ARCHITECTS

PERGOLA COMMONS

LEVEL P1 PARKING PLAN

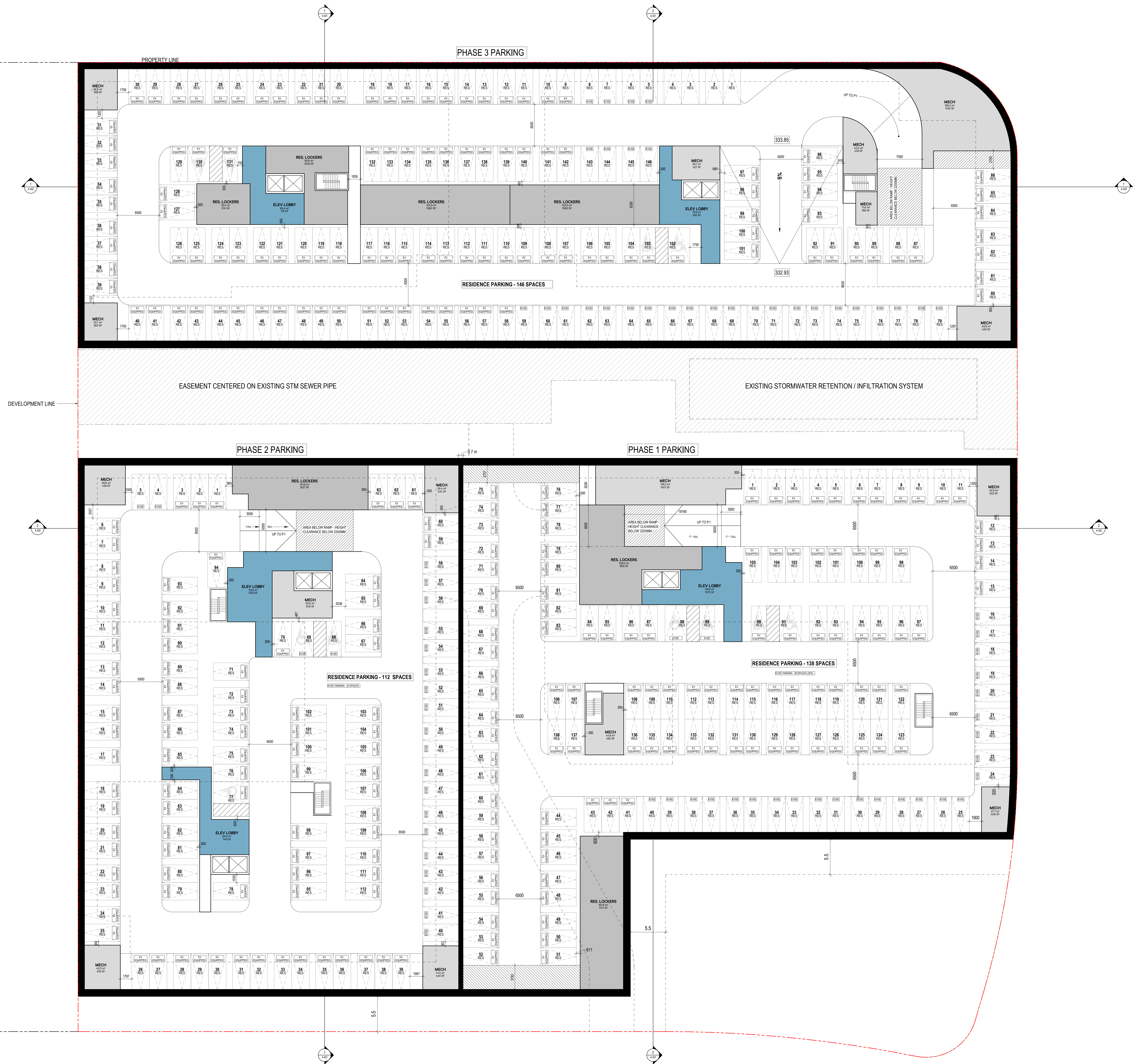
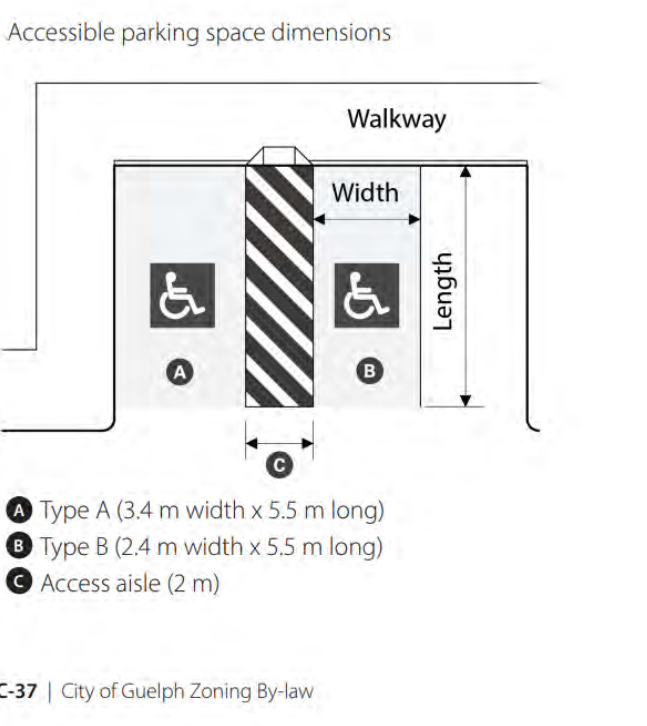
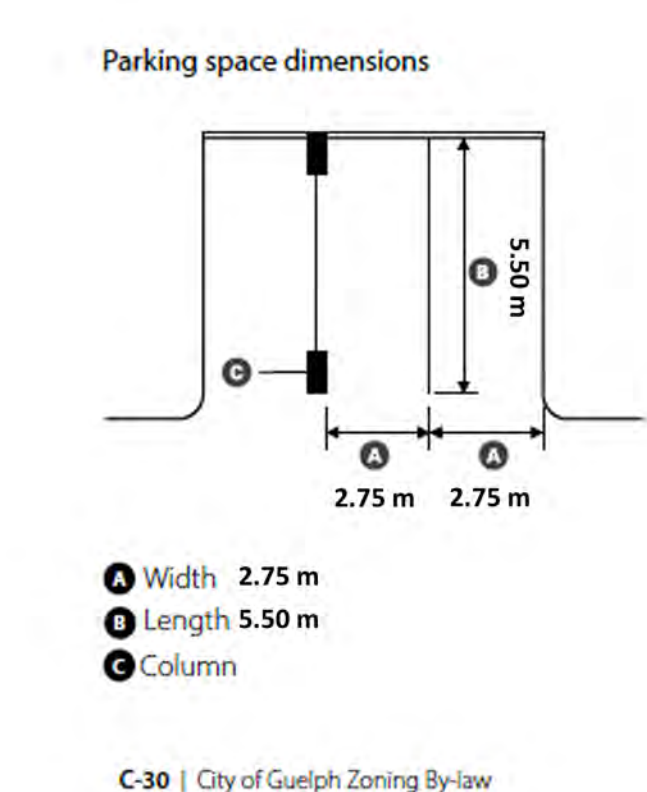
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PERGOLA COMMONS

LEVEL P2 PARKING PLAN

PROJECT SCALE: 1:200
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 CHECKED BY: [Name]
 AUTHOR: [Name]
 CHECKER: [Name]

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Appendix B: Pergola Commons Formal Terms of Reference





November 23, 2023

City of Guelph Transportation Staff
Kate.Berry@guelph.ca
Gwen.Zhang@guelph.ca
Munshif.Muccaram@guelph.ca

RE: PERGOLA COMMONS – TERMS OF REFERENCE & TRANSPORTATION SCOPE

Dear City of Guelph Transportation Staff,

BA Consulting Group has been retained by First Capital to provide transportation advisory services in relation to a proposed development at 1 Clair Road East (Pergola Commons and the “Site”). This letter provides a brief description of the terms of reference regarding the proposed scope of the Transportation Impact Study for the Site (the Site TIS).

The Site TIS is proposed to follow the City of Guelph’s *Traffic Impact Study Guidelines* with scoped details provided in this Terms of Reference. BA Group and First Capital met with City of Guelph Transportation Staff on September 26th, 2023 and October 19th, 2023 to scope required materials for the Site TIS. This Terms of Reference reflects the proposed scope for the Site TIS based on a review of the City’s guidelines, meetings with City Staff, Site context, and proposed land uses.

3.1 Description of the Proposed Development

The Site TIS will provide a description of the proposed development in accordance with the bullet points provided under Section 3.1 of the Guelph TIS Guidelines.

3.2 Study Area

As confirmed in previous correspondence and meetings with the City of Guelph Transportation Staff, the study area for the Site TIS is provided below, and illustrated in **Exhibit 1**.

- | | |
|-------------------------------------|--|
| 1. Clair Road East / Hawkins Drive | 6. Clair Road East / Farley Drive |
| 2. Poppy Drive East / Hawkins Drive | 7. Site Access 1 / Farley Drive |
| 3. Poppy Drive East / Farley Drive | 8. Site Access 2 / Farley Drive |
| 4. Poppy Drive East / Gordon Street | 9. Site Access 3 / Hawkins Drive |
| 5. Clair Road East / Gordon Street | 10. Poppy Drive East / 1888 Gordon Street Access |

Exhibit 1: Proposed Pergola Commons Study Area Intersections



Additional contextual information relevant to the study area will be provided as part of the Site TIS, in accordance with Section 3.2 of the Guelph TIS Guidelines.

3.3 Horizon Years and Peak Periods

3.3.1 Horizon Years

The following horizon years will be utilized as part of the traffic analysis contained in the Site TIS:

- Existing conditions (2023)
- Anticipated build-out year of Phases 1 & 2 (2028)
- Anticipated build-out year of Phase 3 and 5 years after build-out of Phases 1 & 2 (2033)
- 5 years after build-out of Phase 3 and 10 years after build-out of Phases 1 & 2 (2038)

3.3.2 Peak Periods

The following peak periods will be considered as part of the Site TIS:

- Weekday AM Peak Hour
- Weekday PM Peak Hour
- Saturday Midday Peak Hour

3.4 Existing Traffic Analysis

3.4.1 Traffic Counts

Existing traffic data has been collected as part of the preliminary data collection exercise for the Site TIS. Turning movement counts have been undertaken at the study area intersections during the following periods and times, in accordance with prior correspondence and meetings with City of Guelph Transportation Staff:

- Weekday Counts: 7:00 am – 7:00 pm
- Saturday Counts: 12:00 pm – 4:00 pm

In addition to peak period counts, City staff requested weekday midday counts be conducted for their review. As confirmed with staff, these are for review of data and not considered a design period for the purpose of analysis in the TIS.

Existing turning movement count data, including weekday midday peak period data, are provided in **Attachment A**, attached to the email in which this Terms of Reference was enclosed.

3.4.2 Data Balancing

Through review of turning movement counts at study area intersections, the following network-wide design periods have been identified for use in this analysis:

- AM Peak Hour: 8:00 am – 9:00 am
- PM Peak Hour: 4:45 pm – 5:45 pm
- SAT Peak Hour: 2:45 pm – 3:45 pm

Note: Node 10 in **Exhibit 1** utilizes its individual intersection peak hours, as it was counted on separate days than the remaining study area intersections.

Published counts remain unbalanced to best represent observed traffic for the network design periods noted above and recognize driveway activity contributing to changes in volume along the road corridors. Observed entry / exit imbalances were observed to be minor at closely spaced intersections (<5%), or imbalances are otherwise accounted for by mid-block driveways.

Existing turning movement volumes have been rounded to the nearest 5 vehicles per hour.

3.4.3 Active Transportation and Transit

Area pedestrian and cyclist data at study area intersections has been collected as part of the existing traffic data collection process.

Existing active transportation and transit conditions within the study area will be described as part of the Site TIS.

3.4.4 Capacity Analysis for Existing Traffic

Existing traffic conditions within the study area will be assessed, inclusive of the following components:

- Existing turning movement counts at study area intersections.
- Existing queueing conditions at the south approach of the Clair Road East / Farley Drive intersection; and
- Existing cut-through traffic conditions along the existing east-west connection extending from Farley Drive in the west to Hawkins Drive in the east.

3.5 Background Traffic Analysis

3.5.1 Background Growth

Through consultation with City of Guelph Transportation Staff, the following growth rates will be considered as part of the study area's background traffic:

- 0.5% for Gordon Street for all horizon years
- 1.5 % for Clair Road up to build-out of Phases 1 & 2 (2028) and up to build-out of Phase 3 and 5-years after build-out of Phases 1 & 2 (2033)
- 1.0% for Clair Road at 5 years after build-out of Phases 1 & 2 and at build out of Phase 3 (2033) and up to 10 years after build-out of Phases 1 & 2 and 5 years after build-out of Phase 3 (2038)

3.5.2 Other Area Developments

In addition to corridor growth, the following development-specific growth allocations will be considered, as presented in the City of Guelph's Clair-Maltby Secondary Plan (CMSP):

- Background development traffic identified as part of the Clair-Maltby Secondary Plan Transportation Study Report.
- Traffic generated via the proposed developments contemplated within the Clair-Maltby Secondary Plan TIS.

The following phasing of background traffic associated with the CMSP has been identified through prior correspondence with City of Guelph staff:

- 25% of all traffic generated by background developments and site traffic from the CMSP TIS at Phase 1 & 2 build-out (2028). **Please confirm this assumption, as a percentage of background growth at the build-out year was not explicitly stated in prior correspondence with City of Guelph Transportation Staff.**
- 50% of all traffic generated by background developments and site traffic from the CMSP TIS 5 years after build-out of Phase 1 & 2, and at build-out of Phase 3 (2033).
- 100% of all traffic generated by background developments and site traffic from the CMSP 10 years after build-out of Phase 1 & 2, and 5 years after build-out of Phase 3 (2038).

The following additional area background developments will be considered as part of this TIS:

- 331 Clair Road East
- 287 Clair Road East

Traffic from both the proposed 331 Clair Road East and 287 Clair Road East development are assumed to apply to all horizon years. **Please confirm this assumption.**

3.5.3 Planned Roadway Improvements

As identified in the *City of Guelph Transportation Master Plan (2022)* (Guelph TMP), a widening of Gordon Street from 2 to 4 lanes between Gosling Gardens and Maltby Road will be considered as part of this analysis.

Per the City of Guelph's 2023 *Development Charges Background Study (2023)* (Guelph DC Study), this widening is expected to be undertaken between 2027 and 2032. Therefore, it is assumed that the widening will be completed by the anticipated Phase 1 & 2 build-out year of 2028. **Please confirm this assumption.**

3.5.4 Active Transportation and Transit Improvements

Future modal split assumptions will be evaluated on the basis that transit may present significant impacts towards shifting area modal splits.

Future planned active transportation and transit improvements will be described in the Site TIS and considered in its analysis, as appropriate.

3.5.5 Capacity Analysis for Background Traffic

The assessment of background traffic conditions for the identified horizon years will be consistent with the capacity analysis methodology described in Section 3.8.1 of the Guelph TIS Guidelines.

3.6 Estimate of Travel Demand

3.6.1 Trip Generation

Site-related trip generation will be derived from ITE 11th Ed. trip rates. Consistent with prior correspondence with the City of Guelph, reductions to ITE vehicle trip rates will be determined through consideration of internalized trips as well as trip reductions associated with the implementation of TDM measures and future modal split targets provided within the City of Guelph Official Plan (February 2022 consolidation).

Modal split projections will also be informed by the *Clair-Maltby Secondary Plan Transportation Master Plan Study*, completed by BA Group in March 2019.

3.6.2 Trip Distribution

Trip distribution assumptions will be supported by the use of the most recently available TTS data, existing observed travel patterns, and output from the City's travel demand forecasting model. Consideration will also be given to the trip distribution assumptions presented in the transportation report completed for the CMSP.

3.6.3 Trip Assignment

Trip assignment will be undertaken in accordance with Section 3.6.3 of the Guelph TIS Guidelines, and will take into consideration potential pass-by trips, diverted trips, and internal trips, where appropriate.

3.7 Future Total Traffic Analysis

3.7.1 Capacity Analysis for Future Total Traffic

The assessment of future total traffic conditions for the identified horizon years will be consistent with the capacity analysis methodology described in Section 3.8.1 of the Guelph TIS Guidelines.

3.8 Traffic Operation Evaluation

3.8.1 Capacity Analysis Methodology

Capacity analysis at intersections within the study area will be conducted using the latest Synchro capacity analysis software and utilize Highway Capacity Manual (HCM) methodologies. Signal timing plans for the following signalized intersections have been obtained from the City of Guelph and will be utilized in this analysis:

- Clair Road / Gordon Street
- Clair Road East / Farley Drive
- Gordon Street / Poppy Drive

BA Group has reviewed the provided signal timing plans that reflect 90 second cycling lengths along Clair Road and Gordon Street. For the purposes of modelling in Synchro, signal timings will be set to actuated-coordinated, with Clair Road / Gordon Street set as the Master Intersection and the Reference Phase set to 2+6 NBTL SBTTL.

Synchro input parameters will be consistent with those outlined in Section 3.8.1 of the Guelph TIS Guidelines.

Capacity analysis results will be presented in a tabular format in accordance with the specifications outlined in Section 3.8.1 of the Guelph TIS Guidelines.

3.8.2 Intersections with Capacity or Level of Service Deficiencies

Signalized and unsignalized intersections within the study area will be identified in the Site TIS in accordance with Section 3.8.2 of the Guelph TIS Guidelines.

City of Guelph Transportation Staff has identified that the Clair Road East / Gordon Street intersection is currently constrained and is therefore expected to operate at lower levels of service than would otherwise typically be acceptable.

3.8.3 Safety Analysis

In accordance with the Guelph TIS Guidelines, the safety measures outlined in Section 3.8.3 will be reviewed (where applicable) to the current rezoning application. **City to confirm whether the existing study area is considered collision-prone for the purpose of scoping the Site TIS. If so, collision data to be requested.**

3.9 Mitigation Measures

3.9.1 Traffic Signal Warrant

Traffic signal warrant analyses will be undertaken to determine if study area unsignalized intersections qualify for signalization under all proposed traffic scenarios.

3.9.2 Exclusive Turning Lane Warrant

Exclusive turning lane warrant analyses will be undertaken to determine if study area intersections qualify for exclusive turning lanes under all proposed traffic scenarios.

3.9.3 Transportation Demand Management Strategies

Transportation Demand Management (TDM) strategies will be presented within the Site TIS in consideration the potential measures presented in Section 3.9.3 of the Guelph TIS Guidelines.

3.9.4 Traffic Calming Measures

Where appropriate, traffic calming measures will be addressed within the Site TIS in consideration of the City's Traffic Calming Policy.

3.10 Access Management

3.10.1 Number and Location of Accesses

The number and location of accesses for the Site will be determined in accordance with the considerations provided in Section 3.10.1 of the Guelph TIS Guidelines.

3.10.2 Site Triangle and Site Distance

An assessment of site triangles and sight distance will be considered as part of the Site TIS, where appropriate.

3.10.3 Access Control

Traffic signal warrant analyses will be performed for the Clair Road East / Hawkins Drive intersection under future scenarios, consistent with the methodology presented in Section 3.9.1 of the Guelph TIS Guidelines.

3.10.5 Access Geometrics

Access configuration will be designed in accordance with the considerations presented in Section 3.10.5 of the Guelph TIS Guidelines, where appropriate.

Vehicle manoeuvring diagrams will be provided as part of the Site TIS in accordance with Section 3.10.5 of the Guelph TIS Guidelines.

3.11 Internal Traffic Circulation

Transportation-related components of the Site plan will be reviewed in accordance with the considerations provided in Section 3.11 of the Guelph TIS Guidelines.

Transportation-related components of the Site plan will be described within the Site TIS, and vehicle manoeuvring diagrams will be provided as part of the Site TIS in accordance with Section 3.11 of the Guelph TIS Guidelines and the City's Waste Management Guidelines.

3.12 Findings and Recommendations

In accordance with the Guelph TIS Guidelines, findings from the transportation study will be included in the Site TIS, and recommendations for improvement will be provided, where appropriate and necessary.

3.13 Parking Justification Study

A parking justification study will be provided within the Site TIS, to be reviewed by City of Guelph Planning Staff.

3.14 Documentation and Reporting

Documentation and reporting for findings from the Site TIS will be presented in consideration of Section 3.14 of the Guelph TIS Guidelines.

As noted above, the following considerations have been specifically highlighted by City of Guelph Transportation Staff, and will be included as part of the Site TIS:

- Assessment of existing and future queuing conditions at the south approach of the Clair Road East / Farley Drive intersection.
- Assessment of existing cut-through traffic conditions along the internal east-west connection between Farley Drive and Hawkins Drive.
- Left turn warrant analysis at the Clair Road East / Hawkins Drive intersection.
- Signal warrant analysis at the Clair Road East / Hawkins Drive intersection.

3.15 Preliminary Review of Cut-Through Traffic

A preliminary review of “cut-through” traffic along the Site’s existing east-west connection has been undertaken; the results of which are summarized below.

The preliminary review of “cut-through” traffic considered two distinct types of activity:

- Those accessing / leaving the commercial buildings on the Site west of Farley Drive (Route #1 in **Exhibit 2**), and
- Those travelling through the Site to avoid the Clair Road / Gordon Street and / or Clair Road East / Farley Drive intersections (Route #2 in **Exhibit 2**).

This review of cut-through traffic has indicated:

- A small number of vehicles are currently utilizing Route #1 to access the commercial buildings west of Farley Drive given its an unconstrained environment (33 two-way vehicles per hour or less), and
- No vehicles are currently utilizing Route #2 to avoid the Clair Road / Gordon Street and / or Clair Road East / Farley Drive intersections (i.e. as an alternate route to Poppy Drive). Observed cut-through traffic during the weekday morning and afternoon peak hours is provided in **Table 1**, below.

The relative volumes of cut-through traffic through the Site are quite low, compared to the adjacent link volumes (between the Clair Road East / Farley Drive and Clair Road East / Hawkins Drive intersections). Therefore, cut-through routes through the Site are not considered to function as an alternative route for vehicular traffic travelling along either the Clair Road East, Gordon Street, or Poppy Street corridors.

The east-west connection through the Site functions as both an access to the existing commercial buildings on the Site including an existing underground servicing connection. Cut-through volumes through the Site are considered to be relatively low compared to the broader traffic activity within the study area, as will be further demonstrated within the completed TIS. While cut-through traffic is not considered to be a concern for the future design and traffic operations of the Site at this time, the TIS will outline measures that can be taken to further reduce the desire for passenger traffic to use the east-west as a cut-through (i.e. traffic calming measures through design) and what measures can be protected for should unanticipated issues arise.

Exhibit 2 Reviewed Cut-Through Traffic Routes

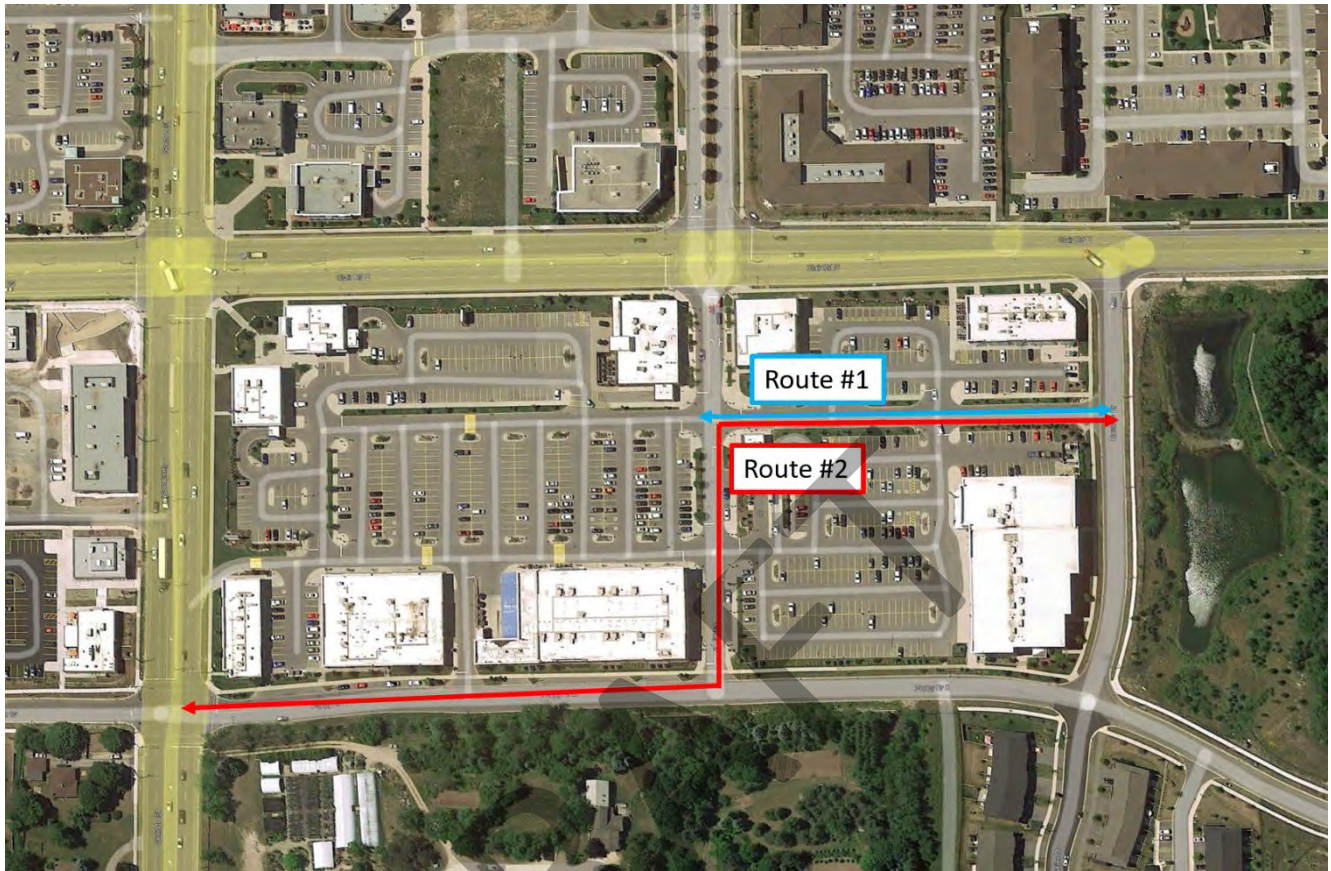


Table 1 Existing Peak Period Cut-Through Traffic

Route	AM Peak Hour Cut-Through Traffic			PM Peak Hour Cut-Through Traffic			SAT Peak Hour Cut-Through Traffic		
	EB	WB	2-Way	EB	WB	2-Way	EB	WB	2-Way
Route #1	4	12	16	20	13	33	10	22	32
Route #2	0	0	0	0	0	0	0	0	0
Total Cut-Through Traffic	4	12	16	20	13	33	10	22	32

It should be noted that peak cut-through traffic does not necessarily occur during the determined peak-hour design periods for the morning, afternoon, and Saturday peak hours. To provide a consistent model, cut-through traffic during the adjacent street peak-hour design periods is utilized in this comparison. Existing area traffic volumes during the weekday morning, afternoon, and Saturday peak hours are provided in , below.

We trust the above Terms of Reference is satisfactory. Please do not hesitate to reach out to us directly for any matters of clarification.

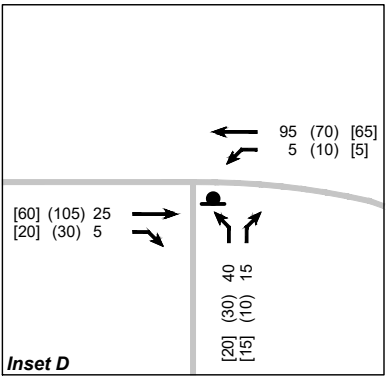
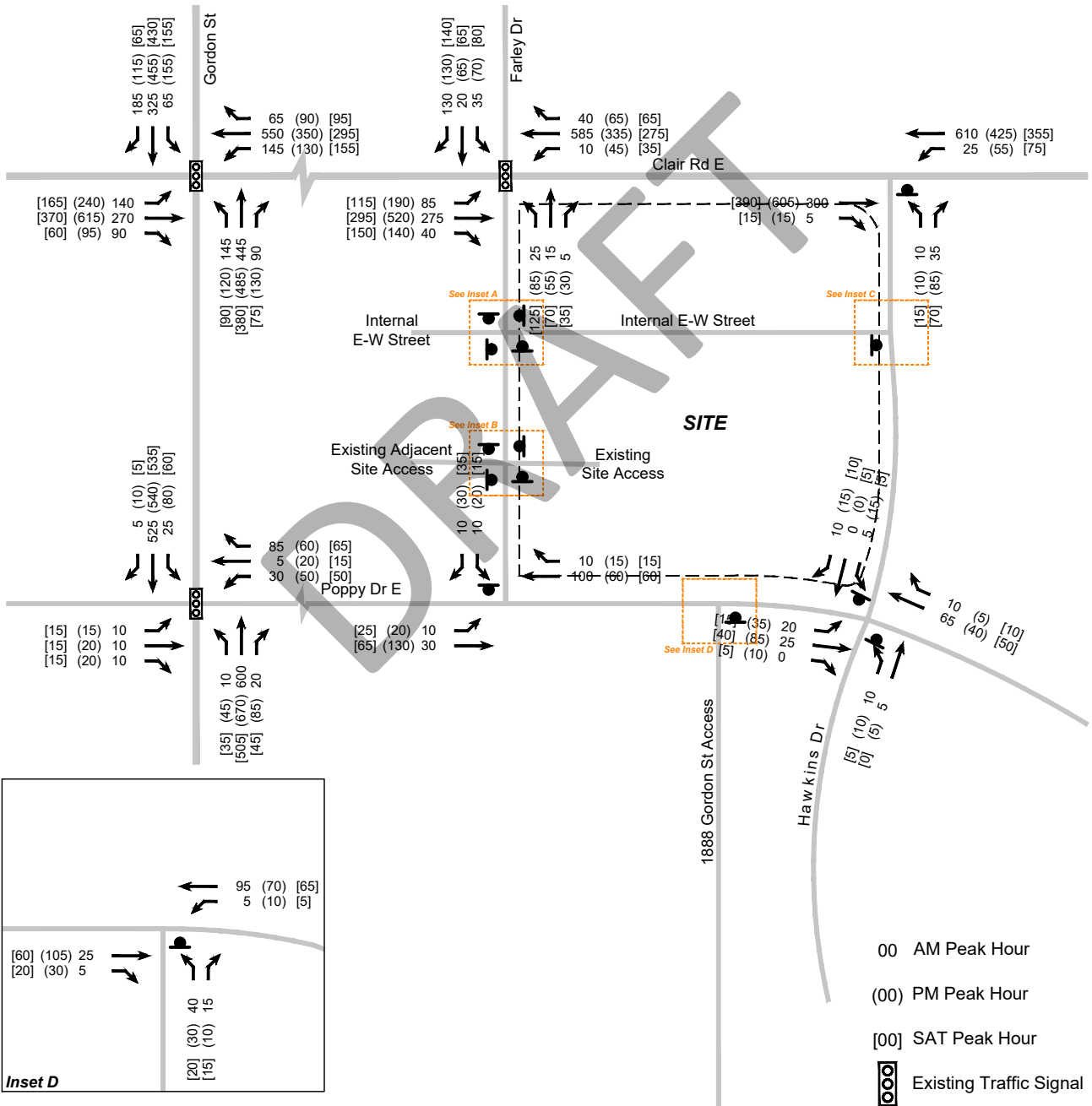
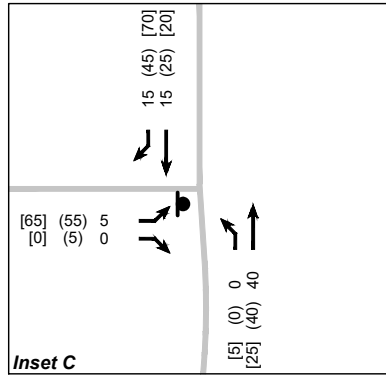
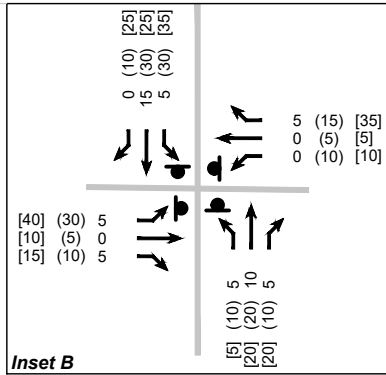
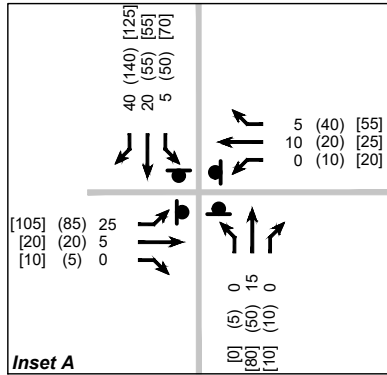
Sincerely,

BA Consulting Group Ltd.

Emily J. Ecker, P. Eng.
Senior Associate

Cc: Hendrik Rolleman, Transportation Analyst

DRAFT



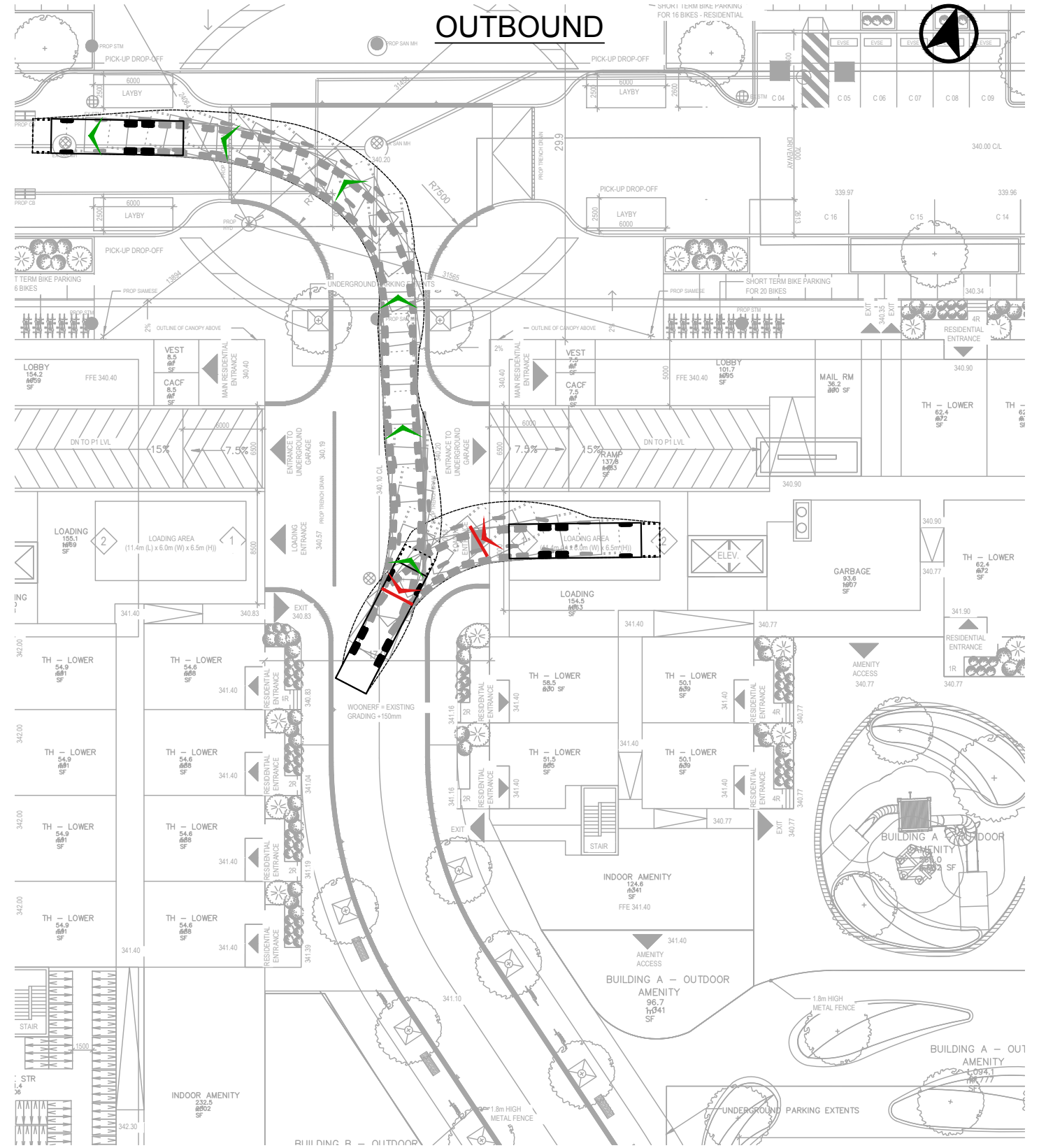
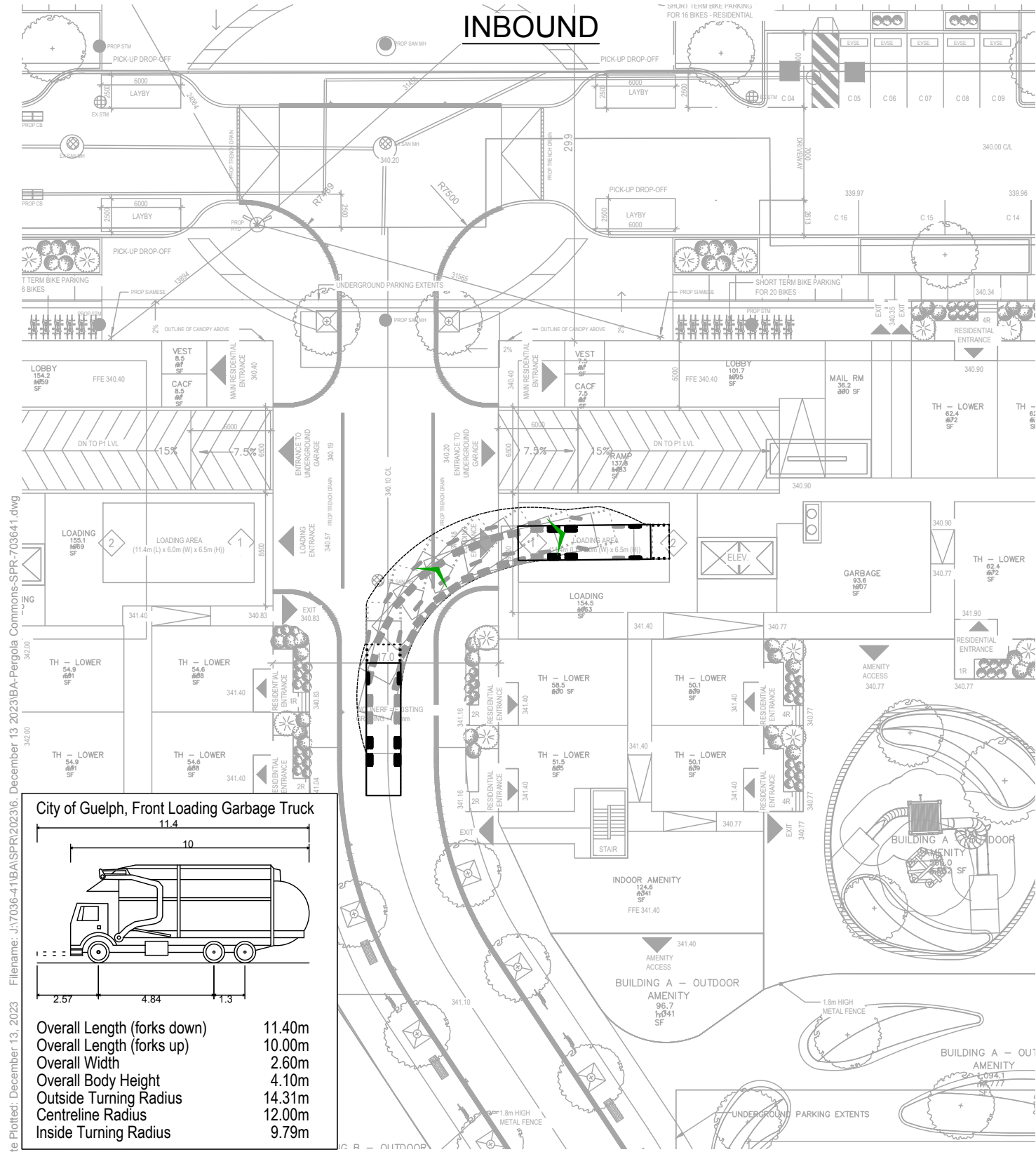
- 00 AM Peak Hour
- (00) PM Peak Hour
- [00] SAT Peak Hour
- Existing Traffic Signal

Date Plotted: November 14, 2023 File name: P:\703641\Graphics\CAD\Fig 09-01-EX.dwg

FIGURE 1 EXISTING TRAFFIC VOLUMES

Appendix C: Vehicle Manoeuvring Diagrams





Date Plotted: December 13, 2023 File name: J:\7036-41\BAs\SPR\2023\6. December 13 2023\BA-Pergola Commons-SPR-703641.dwg

City of Guelph, Front Loading Garbage Truck

Overall Length (forks down) 11.40m
 Overall Length (forks up) 10.00m
 Overall Width 2.60m
 Overall Body Height 4.10m
 Outside Turning Radius 14.31m
 Centreline Radius 12.00m
 Inside Turning Radius 9.79m

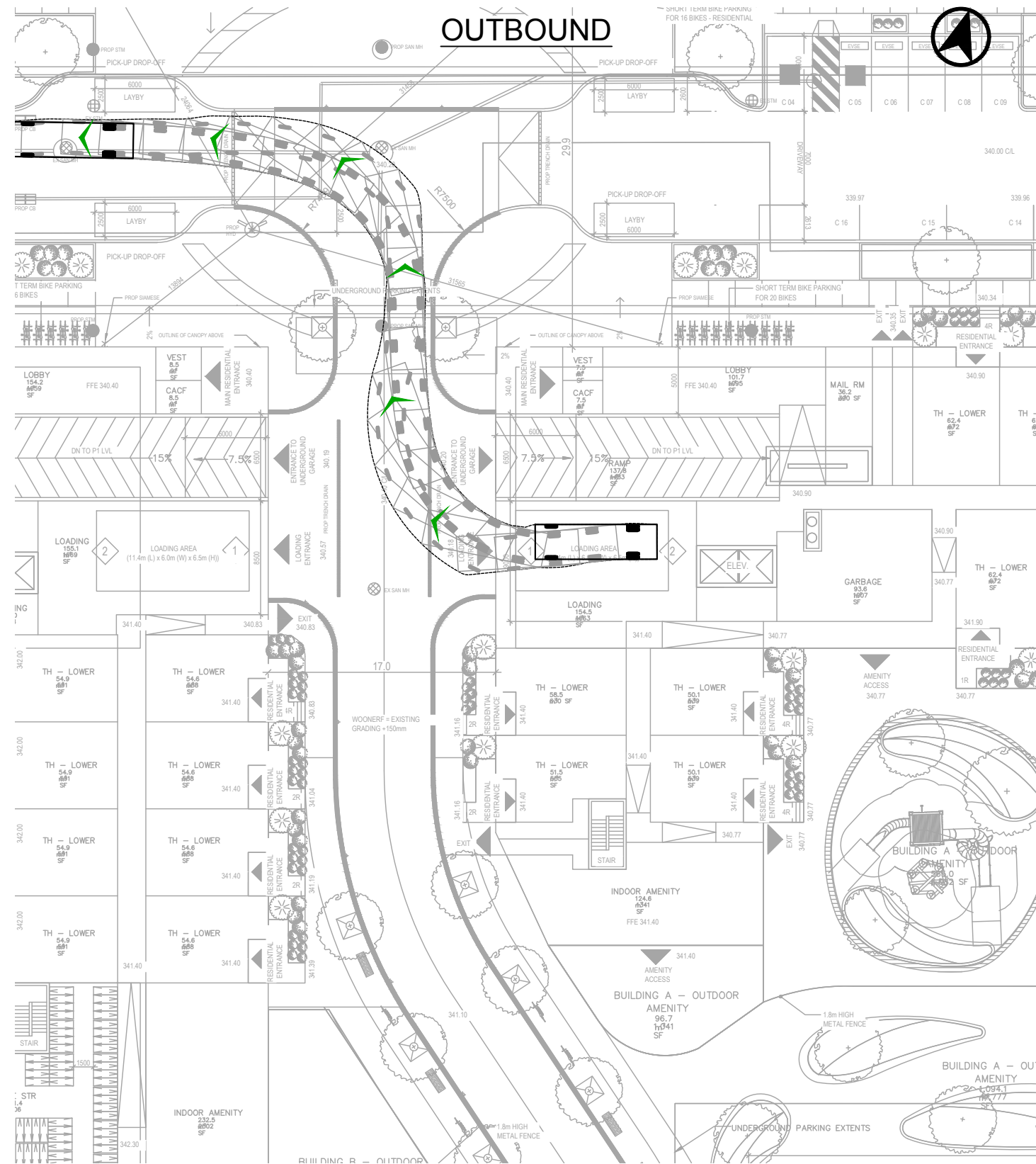
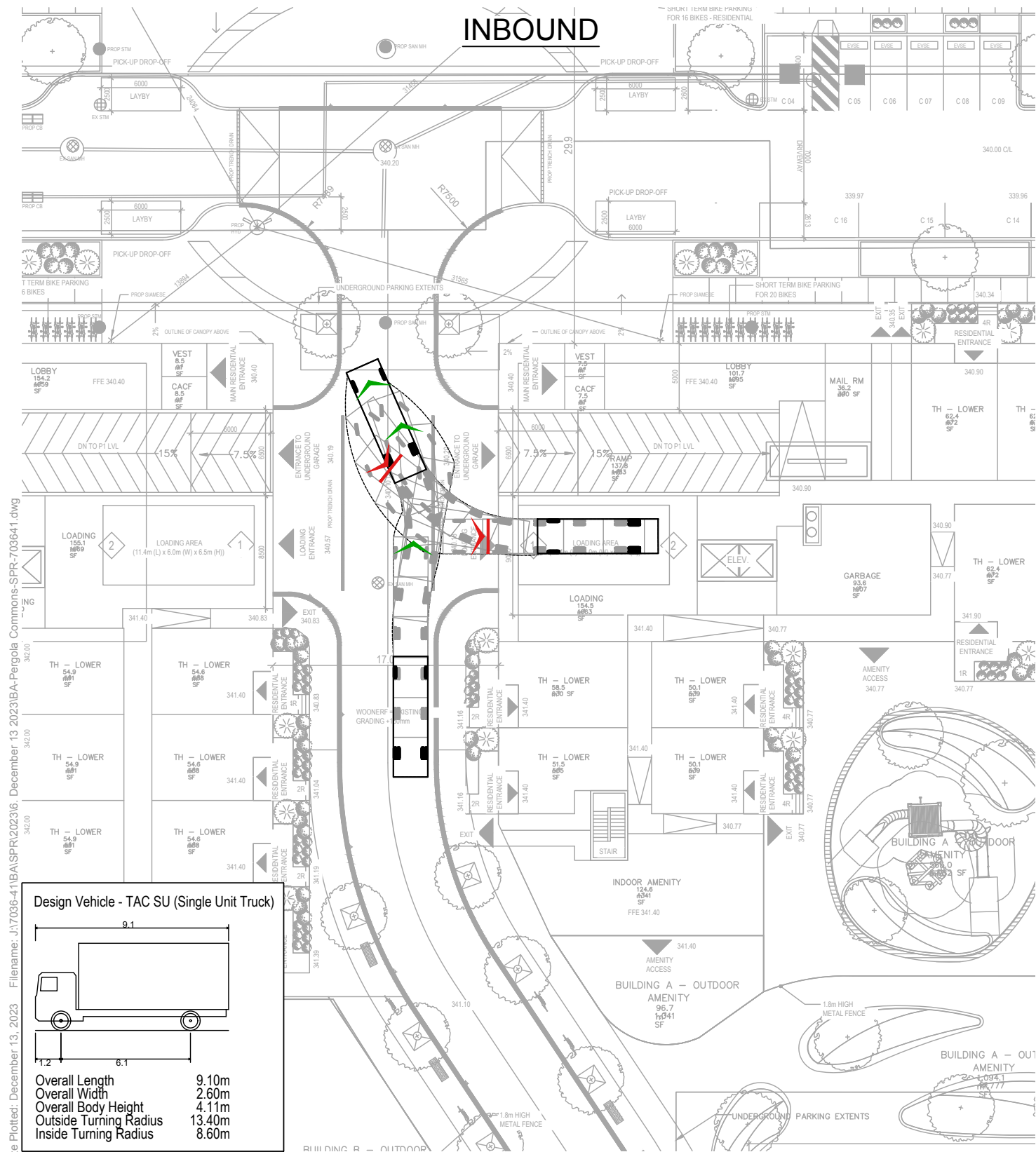
PERGOLA COMMONS
 Vehicle Manoeuvring Diagram
 City of Guelph Garbage Truck
 Building A

Project: Pergola Commons
 Project No. 7036-41
 Date: November 9, 2023
 Revised: December 13, 2023

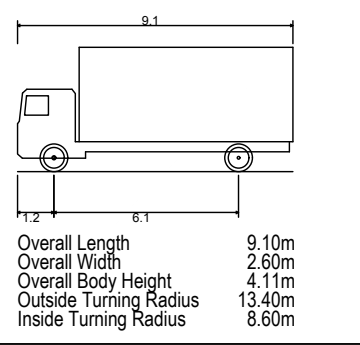
Scale 0 2 4 6 8 10 20m
 1:400

Drawing No. **VMD-01**





Design Vehicle - TAC SU (Single Unit Truck)



Date Plotted: December 13, 2023 File name: J:\7036-41\BAS\SPR\2023\6 December 13 2023\3BA-Pergola Commons-SPR-703641.dwg

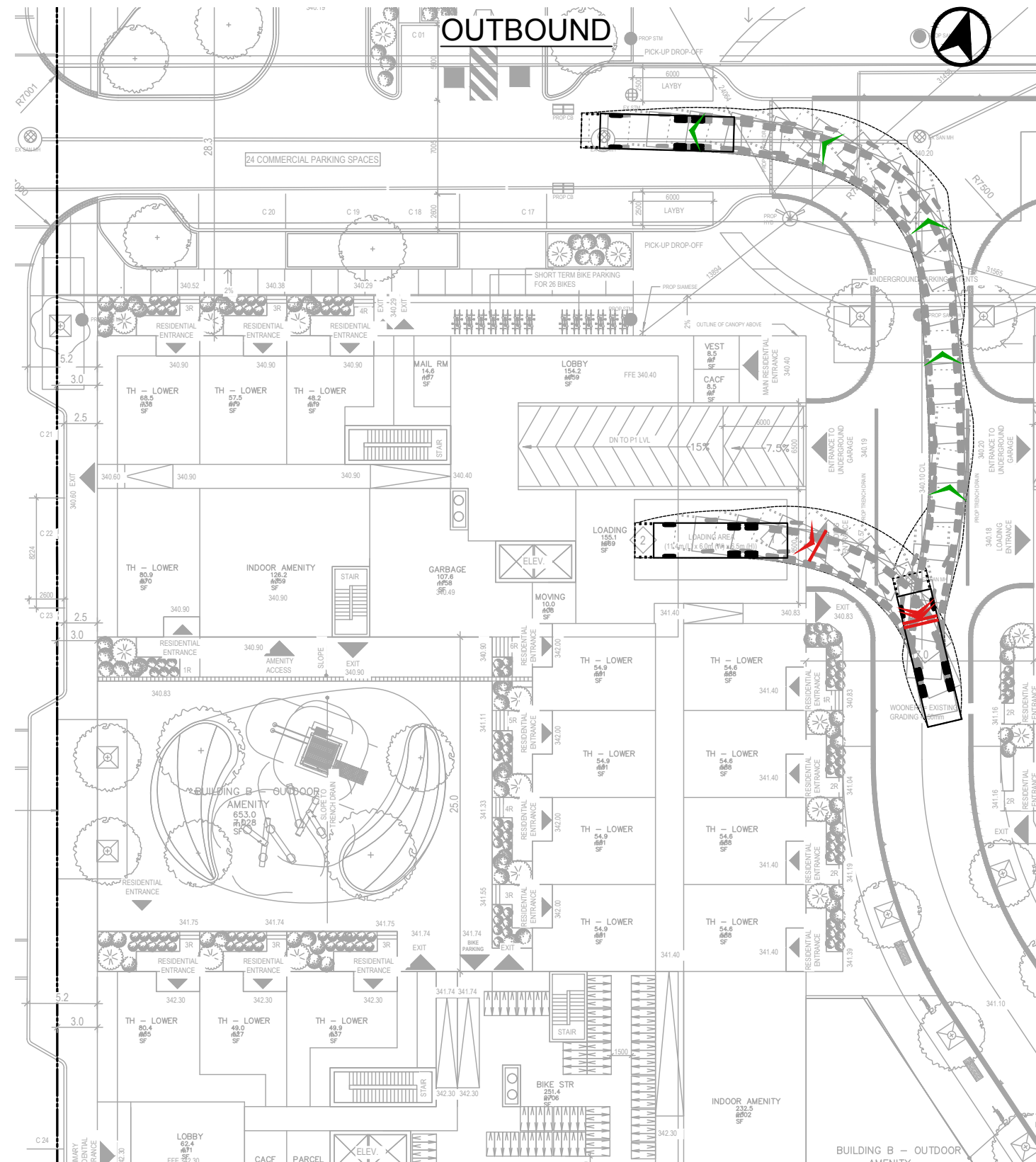
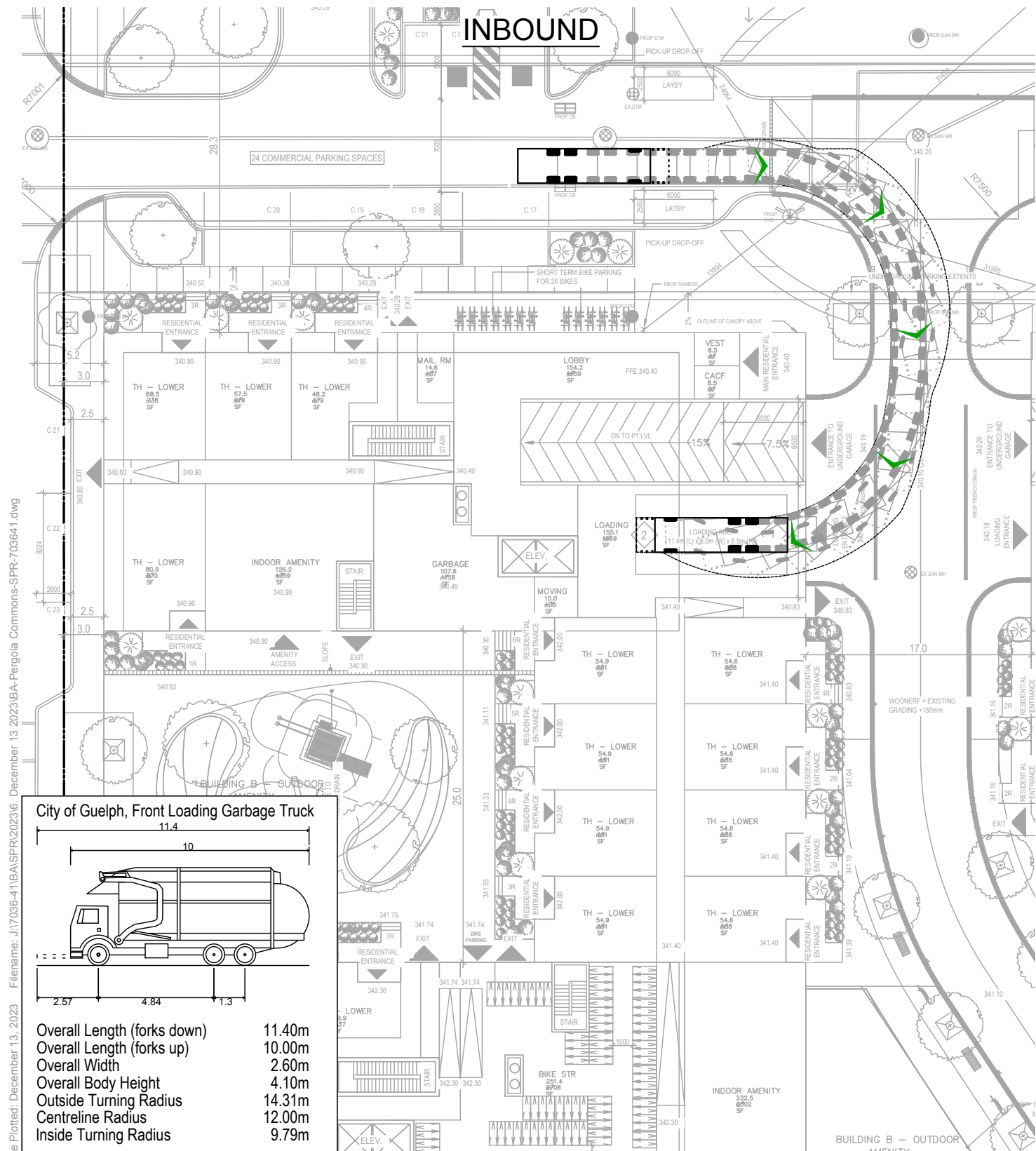
PERGOLA COMMONS
 Vehicle Manoeuvring Diagram
 TAC Single Unit (SU) Truck
 Building A



Project: Pergola Commons
 Project No. 7036-41
 Date: November 9, 2023
 Revised: December 13, 2023



Drawing No. **VMD-02**



City of Guelph, Front Loading Garbage Truck

Overall Length (forks down) 11.40m
 Overall Length (forks up) 10.00m
 Overall Width 2.60m
 Overall Body Height 4.10m
 Outside Turning Radius 14.31m
 Centreline Radius 12.00m
 Inside Turning Radius 9.79m

Date Plotted: December 13, 2023 File name: J:\7036-41\BASP\2023\6. December 13 2023\BA-Pergola Commons-SFR-703641.dwg

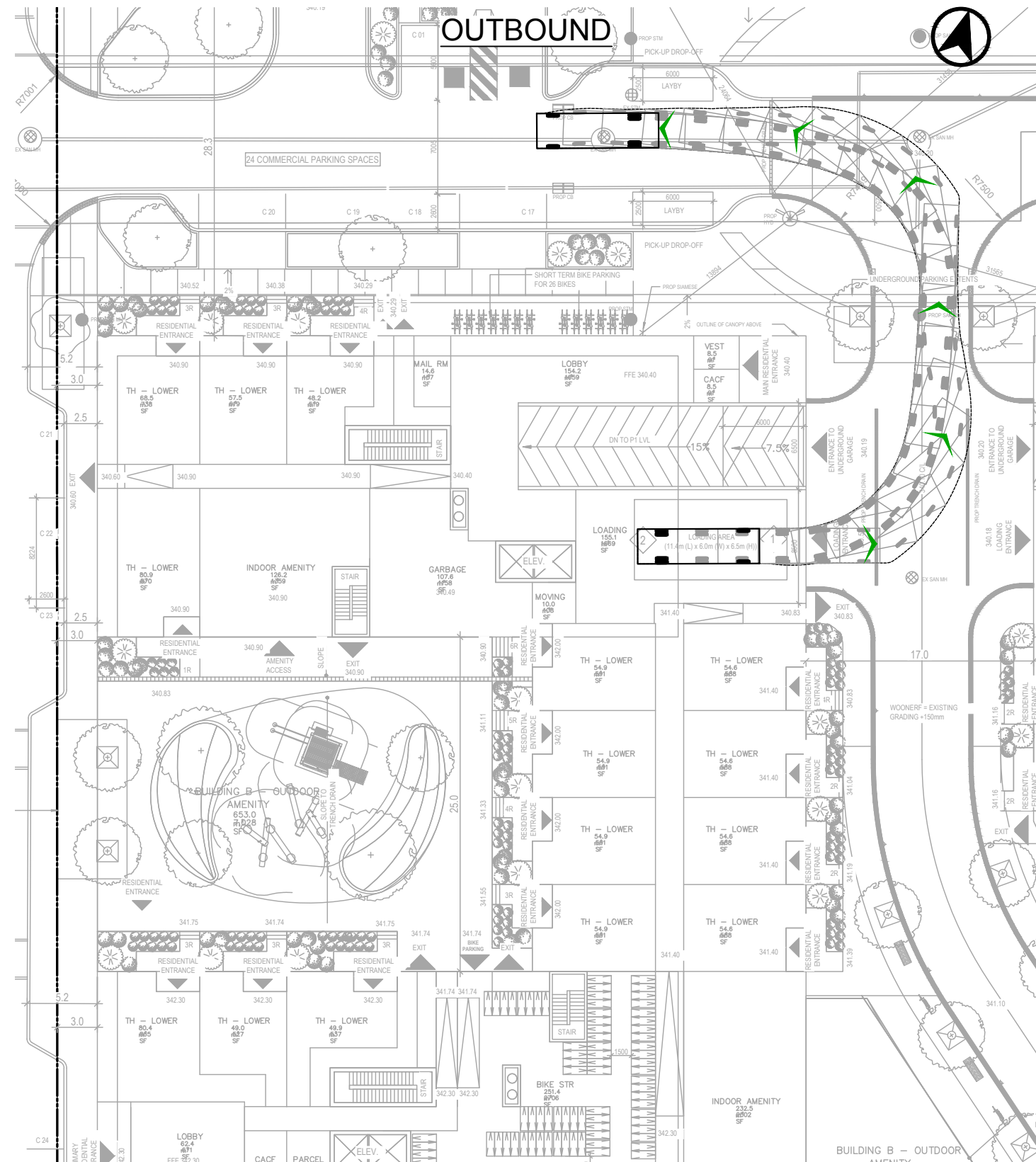
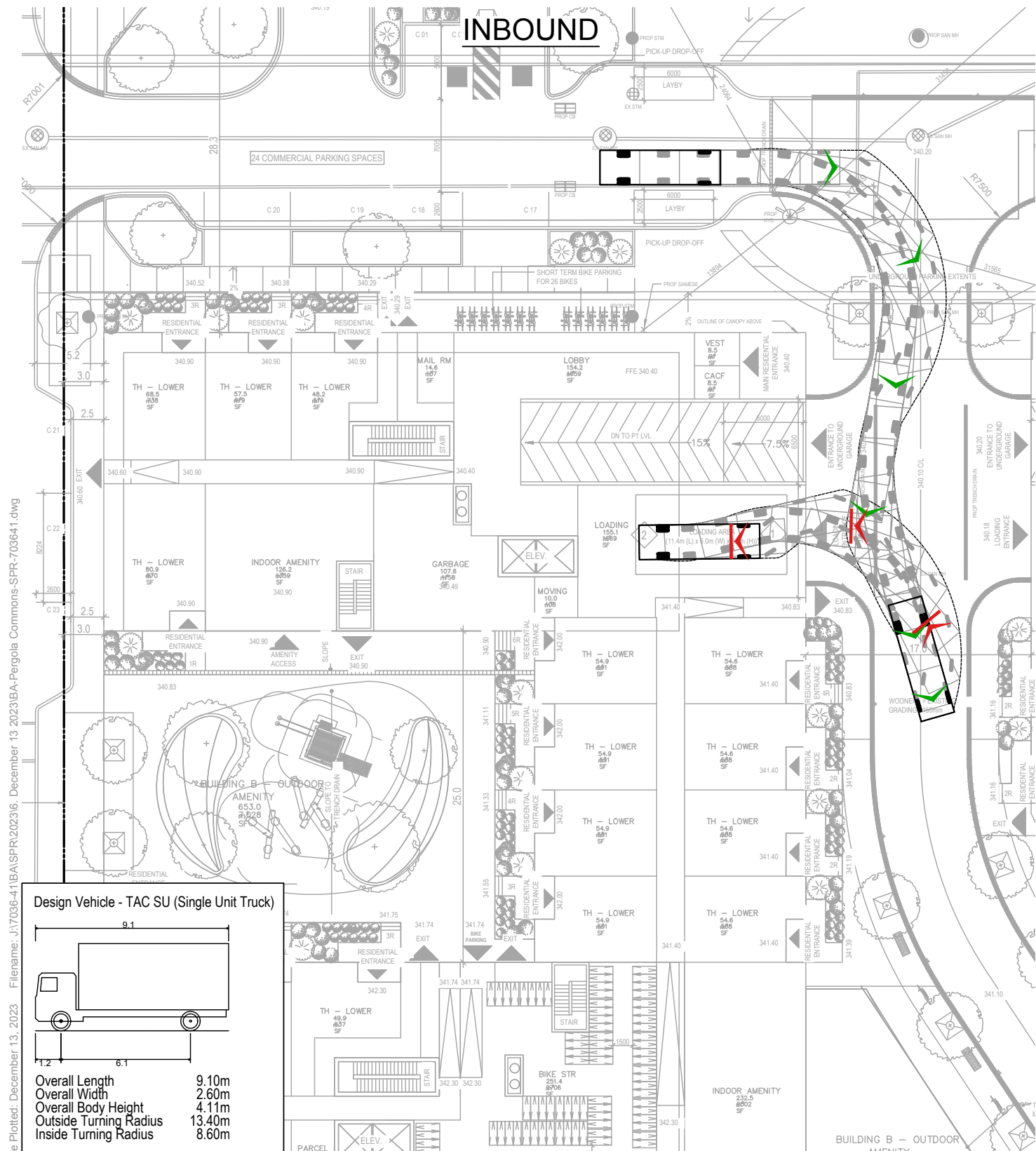


PERGOLA COMMONS
 Vehicle Manoeuvring Diagram
 City of Guelph Garbage Truck
 Building B

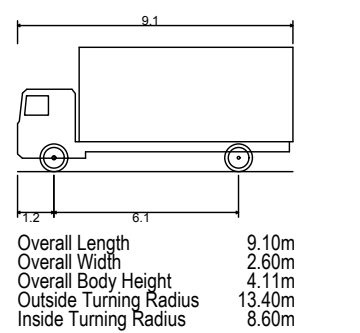
Project: Pergola Commons
 Project No. 7036-41
 Date: November 9, 2023
 Revised: December 13, 2023



Drawing No. **VMD-03**



Design Vehicle - TAC SU (Single Unit Truck)



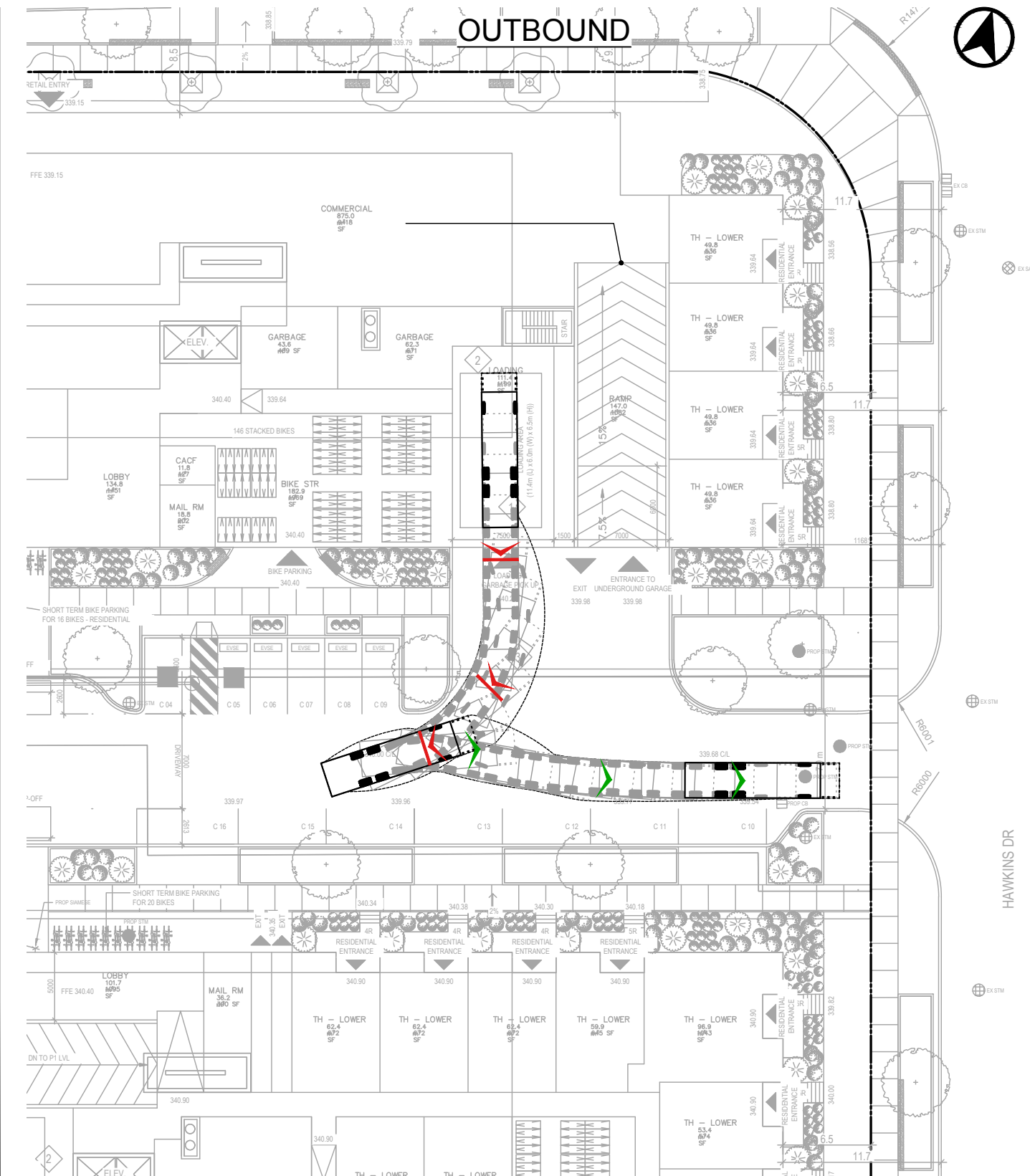
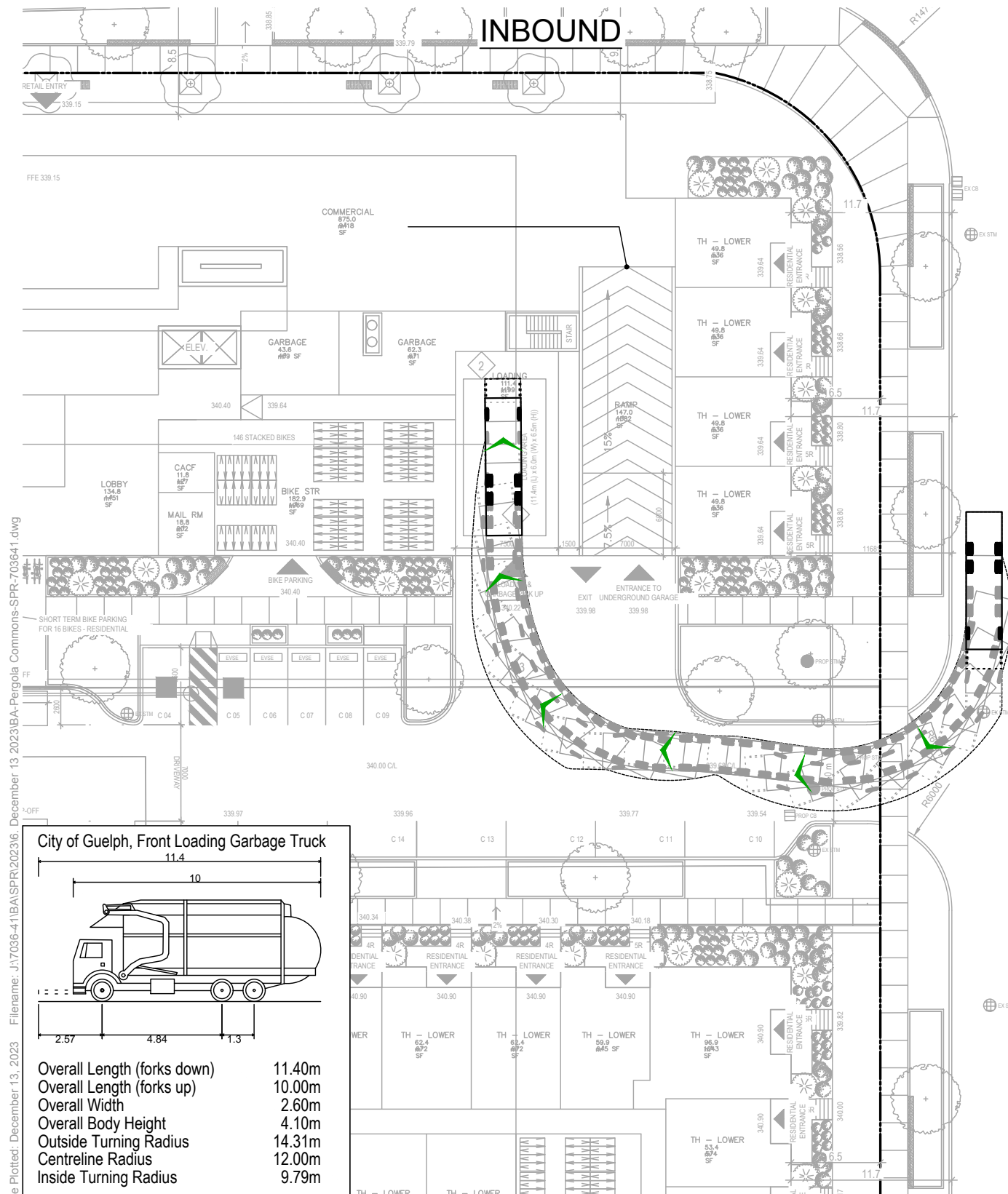
PERGOLA COMMONS
 Vehicle Manoeuvring Diagram
 TAC Single Unit (SU) Truck
 Building B



Project: Pergola Commons
 Project No. 7036-41
 Date: November 9, 2023
 Revised: December 13, 2023



Drawing No. **VMD-04**



Date Plotted: December 13, 2023 File name: J:\7036-41\BA\SPR\2023\6 December 13 2023\BA-Pergola Commons-SPR-703641.dwg

City of Guelph, Front Loading Garbage Truck

Overall Length (forks down)	11.40m
Overall Length (forks up)	10.00m
Overall Width	2.60m
Overall Body Height	4.10m
Outside Turning Radius	14.31m
Centreline Radius	12.00m
Inside Turning Radius	9.79m

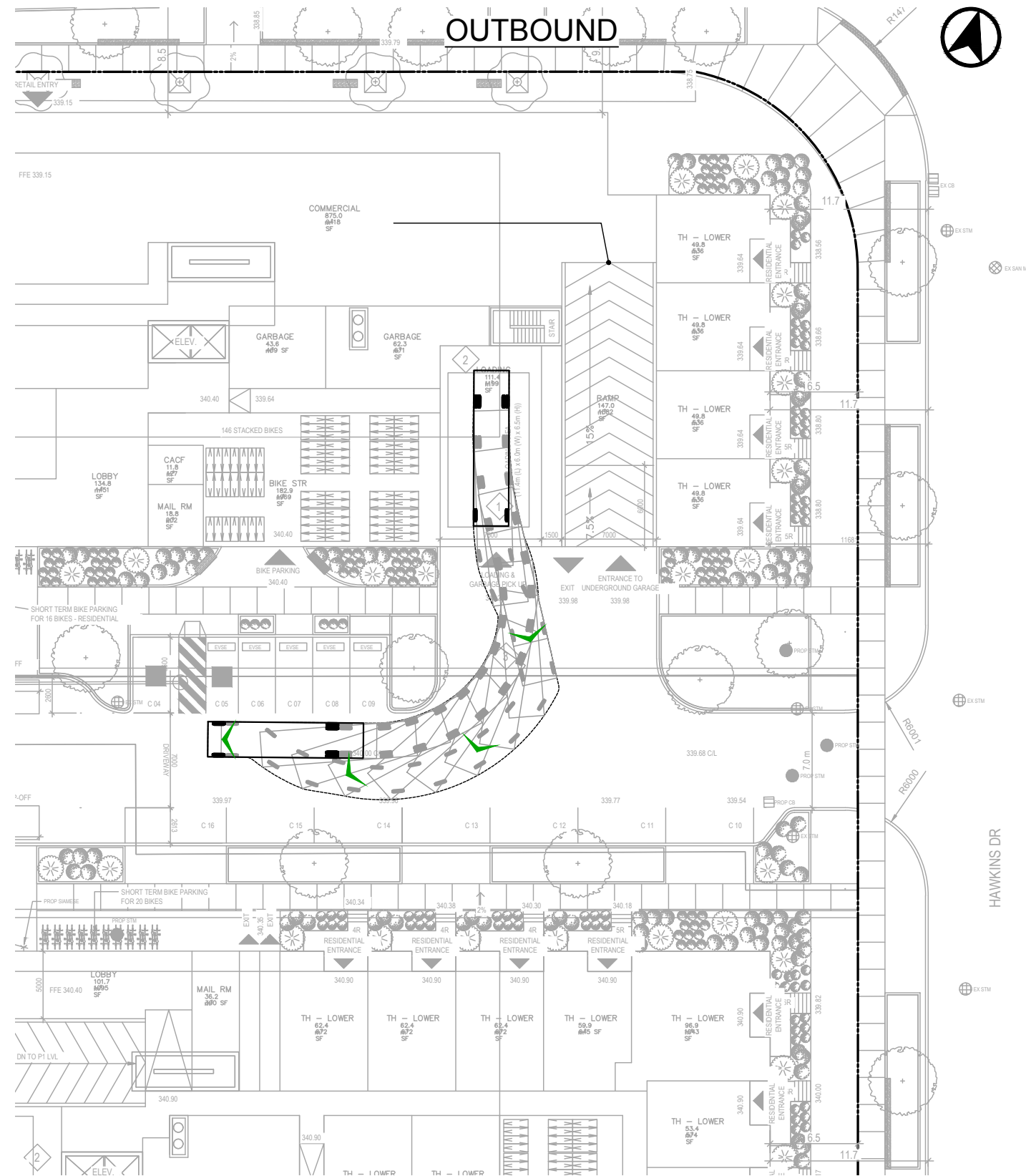
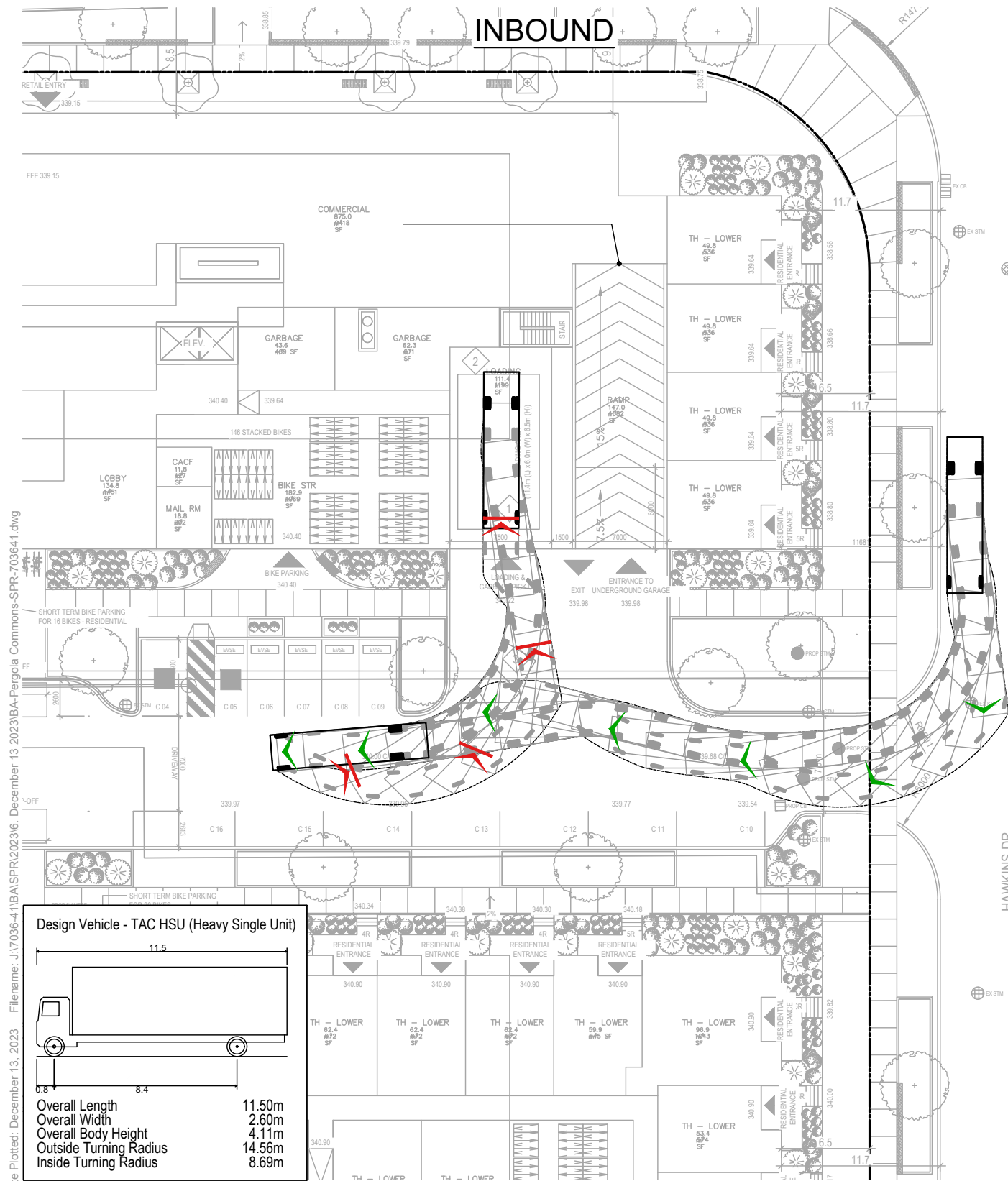
PERGOLA COMMONS
 Vehicle Manoeuvring Diagram
 City of Guelph Garbage Truck
 Building C

Project: Pergola Commons
 Project No. 7036-41
 Date: November 9, 2023
 Revised: December 13, 2023

Scale 1:400

Drawing No. **VMD-05**





Date Plotted: December 13, 2023 File name: J:\7036-4\1\BASP\202316 December 13 2023\BA-Pergola Commons-SFR-703641.dwg

Design Vehicle - TAC HSU (Heavy Single Unit)

Overall Length 11.50m
 Overall Width 2.60m
 Overall Body Height 4.11m
 Outside Turning Radius 14.56m
 Inside Turning Radius 8.69m

PERGOLA COMMONS
 Vehicle Manoeuvring Diagram
 TAC Heavy Single Unit (HSU) Truck
 Building C

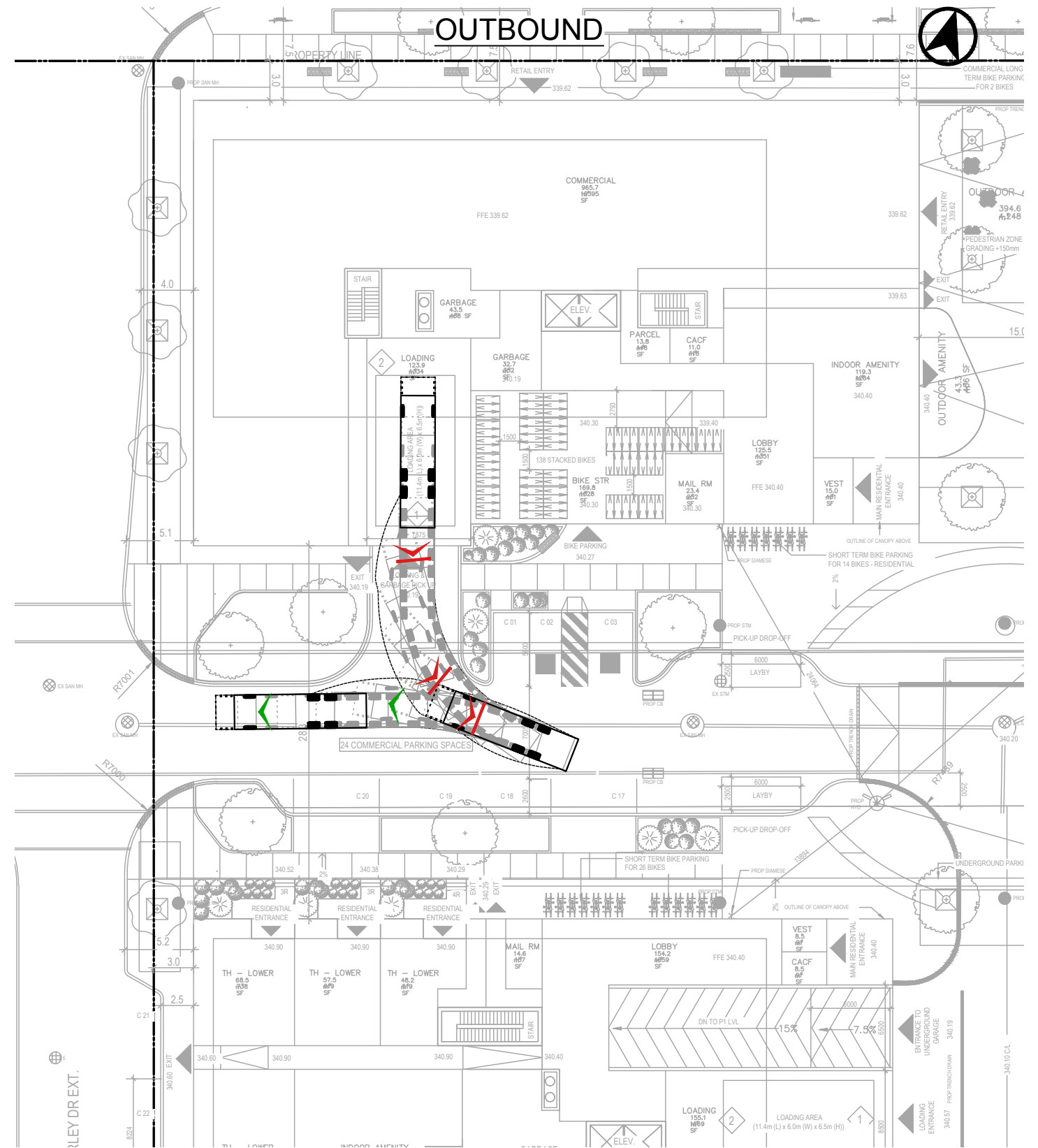
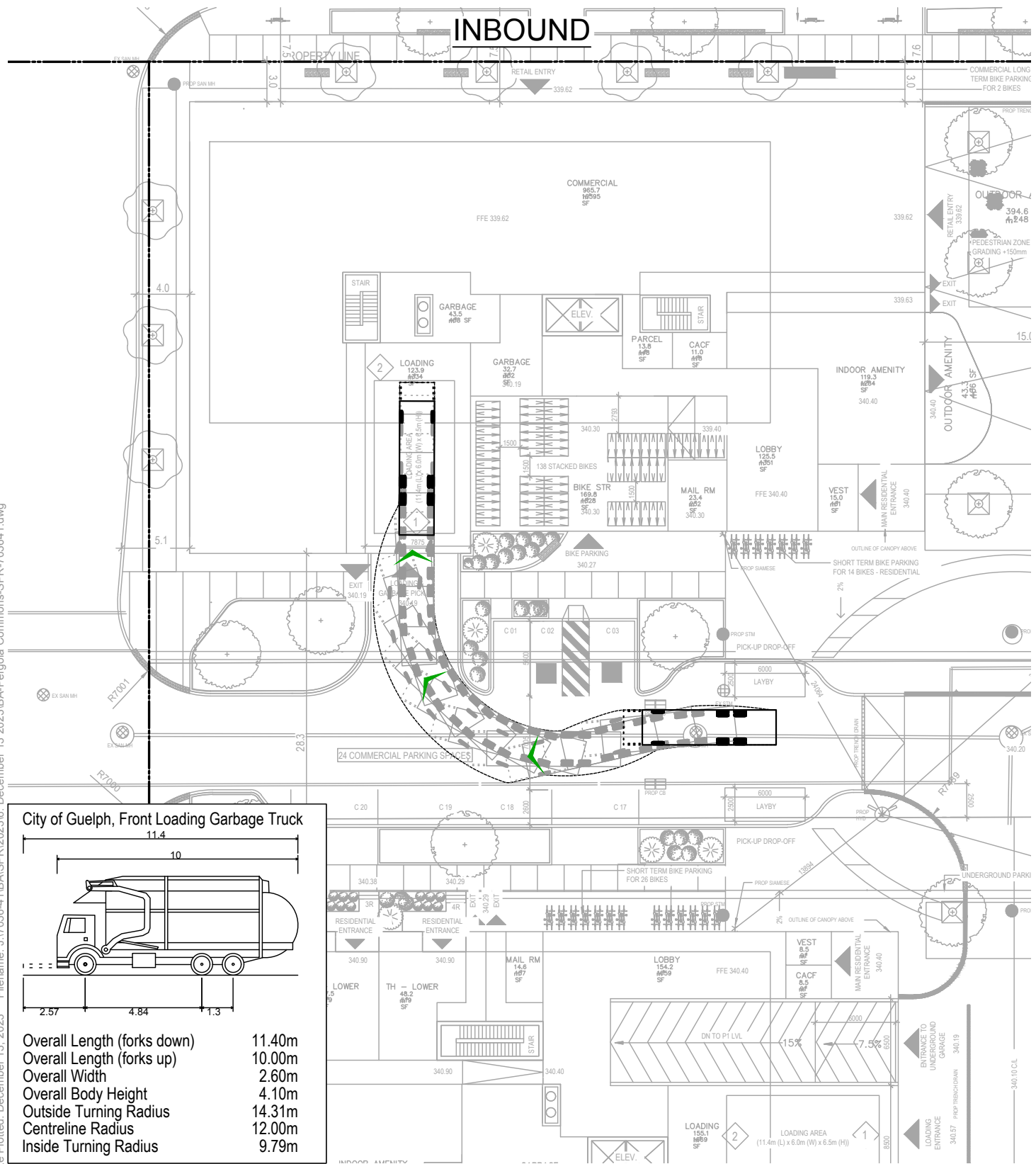
Project: Pergola Commons
 Project No. 7036-41
 Date: November 9, 2023
 Revised: December 13, 2023

Scale 0 2 4 6 8 10 20m
 1:400

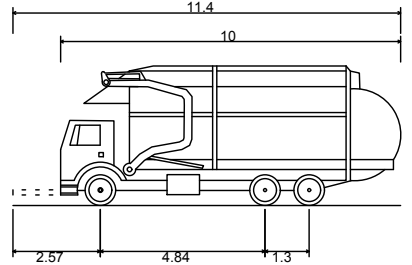
Drawing No. **VMD-06**



Data Plotted: December 13, 2023 File name: J:\7036-41\BA\SPR\2023\6 December 13 2023\BA-Pergola Commons-SPR-703641.dwg



City of Guelph, Front Loading Garbage Truck

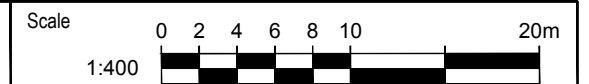


- Overall Length (forks down) 11.40m
- Overall Length (forks up) 10.00m
- Overall Width 2.60m
- Overall Body Height 4.10m
- Outside Turning Radius 14.31m
- Centreline Radius 12.00m
- Inside Turning Radius 9.79m



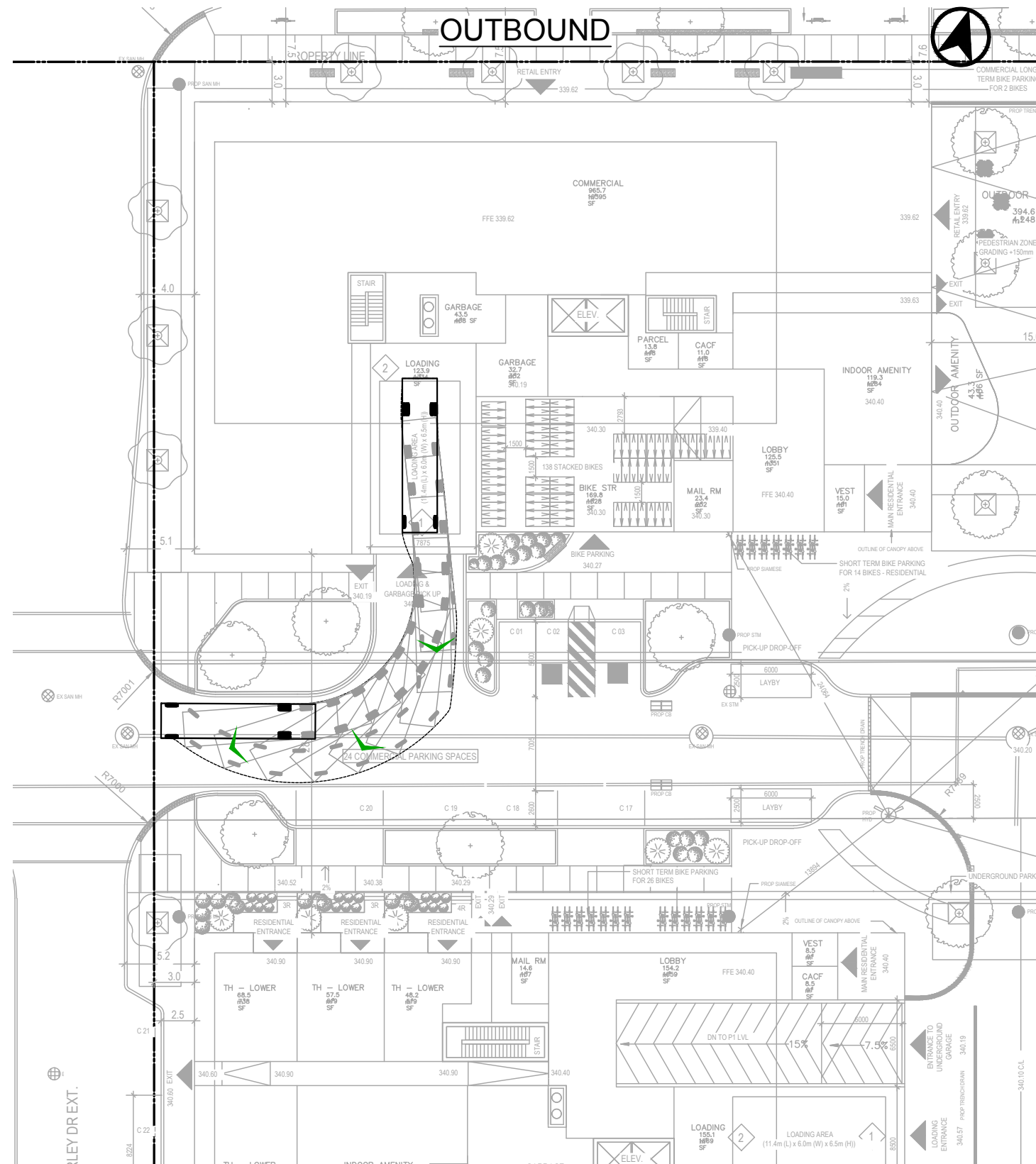
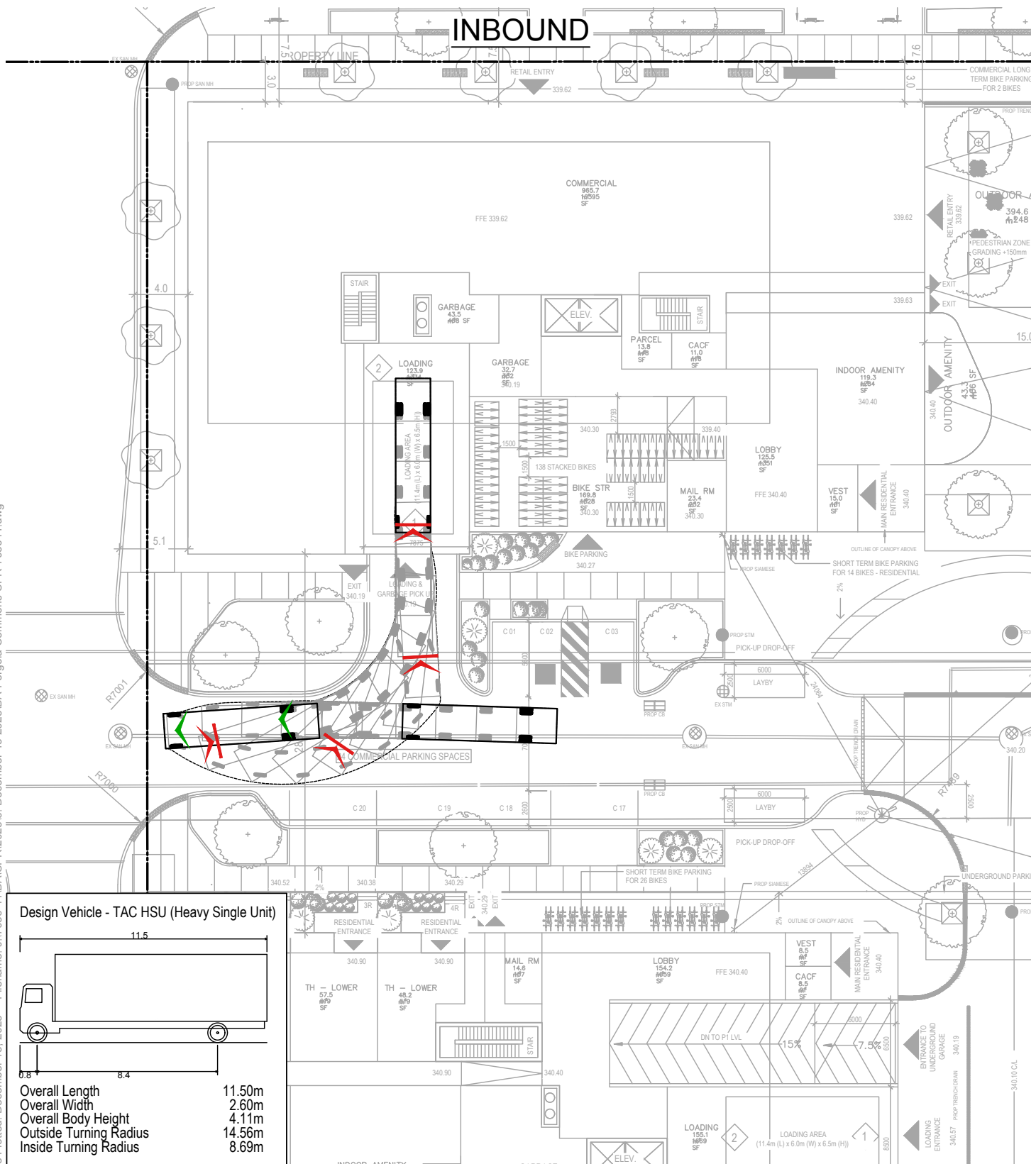
PERGOLA COMMONS
 Vehicle Manoeuvring Diagram
 City of Guelph Garbage Truck
 Building D

Project: Pergola Commons
 Project No. 7036-41
 Date: November 9, 2023
 Revised: December 13, 2023



Drawing No. **VMD-07**

Date Plotted: December 13, 2023 File name: J:\7036-41\BA\SPR\2023\6 December 13 2023\BA-Pergola Commons-SPR-703641.dwg



PERGOLA COMMONS
 Vehicle Manoeuvring Diagram
 TAC Heavy Single Unit (HSU) Truck
 Building D

Project: Pergola Commons
 Project No. 7036-41
 Date: November 9, 2023
 Revised: December 13, 2023



Drawing No. **VMD-08**

Appendix D: Site Interaction Assessment



Phase 1 & 2 (2028 Horizon) Interactions

AM		Outbound From								Total Inbound Trips	
		Phase 1 & 2 Interactions - AM		Residential	Retail						
		Residential	Retail								
Inbound To	Residential		2%							35	
	Retail	17%							20		
Outbound From	Residential		1%						125		
	Retail	14%						15			
Inbound To	Residential		1						1		
	Retail	1						1			
Total Outbound Trip Reduction		1	1	0	0				2		
Rounded		0	0						0		

PM

		Outbound From							
		Residential	Retail						
Inbound To	Phase 1 & 2 Interactions - PM								
	Residential	46%							
	Retail	10%							

		Inbound To							
		Residential	Retail						
Outbound From	Phase 1 & 2 Interactions - PM								
	Residential	42%							
	Retail	26%							

		Outbound From							
		Residential	Retail						
Inbound To	Phase 1 & 2 Interactions - PM								
	Residential	48							105
	Retail	5							45

		Inbound To							
		Residential	Retail						
Outbound From	Phase 1 & 2 Interactions - PM								
	Residential	27							65
	Retail	10							40

		Outbound From							
		Residential	Retail						
Inbound To	Phase 1 & 2 Interactions - PM								
	Residential	10							10
	Retail	5							5

Total Outbound Trip Reduction	5	10	0	0					15
Rounded	5	10							15

SAT*

		Outbound From							
		Residential	Retail						
Inbound To	Phase 1 & 2 Interactions - SAT								
	Residential	46%							
	Retail	10%							

		Inbound To							
		Residential	Retail						
Outbound From	Phase 1 & 2 Interactions - SAT								
	Residential	42%							
	Retail	26%							

		Outbound From								Total Inbound Trips
		Residential	Retail							
Inbound To	Phase 1 & 2 Interactions - SAT									
	Residential	41								90
	Retail	7								65

		Inbound To								Total Outbound Trips
		Residential	Retail							
Outbound From	Phase 1 & 2 Interactions - SAT									
	Residential	34								80
	Retail	14								55

		Outbound From								Total Inbound Trip Reduction
		Residential	Retail							
Inbound To	Phase 1 & 2 Interactions - SAT									
	Residential	14								14
	Retail	7								7
Total Outbound Trip Reduction		7	14	0	0					21
Rounded		5	15							20

*SAT interaction assumed to equal PM interaction

Build Out Interactions

AM	Inbound To	Build Out Interactions - AM		Outbound From								
		Residential	2%									
		Retail	17%									
AM	Outbound From	Build Out Interactions - AM		Inbound To								
		Residential	1%									
		Retail	14%									
AM	Inbound To	Build Out Interactions - AM		Outbound From								Total Inbound Trips
		Residential	1									
		Retail	4									
AM	Outbound From	Build Out Interactions - AM		Inbound To								Total Outbound Trips
		Residential	2									
		Retail	2									
AM	Inbound To	Build Out Interactions - AM		Outbound From								Total Inbound Trip Reduction
		Residential	1									
		Retail	2									
Total Outbound Trip Reduction		2	1	0	0					3		
Rounded		0	0							0		

SAT*

Build Out Interactions - SAT		Outbound From							
		Residential	Retail						
Inbound To	Residential	46%							
	Retail	10%							

Build Out Interactions - SAT		Inbound To							
		Residential	Retail						
Outbound From	Residential	42%							
	Retail	26%							

Build Out Interactions - SAT		Outbound From								Total Inbound Trips
		Residential	Retail							
Inbound To	Residential	67								145
	Retail	14								140

Build Out Interactions - SAT		Inbound To								Total Outbound Trips
		Residential	Retail							
Outbound From	Residential	57								135
	Retail	36								140

Build Out Interactions - SAT		Outbound From								Total Inbound Trip Reduction
		Residential	Retail							
Inbound To	Residential	36								36
	Retail	14								14
Total Outbound Trip Reduction		14	36	0	0					50
Rounded		15	35							50

*SAT interaction assumed to equal PM interaction

Appendix E: Turning Movement Counts





17:45:00	30	18	14	0	6	62	16	103	16	0	7	135	4	14	20	0	5	38	33	100	43	0	14	176	411	1709
18:00:00	27	11	21	0	3	59	19	97	13	0	4	129	4	12	30	0	3	46	44	74	40	0	7	158	392	1661
18:15:00	28	19	25	0	9	72	8	79	5	0	14	92	3	11	27	0	6	41	29	105	33	0	9	167	372	1584
18:30:00	25	11	14	0	3	50	12	60	9	0	8	81	2	9	24	0	7	35	39	92	22	0	7	153	319	1494
18:45:00	13	19	18	1	10	51	16	74	8	0	8	98	13	16	25	0	5	54	29	71	23	0	1	123	326	1409
Grand Total	1332	556	641	10	181	2539	682	3984	286	0	209	4952	214	513	844	0	124	1571	1069	3651	1220	3	263	5943	15005	-
Approach%	52.5%	21.9%	25.2%	0.4%	-	13.8%	80.5%	5.8%	0%	-	-	13.6%	32.7%	53.7%	0%	-	-	18%	61.4%	20.5%	0.1%	-	-	-	-	-
Totals %	8.9%	3.7%	4.3%	0.1%	16.9%	4.5%	26.6%	1.9%	0%	33%	1.4%	3.4%	5.6%	0%	10.5%	7.1%	24.3%	8.1%	0%	39.6%	-	-	-	-	-	
Heavy	19	4	41	0	-	6	299	3	0	-	3	0	10	0	-	13	317	25	0	-	-	-	-	-	-	-
Heavy %	1.4%	0.7%	6.4%	0%	-	0.9%	7.5%	1%	0%	-	1.4%	0%	1.2%	0%	-	1.2%	8.7%	2%	0%	-	-	-	-	-	-	-
Bicycles	3	5	2	0	-	3	18	0	0	-	0	5	0	0	-	1	13	0	0	-	-	-	-	-	-	-
Bicycle %	0.2%	0.9%	0.3%	0%	-	0.4%	0.5%	0%	0%	-	0%	1%	0%	0%	-	0.1%	0.4%	0%	0%	-	-	-	-	-	-	-



Peak Hour: 08:15 AM - 09:15 AM Weather: Mist (3.59 °C)

Start Time	N Approach FARLEY DRIVE						E Approach CLAIR ROAD						S Approach PLAZA DRIVEWAY						W Approach CLAIR ROAD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:15:00	32	6	6	0	2	44	8	147	2	0	1	157	3	2	5	0	1	10	4	82	24	0	1	110	321
08:30:00	40	6	14	0	4	60	11	161	4	0	3	176	2	3	6	0	4	11	13	71	22	0	6	106	353
08:45:00	32	7	8	0	2	47	12	170	3	0	3	185	1	5	6	0	2	12	15	67	28	0	5	110	354
09:00:00	21	8	6	0	0	35	16	102	4	0	1	122	1	5	7	0	2	13	15	61	21	1	2	98	268
Grand Total	125	27	34	0	8	186	47	580	13	0	8	640	7	15	24	0	9	46	47	281	95	1	14	424	1296
Approach%	67.2%	14.5%	18.3%	0%	-	-	7.3%	90.6%	2%	0%	-	-	15.2%	32.6%	52.2%	0%	-	-	11.1%	66.3%	22.4%	0.2%	-	-	-
Totals %	9.6%	2.1%	2.6%	0%	14.4%	14.4%	3.6%	44.8%	1%	0%	49.4%	49.4%	0.5%	1.2%	1.9%	0%	3.5%	3.5%	3.6%	21.7%	7.3%	0.1%	32.7%	32.7%	-
PHF	0.78	0.84	0.61	0	0.78	0.78	0.73	0.85	0.81	0	0.86	0.86	0.58	0.75	0.86	0	0.88	0.88	0.78	0.86	0.85	0.25	0.96	0.96	-
Heavy	5	1	4	0	10	10	0	39	0	0	39	39	1	0	0	0	1	1	33	5	0	0	39	39	-
Heavy %	4%	3.7%	11.8%	0%	5.4%	5.4%	0%	6.7%	0%	0%	6.1%	6.1%	14.3%	0%	0%	0%	2.2%	2.2%	2.1%	11.7%	5.3%	0%	9.2%	9.2%	-
Lights	120	26	30	0	176	176	47	541	13	0	601	601	6	15	24	0	45	45	46	248	90	1	385	385	-
Lights %	96%	96.3%	88.2%	0%	94.6%	94.6%	100%	93.3%	100%	0%	93.9%	93.9%	85.7%	100%	100%	0%	97.8%	97.8%	97.9%	88.3%	94.7%	100%	90.8%	90.8%	-
Single-Unit Trucks	3	0	1	0	4	4	0	15	0	0	15	15	1	0	0	0	1	1	0	19	2	0	21	21	-
Single-Unit Trucks %	2.4%	0%	2.9%	0%	2.2%	2.2%	0%	2.6%	0%	0%	2.3%	2.3%	14.3%	0%	0%	0%	2.2%	2.2%	0%	6.8%	2.1%	0%	5%	5%	-
Buses	2	0	3	0	5	5	0	9	0	0	9	9	0	0	0	0	0	0	1	6	3	0	10	10	-
Buses %	1.6%	0%	8.8%	0%	2.7%	2.7%	0%	1.6%	0%	0%	1.4%	1.4%	0%	0%	0%	0%	0%	0%	2.1%	2.1%	3.2%	0%	2.4%	2.4%	-
Articulated Trucks	0	1	0	0	1	1	0	15	0	0	15	15	0	0	0	0	0	0	0	8	0	0	8	8	-
Articulated Trucks %	0%	3.7%	0%	0%	0.5%	0.5%	0%	2.6%	0%	0%	2.3%	2.3%	0%	0%	0%	0%	0%	0%	0%	2.8%	0%	0%	1.9%	1.9%	-
Pedestrians	-	-	-	-	8	8	-	-	-	-	8	8	-	-	-	-	9	9	-	-	-	-	13	13	-
Pedestrians%	-	-	-	-	20.5%	20.5%	-	-	-	-	20.5%	20.5%	-	-	-	-	23.1%	23.1%	-	-	-	-	33.3%	33.3%	-
Bicycles on Road	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Bicycles on Road%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-
Bicycles on Crosswalk	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	1	1	-
Bicycles on Crosswalk%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	2.6%	2.6%	-



Peak Hour: 11:45 AM - 12:45 PM Weather:

Start Time	N Approach FARLEY DRIVE						E Approach CLAIR ROAD						S Approach PLAZA DRIVEWAY						W Approach CLAIR ROAD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
11:45:00	27	14	8	0	5	49	22	75	5	0	4	102	9	8	28	0	1	45	39	62	20	0	3	121	317
12:00:00	24	14	12	0	3	50	13	59	10	0	8	82	6	12	36	0	7	54	38	54	29	0	5	121	307
12:15:00	23	16	15	0	2	54	19	55	7	0	3	81	5	13	24	0	4	42	35	55	31	0	4	121	298
12:30:00	39	12	17	0	1	68	16	65	6	0	2	87	5	13	35	0	2	53	34	69	24	0	5	127	335
Grand Total	113	56	52	0	11	221	70	254	28	0	17	352	25	46	123	0	14	194	146	240	104	0	17	490	1257
Approach%	51.1%	25.3%	23.5%	0%	-	-	19.9%	72.2%	8%	0%	-	-	12.9%	23.7%	63.4%	0%	-	-	29.8%	49%	21.2%	0%	-	-	-
Totals %	9%	4.5%	4.1%	0%	17.6%	17.6%	5.6%	20.2%	2.2%	0%	28%	28%	2%	3.7%	9.8%	0%	15.4%	15.4%	11.6%	19.1%	8.3%	0%	39%	39%	-
PHF	0.72	0.88	0.76	0	0.81	0.81	0.8	0.85	0.7	0	0.86	0.86	0.69	0.88	0.85	0	0.9	0.9	0.94	0.87	0.84	0	0.96	0.96	-
Heavy	1	0	4	0	5	5	0	32	1	0	33	33	1	0	2	0	3	3	1	31	1	0	33	33	-
Heavy %	0.9%	0%	7.7%	0%	2.3%	2.3%	0%	12.6%	3.6%	0%	9.4%	9.4%	4%	0%	1.6%	0%	1.5%	1.5%	0.7%	12.9%	1%	0%	6.7%	6.7%	-
Lights	112	56	48	0	216	216	70	222	27	0	319	319	24	46	121	0	191	191	145	209	103	0	457	457	-
Lights %	99.1%	100%	92.3%	0%	97.7%	97.7%	100%	87.4%	96.4%	0%	90.6%	90.6%	96%	100%	98.4%	0%	98.5%	98.5%	99.3%	87.1%	99%	0%	93.3%	93.3%	-
Single-Unit Trucks	1	0	0	0	1	1	0	19	1	0	20	20	1	0	2	0	3	3	1	18	1	0	20	20	-
Single-Unit Trucks %	0.9%	0%	0%	0%	0.5%	0.5%	0%	7.5%	3.6%	0%	5.7%	5.7%	4%	0%	1.6%	0%	1.5%	1.5%	0.7%	7.5%	1%	0%	4.1%	4.1%	-
Buses	0	0	4	0	4	4	0	2	0	0	2	2	0	0	0	0	0	0	0	3	0	0	3	3	-
Buses %	0%	0%	7.7%	0%	1.8%	1.8%	0%	0.8%	0%	0%	0.6%	0.6%	0%	0%	0%	0%	0%	0%	0%	1.3%	0%	0%	0.6%	0.6%	-
Articulated Trucks	0	0	0	0	0	0	0	11	0	0	11	11	0	0	0	0	0	0	0	10	0	0	10	10	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	4.3%	0%	0%	3.1%	3.1%	0%	0%	0%	0%	0%	0%	0%	4.2%	0%	0%	2%	2%	-
Pedestrians	-	-	-	-	11	11	-	-	-	-	15	15	-	-	-	-	13	13	-	-	-	-	15	15	-
Pedestrians%	-	-	-	-	18.6%	18.6%	-	-	-	-	25.4%	25.4%	-	-	-	-	22%	22%	-	-	-	-	25.4%	25.4%	-
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	0	0	2	2	-
Bicycles on Road%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-
Bicycles on Crosswalk	-	-	-	-	0	0	-	-	-	-	2	2	-	-	-	-	1	1	-	-	-	-	2	2	-
Bicycles on Crosswalk%	-	-	-	-	0%	0%	-	-	-	-	3.4%	3.4%	-	-	-	-	1.7%	1.7%	-	-	-	-	3.4%	3.4%	-



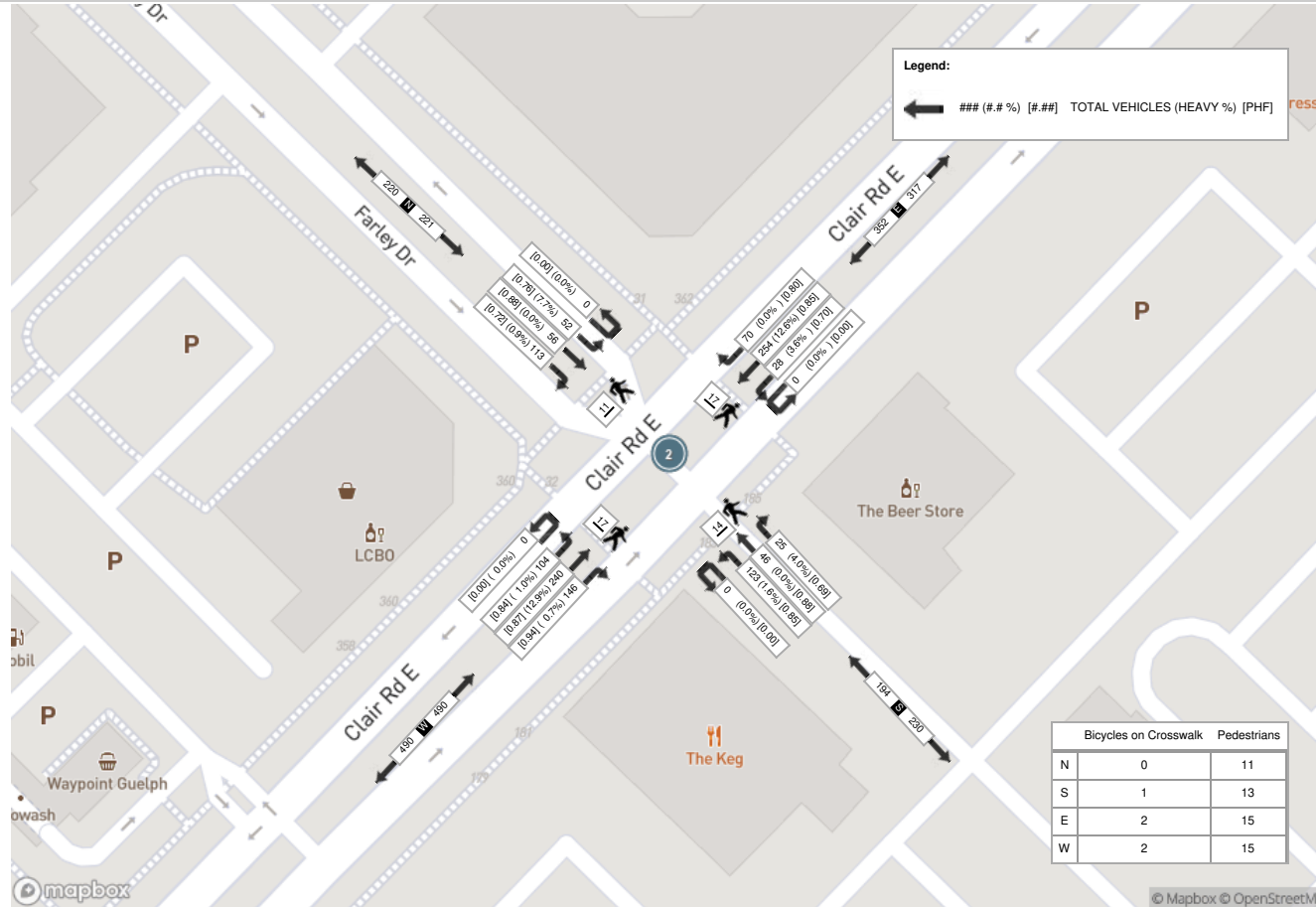
Peak Hour: 04:30 PM - 05:30 PM Weather: Clear Sky (20.05 °C)

Start Time	N Approach FARLEY DRIVE						E Approach CLAIR ROAD						S Approach PLAZA DRIVEWAY						W Approach CLAIR ROAD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:30:00	25	13	20	0	9	58	13	79	6	0	16	98	2	14	17	0	4	33	28	157	40	1	6	226	415
16:45:00	39	13	15	0	7	67	14	90	18	0	9	122	13	12	16	0	5	41	28	133	42	0	10	203	433
17:00:00	37	17	21	0	5	75	23	68	7	0	6	98	7	14	21	0	4	42	31	149	45	0	12	225	440
17:15:00	32	16	19	0	3	67	16	98	13	0	8	127	6	21	25	0	3	52	37	124	42	0	7	203	449
Grand Total	133	59	75	0	24	267	66	335	44	0	39	445	28	61	79	0	16	168	124	563	169	1	35	857	1737
Approach%	49.8%	22.1%	28.1%	0%	-	-	14.8%	75.3%	9.9%	0%	-	-	16.7%	36.3%	47%	0%	-	-	14.5%	65.7%	19.7%	0.1%	-	-	-
Totals %	7.7%	3.4%	4.3%	0%	15.4%	15.4%	3.8%	19.3%	2.5%	0%	25.6%	25.6%	1.6%	3.5%	4.5%	0%	9.7%	9.7%	7.1%	32.4%	9.7%	0.1%	49.3%	49.3%	-
PHF	0.85	0.87	0.89	0	0.89	0.89	0.72	0.85	0.61	0	0.88	0.88	0.54	0.73	0.79	0	0.81	0.81	0.84	0.9	0.94	0.25	0.95	0.95	-
Heavy	0	0	3	0	3	3	0	6	0	0	6	6	0	0	0	0	0	0	1	20	0	0	21	21	-
Heavy %	0%	0%	4%	0%	1.1%	1.1%	0%	1.8%	0%	0%	1.3%	1.3%	0%	0%	0%	0%	0%	0%	0.8%	3.6%	0%	0%	2.5%	2.5%	-
Lights	133	59	72	0	264	264	66	329	44	0	439	439	28	61	79	0	168	168	123	543	169	1	836	836	-
Lights %	100%	100%	96%	0%	98.9%	98.9%	100%	98.2%	100%	0%	98.7%	98.7%	100%	100%	100%	0%	100%	100%	99.2%	96.4%	100%	100%	97.5%	97.5%	-
Single-Unit Trucks	0	0	0	0	0	0	0	3	0	0	3	3	0	0	0	0	0	0	1	10	0	0	11	11	-
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	0.9%	0%	0%	0.7%	0.7%	0%	0%	0%	0%	0%	0%	0.8%	1.8%	0%	0%	1.3%	1.3%	-
Buses	0	0	3	0	3	3	0	1	0	0	1	1	0	0	0	0	0	0	0	2	0	0	2	2	-
Buses %	0%	0%	4%	0%	1.1%	1.1%	0%	0.3%	0%	0%	0.2%	0.2%	0%	0%	0%	0%	0%	0%	0%	0.4%	0%	0%	0.2%	0.2%	-
Articulated Trucks	0	0	0	0	0	0	0	2	0	0	2	2	0	0	0	0	0	0	0	8	0	0	8	8	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0.6%	0%	0%	0.4%	0.4%	0%	0%	0%	0%	0%	0%	0%	1.4%	0%	0%	0.9%	0.9%	-
Pedestrians	-	-	-	-	24	-	-	-	-	-	35	-	-	-	-	-	16	-	-	-	-	-	33	-	-
Pedestrians%	-	-	-	-	21.1%	-	-	-	-	-	30.7%	-	-	-	-	-	14%	-	-	-	-	-	28.9%	-	-
Bicycles on Road	0	0	0	0	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	2	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	2	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	-	3.5%	-	-	-	-	-	0%	-	-	-	-	-	1.8%	-	-

Peak Hour: 08:15 AM - 09:15 AM Weather: Mist (3.59 °C)



Peak Hour: 11:45 AM - 12:45 PM Weather:



Peak Hour: 04:30 PM - 05:30 PM Weather: Clear Sky (20.05 °C)





17:45:00	32	127	33	0	10	192	23	107	31	0	10	161	32	102	32	0	9	166	18	126	34	0	7	178	697	2932
18:00:00	28	99	37	0	9	164	28	83	32	0	8	143	30	116	36	0	6	182	19	110	53	0	7	182	671	2837
18:15:00	21	94	36	0	14	151	24	79	39	0	5	142	33	102	32	0	6	167	15	110	50	0	6	175	635	2737
18:30:00	22	76	37	0	7	135	23	76	26	1	4	126	23	103	27	0	4	153	12	102	29	0	3	143	557	2560
18:45:00	27	74	35	0	11	136	24	70	13	0	6	107	28	100	27	0	9	155	23	67	38	0	10	128	526	2389
Grand Total	1423	4152	1176	13	354	6764	810	4111	1522	4	281	6447	1106	4436	1241	2	242	6785	913	4128	1966	0	217	7007	27003	-
Approach%	21%	61.4%	17.4%	0.2%	-	12.6%	63.8%	23.6%	0.1%	-	-	16.3%	65.4%	18.3%	0%	-	-	13%	58.9%	28.1%	0%	-	-	-	-	-
Totals %	5.3%	15.4%	4.4%	0%	25%	3%	15.2%	5.6%	0%	23.9%	4.1%	16.4%	4.6%	0%	25.1%	3.4%	15.3%	7.3%	0%	25.9%	-	-	-	-	-	-
Heavy	140	140	43	0	-	18	173	137	0	-	154	122	126	0	-	59	162	50	0	-	-	-	-	-	-	-
Heavy %	9.8%	3.4%	3.7%	0%	-	2.2%	4.2%	9%	0%	-	13.9%	2.8%	10.2%	0%	-	6.5%	3.9%	2.5%	0%	-	-	-	-	-	-	-
Bicycles	5	6	0	0	-	2	8	0	0	-	0	2	0	0	-	0	11	0	0	-	-	-	-	-	-	-
Bicycle %	0.4%	0.1%	0%	0%	-	0.2%	0.2%	0%	0%	-	0%	0%	0%	0%	-	0%	0.3%	0%	0%	-	-	-	-	-	-	-



Peak Hour: 08:00 AM - 09:00 AM Weather: Mist (3.59 °C)

Start Time	N Approach GORDON ST						E Approach CLAIR RD						S Approach GORDON ST						W Approach CLAIR RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	37	97	13	0	5	147	17	99	34	0	3	150	17	117	33	0	5	167	19	47	27	0	3	93	557
08:15:00	40	76	10	1	11	127	13	136	37	0	6	186	31	107	36	0	3	174	32	76	23	0	3	131	618
08:30:00	50	72	19	0	9	141	20	150	39	0	8	209	23	97	42	0	7	162	13	68	41	0	3	122	634
08:45:00	56	80	24	0	6	160	13	165	36	0	4	214	18	124	32	0	7	174	25	77	49	0	3	151	699
Grand Total	183	325	66	1	31	575	63	550	146	0	21	759	89	445	143	0	22	677	89	268	140	0	12	497	2508
Approach%	31.8%	56.5%	11.5%	0.2%	-	-	8.3%	72.5%	19.2%	0%	-	-	13.1%	65.7%	21.1%	0%	-	-	17.9%	53.9%	28.2%	0%	-	-	-
Totals %	7.3%	13%	2.6%	0%	22.9%	22.9%	2.5%	21.9%	5.8%	0%	30.3%	30.3%	3.5%	17.7%	5.7%	0%	27%	27%	3.5%	10.7%	5.6%	0%	19.8%	19.8%	-
PHF	0.82	0.84	0.69	0.25	0.9	0.9	0.79	0.83	0.94	0	0.89	0.89	0.72	0.9	0.85	0	0.97	0.97	0.7	0.87	0.71	0	0.82	0.82	-
Heavy	16	7	3	0	26	26	4	19	17	0	40	40	19	20	15	0	54	54	7	17	11	0	35	35	-
Heavy %	8.7%	2.2%	4.5%	0%	4.5%	4.5%	6.3%	3.5%	11.6%	0%	5.3%	5.3%	21.3%	4.5%	10.5%	0%	8%	8%	7.9%	6.3%	7.9%	0%	7%	7%	-
Lights	167	318	63	1	549	549	59	531	129	0	719	719	70	425	128	0	623	623	82	251	129	0	462	462	-
Lights %	91.3%	97.8%	95.5%	100%	95.5%	95.5%	93.7%	96.5%	88.4%	0%	94.7%	94.7%	78.7%	95.5%	89.5%	0%	92%	92%	92.1%	93.7%	92.1%	0%	93%	93%	-
Single-Unit Trucks	3	4	1	0	8	8	1	5	5	0	11	11	12	9	5	0	26	26	4	8	9	0	21	21	-
Single-Unit Trucks %	1.6%	1.2%	1.5%	0%	1.4%	1.4%	1.6%	0.9%	3.4%	0%	1.4%	1.4%	13.5%	2%	3.5%	0%	3.8%	3.8%	4.5%	3%	6.4%	0%	4.2%	4.2%	-
Buses	12	3	2	0	17	17	2	11	0	0	13	13	3	8	8	0	19	19	0	8	1	0	9	9	-
Buses %	6.6%	0.9%	3%	0%	3%	3%	3.2%	2%	0%	0%	1.7%	1.7%	3.4%	1.8%	5.6%	0%	2.8%	2.8%	0%	3%	0.7%	0%	1.8%	1.8%	-
Articulated Trucks	1	0	0	0	1	1	1	3	12	0	16	16	4	3	2	0	9	9	3	1	1	0	5	5	-
Articulated Trucks %	0.5%	0%	0%	0%	0.2%	0.2%	1.6%	0.5%	8.2%	0%	2.1%	2.1%	4.5%	0.7%	1.4%	0%	1.3%	1.3%	3.4%	0.4%	0.7%	0%	1%	1%	-
Pedestrians	-	-	-	-	29	29	-	-	-	20	20	-	-	-	-	18	18	-	-	-	-	12	12	-	-
Pedestrians %	-	-	-	-	33.7%	33.7%	-	-	-	23.3%	23.3%	-	-	-	-	20.9%	20.9%	-	-	-	-	14%	14%	-	-
Bicycles on Road	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road %	-	-	-	-	0%	0%	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	-	0%	0%	0%
Bicycles on Crosswalk	-	-	-	-	2	2	-	-	-	1	1	-	-	-	-	4	4	-	-	-	-	-	0	0	0
Bicycles on Crosswalk %	-	-	-	-	2.3%	2.3%	-	-	-	1.2%	1.2%	-	-	-	-	4.7%	4.7%	-	-	-	-	0%	0%	0%	0%



Peak Hour: 11:45 AM - 12:45 PM Weather:

Start Time	N Approach GORDON ST						E Approach CLAIR RD						S Approach GORDON ST						W Approach CLAIR RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
11:45:00	25	80	23	0	7	128	15	81	38	0	6	134	25	84	23	0	10	132	26	87	51	0	5	164	558
12:00:00	29	101	23	0	14	153	20	81	30	0	11	131	22	92	32	0	11	146	22	88	55	0	2	165	595
12:15:00	39	84	26	0	5	149	18	72	31	0	5	121	19	99	23	0	6	141	16	89	48	0	6	153	564
12:30:00	43	85	29	0	2	157	18	100	31	0	11	149	15	79	18	0	7	112	20	98	51	0	11	169	587
Grand Total	136	350	101	0	28	587	71	334	130	0	33	535	81	354	96	0	34	531	84	362	205	0	24	651	2304
Approach%	23.2%	59.6%	17.2%	0%	-	-	13.3%	62.4%	24.3%	0%	-	-	15.3%	66.7%	18.1%	0%	-	-	12.9%	55.6%	31.5%	0%	-	-	-
Totals %	5.9%	15.2%	4.4%	0%	25.5%	3.1%	14.5%	5.6%	0%	23.2%	3.5%	15.4%	4.2%	0%	23%	3.6%	15.7%	8.9%	0%	28.3%	-	-	-		
PHF	0.79	0.87	0.87	0	0.93	0.89	0.84	0.86	0	0.9	0.81	0.89	0.75	0	0.91	0.81	0.92	0.93	0	0.96	-	-	-		
Heavy	12	18	3	0	33	1	16	14	0	31	16	10	7	0	33	9	16	2	0	27	-	-	-		
Heavy %	8.8%	5.1%	3%	0%	5.6%	1.4%	4.8%	10.8%	0%	5.8%	19.8%	2.8%	7.3%	0%	6.2%	10.7%	4.4%	1%	0%	4.1%	-	-	-		
Lights	124	332	98	0	554	70	318	116	0	504	65	344	89	0	498	75	346	203	0	624	-	-	-		
Lights %	91.2%	94.9%	97%	0%	94.4%	98.6%	95.2%	89.2%	0%	94.2%	80.2%	97.2%	92.7%	0%	93.8%	89.3%	95.6%	99%	0%	95.9%	-	-	-		
Single-Unit Trucks	5	7	1	0	13	1	10	6	0	17	9	4	4	0	17	6	12	2	0	20	-	-	-		
Single-Unit Trucks %	3.7%	2%	1%	0%	2.2%	1.4%	3%	4.6%	0%	3.2%	11.1%	1.1%	4.2%	0%	3.2%	7.1%	3.3%	1%	0%	3.1%	-	-	-		
Buses	6	7	2	0	15	0	2	0	0	2	0	3	3	0	6	0	1	0	0	1	-	-	-		
Buses %	4.4%	2%	2%	0%	2.6%	0%	0.6%	0%	0%	0.4%	0%	0.8%	3.1%	0%	1.1%	0%	0.3%	0%	0%	0.2%	-	-	-		
Articulated Trucks	1	4	0	0	5	0	4	8	0	12	7	3	0	0	10	3	3	0	0	6	-	-	-		
Articulated Trucks %	0.7%	1.1%	0%	0%	0.9%	0%	1.2%	6.2%	0%	2.2%	8.6%	0.8%	0%	0%	1.9%	3.6%	0.8%	0%	0%	0.9%	-	-	-		
Pedestrians	-	-	-	-	28	-	-	-	-	30	-	-	-	-	28	-	-	-	-	23	-	-	-		
Pedestrians%	-	-	-	-	23.5%	-	-	-	-	25.2%	-	-	-	-	23.5%	-	-	-	-	19.3%	-	-	-		
Bicycles on Road	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	-	-	-		
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-		
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	3	-	-	-	-	6	-	-	-	-	1	-	-	-		
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	2.5%	-	-	-	-	5%	-	-	-	-	0.8%	-	-	-		



Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (20.05 °C)

Start Time	N Approach GORDON ST						E Approach CLAIR RD						S Approach GORDON ST						W Approach CLAIR RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	25	134	34	0	16	193	19	79	42	0	9	140	23	107	34	0	5	164	25	157	62	0	5	244	741
17:00:00	34	102	38	0	6	174	16	94	30	0	7	140	38	123	29	0	7	190	28	171	63	0	3	262	766
17:15:00	29	101	36	1	9	167	29	97	29	0	9	155	29	124	34	0	5	187	21	146	59	0	3	226	735
17:30:00	25	116	46	0	3	187	26	79	31	0	1	136	40	130	24	0	4	194	21	142	54	0	7	217	734
Grand Total	113	453	154	1	34	721	90	349	132	0	26	571	130	484	121	0	21	735	95	616	238	0	18	949	2976
Approach%	15.7%	62.8%	21.4%	0.1%	-	-	15.8%	61.1%	23.1%	0%	-	-	17.7%	65.9%	16.5%	0%	-	-	10%	64.9%	25.1%	0%	-	-	-
Totals %	3.8%	15.2%	5.2%	0%	24.2%	24.2%	3%	11.7%	4.4%	0%	19.2%	19.2%	4.4%	16.3%	4.1%	0%	24.7%	24.7%	3.2%	20.7%	8%	0%	31.9%	31.9%	-
PHF	0.83	0.85	0.84	0.25	0.93	0.93	0.78	0.9	0.79	0	0.92	0.92	0.81	0.93	0.89	0	0.95	0.95	0.85	0.9	0.94	0	0.91	0.91	-
Heavy	12	11	2	0	25	25	0	5	3	0	8	8	7	10	8	0	25	25	2	9	0	0	11	11	-
Heavy %	10.6%	2.4%	1.3%	0%	3.5%	3.5%	0%	1.4%	2.3%	0%	1.4%	1.4%	5.4%	2.1%	6.6%	0%	3.4%	3.4%	2.1%	1.5%	0%	0%	1.2%	1.2%	-
Lights	101	442	152	1	696	696	90	344	129	0	563	563	123	474	113	0	710	710	93	607	238	0	938	938	-
Lights %	89.4%	97.6%	98.7%	100%	96.5%	96.5%	100%	98.6%	97.7%	0%	98.6%	98.6%	94.6%	97.9%	93.4%	0%	96.6%	96.6%	97.9%	98.5%	100%	0%	98.8%	98.8%	-
Single-Unit Trucks	2	5	0	0	7	7	0	4	1	0	5	5	3	3	4	0	10	10	1	6	0	0	7	7	-
Single-Unit Trucks %	1.8%	1.1%	0%	0%	1%	1%	0%	1.1%	0.8%	0%	0.9%	0.9%	2.3%	0.6%	3.3%	0%	1.4%	1.4%	1.1%	1%	0%	0%	0.7%	0.7%	-
Buses	9	5	2	0	16	16	0	1	0	0	1	1	0	7	4	0	11	11	0	0	0	0	0	0	-
Buses %	8%	1.1%	1.3%	0%	2.2%	2.2%	0%	0.3%	0%	0%	0.2%	0.2%	0%	1.4%	3.3%	0%	1.5%	1.5%	0%	0%	0%	0%	0%	0%	-
Articulated Trucks	1	1	0	0	2	2	0	0	2	0	2	2	4	0	0	0	4	4	1	3	0	0	4	4	-
Articulated Trucks %	0.9%	0.2%	0%	0%	0.3%	0.3%	0%	0%	1.5%	0%	0.4%	0.4%	3.1%	0%	0%	0%	0.5%	0.5%	1.1%	0.5%	0%	0%	0.4%	0.4%	-
Pedestrians	-	-	-	-	31	31	-	-	-	-	23	23	-	-	-	-	14	14	-	-	-	-	16	16	-
Pedestrians%	-	-	-	-	31.3%	31.3%	-	-	-	-	23.2%	23.2%	-	-	-	-	14.1%	14.1%	-	-	-	-	16.2%	16.2%	-
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	-
Bicycles on Road%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-
Bicycles on Crosswalk	-	-	-	-	3	3	-	-	-	-	3	3	-	-	-	-	7	7	-	-	-	-	2	2	-
Bicycles on Crosswalk%	-	-	-	-	3%	3%	-	-	-	-	3%	3%	-	-	-	-	7.1%	7.1%	-	-	-	-	2%	2%	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Mist (3.59 °C)



Peak Hour: 11:45 AM - 12:45 PM Weather:



	Bicycles on Crosswalk	Pedestrians
N	0	28
S	6	28
E	3	30
W	1	23

Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (20.05 °C)





Turning Movement Count (3 . CLAIR RD E & HAWKINS DR)

Start Time	E Approach CLAIR RD					S Approach HAWKINS DR					W Approach CLAIR RD					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
07:00:00	71	1	0	0	72	9	1	0	3	10	1	43	0	0	44	126	
07:15:00	114	5	0	0	119	3	5	0	2	8	0	38	0	0	38	165	
07:30:00	123	1	0	0	124	3	2	0	2	5	2	44	0	0	46	175	
07:45:00	157	8	0	0	165	5	3	0	1	8	3	48	0	0	51	224	690
08:00:00	124	5	0	0	129	10	0	0	0	10	0	59	0	0	59	198	762
08:15:00	134	1	0	0	135	8	5	0	3	13	1	90	0	0	91	239	836
08:30:00	180	8	0	0	188	9	5	0	0	14	3	81	0	0	84	286	947
08:45:00	169	9	0	0	178	6	2	0	2	8	3	70	0	0	73	259	982
09:00:00	113	5	0	0	118	2	2	0	0	4	4	61	0	0	65	187	971
09:15:00	79	5	0	0	84	6	1	0	3	7	0	46	0	0	46	137	869
09:30:00	75	4	0	0	79	3	2	0	3	5	1	66	0	0	67	151	734
09:45:00	91	3	0	0	94	5	3	0	0	8	1	52	0	0	53	155	630
BREAK																	
10:00:00	76	7	0	0	83	9	3	0	2	12	4	66	0	0	70	165	
10:15:00	80	5	0	0	85	6	2	0	2	8	1	58	0	0	59	152	
10:30:00	89	5	0	0	94	6	6	0	1	12	1	58	0	0	59	165	
10:45:00	69	6	0	0	75	6	3	0	1	9	2	61	0	0	63	147	629
11:00:00	68	3	0	0	71	4	3	0	1	7	2	64	0	0	66	144	608
11:15:00	72	10	0	0	82	7	3	0	1	10	2	68	0	0	70	162	618
11:30:00	72	11	0	0	83	15	4	0	0	19	3	59	0	0	62	164	617
11:45:00	96	9	0	0	105	10	5	0	3	15	3	75	0	1	78	198	668
12:00:00	84	13	0	0	97	12	3	1	2	16	2	66	0	0	68	181	705
12:15:00	67	7	0	0	74	16	4	0	4	20	3	70	0	0	73	167	710
12:30:00	79	4	0	0	83	9	6	0	2	15	2	86	0	0	88	186	732
12:45:00	70	11	0	0	81	15	3	1	2	19	4	60	0	0	64	164	698
13:00:00	80	5	0	0	85	6	5	0	0	11	1	76	0	0	77	173	690
13:15:00	90	13	0	0	103	12	2	0	1	14	2	72	0	0	74	191	714
13:30:00	72	9	0	0	81	15	2	0	4	17	8	92	0	0	100	198	726
13:45:00	96	3	0	0	99	16	0	0	4	16	6	72	0	0	78	193	755
14:00:00	82	13	0	0	95	12	3	0	4	15	3	79	0	0	82	192	774
14:15:00	76	6	0	0	82	12	1	0	0	13	1	108	0	0	109	204	787
14:30:00	92	8	0	0	100	6	3	0	2	9	4	103	0	1	107	216	805
14:45:00	115	13	0	0	128	15	1	0	1	16	1	92	0	0	93	237	849

BREAK



15:00:00	87	6	0	0	93	11	6	0	4	17	2	160	0	0	162	272	
15:15:00	109	9	0	0	118	10	5	0	3	15	4	96	0	0	100	233	
15:30:00	105	12	0	0	117	18	2	0	0	20	7	122	0	0	129	266	
15:45:00	104	8	0	0	112	6	3	0	2	9	5	126	0	0	131	252	1023
16:00:00	106	11	0	0	117	20	5	0	3	25	2	147	0	1	149	291	1042
16:15:00	124	7	0	0	131	31	0	0	0	31	3	130	0	0	133	295	1104
16:30:00	100	16	0	0	116	14	3	0	4	17	5	174	0	0	179	312	1150
16:45:00	115	13	0	0	128	16	2	0	6	18	6	151	0	0	157	303	1201
17:00:00	93	9	0	0	102	17	4	0	4	21	5	175	0	1	180	303	1213
17:15:00	119	15	0	0	134	22	2	0	3	24	4	143	0	0	147	305	1223
17:30:00	98	19	0	0	117	28	0	0	0	28	1	134	0	0	135	280	1191
17:45:00	130	11	0	0	141	22	4	0	6	26	2	114	0	1	116	283	1171
18:00:00	123	9	0	0	132	16	2	0	6	18	1	97	0	1	98	248	1116
18:15:00	85	6	0	0	91	15	4	0	3	19	6	127	0	0	133	243	1054
18:30:00	75	14	0	0	89	25	6	0	2	31	6	97	0	0	103	223	997
18:45:00	88	11	0	0	99	19	5	0	6	24	2	102	1	3	105	228	942
Grand Total	4716	392	0	0	5108	568	146	2	108	716	135	4278	1	9	4414	10238	-
Approach%	92.3%	7.7%	0%		-	79.3%	20.4%	0.3%		-	3.1%	96.9%	0%		-	-	-
Totals %	46.1%	3.8%	0%		49.9%	5.5%	1.4%	0%		7%	1.3%	41.8%	0%		43.1%	-	-
Heavy	210	6	0		-	8	7	0		-	1	248	0		-	-	-
Heavy %	4.5%	1.5%	0%		-	1.4%	4.8%	0%		-	0.7%	5.8%	0%		-	-	-
Bicycles	15	1	0		-	2	1	0		-	1	7	0		-	-	-
Bicycle %	0.3%	0.3%	0%		-	0.4%	0.7%	0%		-	0.7%	0.2%	0%		-	-	-



Peak Hour: 08:00 AM - 09:00 AM Weather: Mist (3.59 °C)

Start Time	E Approach CLAIR RD					S Approach HAWKINS DR					W Approach CLAIR RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
08:00:00	124	5	0	0	129	10	0	0	0	10	0	59	0	0	59	198
08:15:00	134	1	0	0	135	8	5	0	3	13	1	90	0	0	91	239
08:30:00	180	8	0	0	188	9	5	0	0	14	3	81	0	0	84	286
08:45:00	169	9	0	0	178	6	2	0	2	8	3	70	0	0	73	259
Grand Total	607	23	0	0	630	33	12	0	5	45	7	300	0	0	307	982
Approach%	96.3%	3.7%	0%	-	-	73.3%	26.7%	0%	-	-	2.3%	97.7%	0%	-	-	-
Totals %	61.8%	2.3%	0%	64.2%	3.4%	1.2%	0%	4.6%	0.7%	30.5%	0%	31.3%	-	-	-	-
PHF	0.84	0.64	0	0.84	0.83	0.6	0	0.8	0.58	0.83	0	0.84	-	-	-	-
Heavy	27	0	0	27	2	1	0	3	1	18	0	19	-	-	-	-
Heavy %	4.4%	0%	0%	4.3%	6.1%	8.3%	0%	6.7%	14.3%	6%	0%	6.2%	-	-	-	-
Lights	580	23	0	603	31	11	0	42	6	282	0	288	-	-	-	-
Lights %	95.6%	100%	0%	95.7%	93.9%	91.7%	0%	93.3%	85.7%	94%	0%	93.8%	-	-	-	-
Single-Unit Trucks	18	0	0	18	0	0	0	0	1	9	0	10	-	-	-	-
Single-Unit Trucks %	3%	0%	0%	2.9%	0%	0%	0%	0%	14.3%	3%	0%	3.3%	-	-	-	-
Buses	6	0	0	6	2	1	0	3	0	9	0	9	-	-	-	-
Buses %	1%	0%	0%	1%	6.1%	8.3%	0%	6.7%	0%	3%	0%	2.9%	-	-	-	-
Articulated Trucks	3	0	0	3	0	0	0	0	0	0	0	0	-	-	-	-
Articulated Trucks %	0.5%	0%	0%	0.5%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	5	-	-	-	0	-	-	-	-
Pedestrians%	-	-	-	0%	-	-	-	100%	-	-	-	0%	-	-	-	-
Bicycles on Road	2	1	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	0%	-	-	-	0%	-	-	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	0%	-	-	-	0%	-	-	-	-



Peak Hour: 02:00 PM - 03:00 PM Weather:

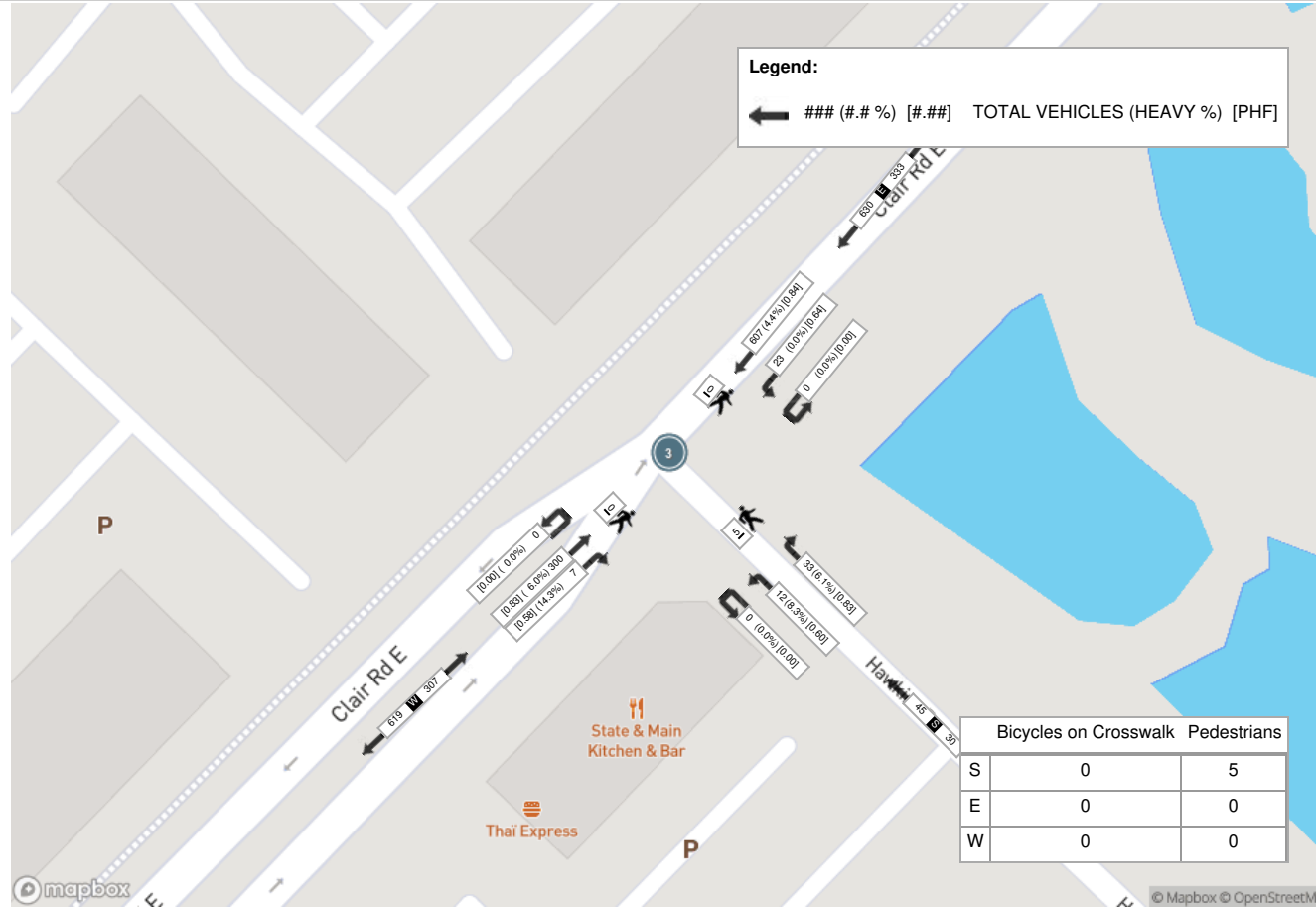
Start Time	E Approach CLAIR RD					S Approach HAWKINS DR					W Approach CLAIR RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
14:00:00	82	13	0	0	95	12	3	0	4	15	3	79	0	0	82	192
14:15:00	76	6	0	0	82	12	1	0	0	13	1	108	0	0	109	204
14:30:00	92	8	0	0	100	6	3	0	2	9	4	103	0	1	107	216
14:45:00	115	13	0	0	128	15	1	0	1	16	1	92	0	0	93	237
Grand Total	365	40	0	0	405	45	8	0	7	53	9	382	0	1	391	849
Approach%	90.1%	9.9%	0%	-	-	84.9%	15.1%	0%	-	-	2.3%	97.7%	0%	-	-	-
Totals %	43%	4.7%	0%	47.7%	5.3%	0.9%	0%	6.2%	1.1%	45%	0%	46.1%	-	-	-	-
PHF	0.79	0.77	0	0.79	0.75	0.67	0	0.83	0.56	0.88	0	0.9	-	-	-	-
Heavy	16	0	0	16	1	0	0	1	0	26	0	26	-	-	-	-
Heavy %	4.4%	0%	0%	4%	2.2%	0%	0%	1.9%	0%	6.8%	0%	6.6%	-	-	-	-
Lights	349	40	0	389	44	8	0	52	9	356	0	365	-	-	-	-
Lights %	95.6%	100%	0%	96%	97.8%	100%	0%	98.1%	100%	93.2%	0%	93.4%	-	-	-	-
Single-Unit Trucks	12	0	0	12	1	0	0	1	0	15	0	15	-	-	-	-
Single-Unit Trucks %	3.3%	0%	0%	3%	2.2%	0%	0%	1.9%	0%	3.9%	0%	3.8%	-	-	-	-
Buses	4	0	0	4	0	0	0	0	0	11	0	11	-	-	-	-
Buses %	1.1%	0%	0%	1%	0%	0%	0%	0%	0%	2.9%	0%	2.8%	-	-	-	-
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	7	-	-	-	-	1	-	-	-
Pedestrians%	-	-	-	0%	-	-	-	87.5%	-	-	-	-	12.5%	-	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	-	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	0%	-	-	-	-	0%	-	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	0	-	-	-	-	0	-	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	0%	-	-	-	-	0%	-	-	-



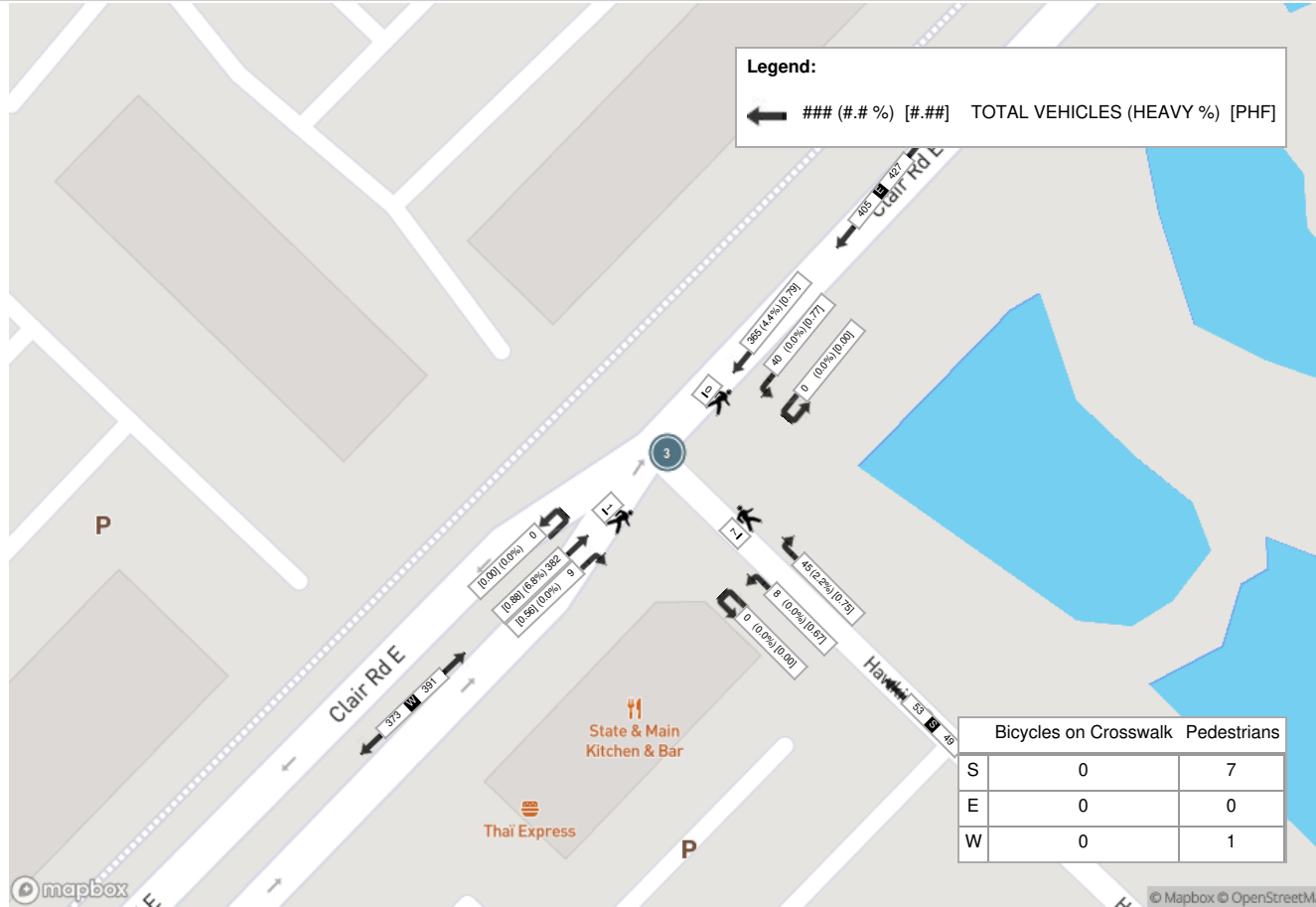
Peak Hour: 04:30 PM - 05:30 PM Weather: Clear Sky (20.05 °C)

Start Time	E Approach CLAIR RD					S Approach HAWKINS DR					W Approach CLAIR RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
16:30:00	100	16	0	0	116	14	3	0	4	17	5	174	0	0	179	312
16:45:00	115	13	0	0	128	16	2	0	6	18	6	151	0	0	157	303
17:00:00	93	9	0	0	102	17	4	0	4	21	5	175	0	1	180	303
17:15:00	119	15	0	0	134	22	2	0	3	24	4	143	0	0	147	305
Grand Total	427	53	0	0	480	69	11	0	17	80	20	643	0	1	663	1223
Approach%	89%	11%	0%	-	-	86.3%	13.8%	0%	-	-	3%	97%	0%	-	-	-
Totals %	34.9%	4.3%	0%	-	39.2%	5.6%	0.9%	0%	-	6.5%	1.6%	52.6%	0%	-	54.2%	-
PHF	0.9	0.83	0	-	0.9	0.78	0.69	0	-	0.83	0.83	0.92	0	-	0.92	-
Heavy	4	0	0	-	4	0	0	0	-	0	0	19	0	-	19	-
Heavy %	0.9%	0%	0%	-	0.8%	0%	0%	0%	-	0%	0%	3%	0%	-	2.9%	-
Lights	423	53	0	-	476	69	11	0	-	80	20	624	0	-	644	-
Lights %	99.1%	100%	0%	-	99.2%	100%	100%	0%	-	100%	100%	97%	0%	-	97.1%	-
Single-Unit Trucks	2	0	0	-	2	0	0	0	-	0	0	12	0	-	12	-
Single-Unit Trucks %	0.5%	0%	0%	-	0.4%	0%	0%	0%	-	0%	0%	1.9%	0%	-	1.8%	-
Buses	1	0	0	-	1	0	0	0	-	0	0	6	0	-	6	-
Buses %	0.2%	0%	0%	-	0.2%	0%	0%	0%	-	0%	0%	0.9%	0%	-	0.9%	-
Articulated Trucks	1	0	0	-	1	0	0	0	-	0	0	1	0	-	1	-
Articulated Trucks %	0.2%	0%	0%	-	0.2%	0%	0%	0%	-	0%	0%	0.2%	0%	-	0.2%	-
Pedestrians	-	-	-	0	-	-	-	-	15	-	-	-	-	1	-	-
Pedestrians%	-	-	-	0%	-	-	-	-	83.3%	-	-	-	-	5.6%	-	-
Bicycles on Road	0	0	0	0	-	0	1	0	0	-	0	2	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	-	11.1%	-	-	-	-	0%	-	-

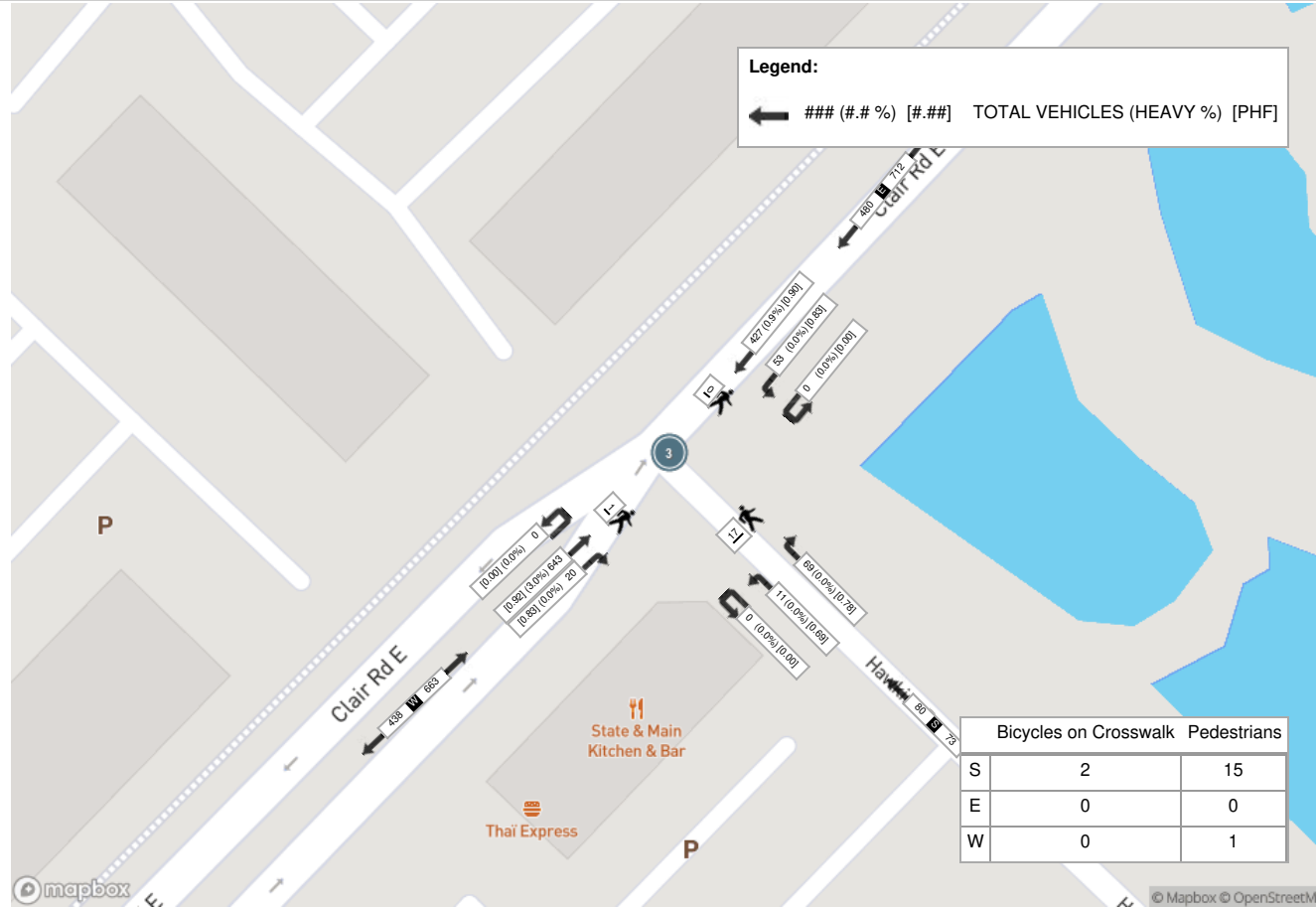
Peak Hour: 08:00 AM - 09:00 AM Weather: Mist (3.59 °C)



Peak Hour: 02:00 PM - 03:00 PM Weather:



Peak Hour: 04:30 PM - 05:30 PM Weather: Clear Sky (20.05 °C)





17:45:00	41	17	11	0	1	69	8	3	2	0	6	13	3	9	0	0	4	12	6	1	23	0	11	30	124	501
18:00:00	38	9	20	0	2	67	10	3	3	0	3	16	2	11	0	0	4	13	1	6	23	0	6	30	126	512
18:15:00	26	16	11	0	1	53	10	3	2	0	10	15	0	8	1	0	2	9	0	5	22	0	8	27	104	479
18:30:00	34	16	11	0	1	61	11	7	3	0	3	21	3	14	2	0	3	19	1	3	14	0	8	18	119	473
18:45:00	24	15	16	0	0	55	10	2	0	0	7	12	3	19	0	0	3	22	1	3	25	0	6	29	118	467
Grand Total	1120	430	359	5	41	1914	301	156	71	0	135	528	75	452	19	0	79	546	42	146	816	0	251	1004	3992	-
Approach%	58.5%	22.5%	18.8%	0.3%	-	57%	29.5%	13.4%	0%	-	13.7%	82.8%	3.5%	0%	-	4.2%	14.5%	81.3%	0%	-	-	-	-	-	-	-
Totals %	28.1%	10.8%	9%	0.1%	47.9%	7.5%	3.9%	1.8%	0%	13.2%	1.9%	11.3%	0.5%	0%	13.7%	1.1%	3.7%	20.4%	0%	25.2%	-	-	-	-	-	-
Heavy	3	5	8	0	-	3	2	1	0	-	2	4	0	0	-	1	1	5	0	-	-	-	-	-	-	-
Heavy %	0.3%	1.2%	2.2%	0%	-	1%	1.3%	1.4%	0%	-	2.7%	0.9%	0%	0%	-	2.4%	0.7%	0.6%	0%	-	-	-	-	-	-	-
Bicycles	2	2	1	0	-	1	1	0	0	-	2	1	1	0	-	1	4	0	0	-	-	-	-	-	-	-
Bicycle %	0.2%	0.5%	0.3%	0%	-	0.3%	0.6%	0%	0%	-	2.7%	0.2%	5.3%	0%	-	2.4%	2.7%	0%	0%	-	-	-	-	-	-	-



Peak Hour: 08:30 AM - 09:30 AM Weather: Mist (3.59 °C)

Start Time	N Approach FARLEY DR					Approach Total	E Approach BEER STORE DRIVEWAY					Approach Total	S Approach FARLEY DR					Approach Total	W Approach INTERNAL RD					Approach Total	Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds		Right	Thru	Left	UTurn	Peds		Right	Thru	Left	UTurn	Peds		Right	Thru	Left	UTurn	Peds		
08:30:00	15	7	1	0	0	23	0	3	0	0	0	3	0	3	1	0	0	4	0	1	8	0	3	9	39
08:45:00	15	7	1	1	0	24	1	6	0	0	1	7	0	6	0	0	0	6	1	2	5	0	6	8	45
09:00:00	19	6	2	1	0	28	1	1	0	0	1	2	1	5	0	0	0	6	0	0	6	0	3	6	42
09:15:00	19	7	0	0	0	26	0	2	1	0	4	3	0	2	1	0	0	3	0	2	7	0	3	9	41
Grand Total	68	27	4	2	0	101	2	12	1	0	6	15	1	16	2	0	0	19	1	5	26	0	15	32	167
Approach%	67.3%	26.7%	4%	2%	-	-	13.3%	80%	6.7%	0%	-	-	5.3%	84.2%	10.5%	0%	-	-	3.1%	15.6%	81.3%	0%	-	-	-
Totals %	40.7%	16.2%	2.4%	1.2%	60.5%	1.2%	7.2%	0.6%	0%	9%	0.6%	9.6%	1.2%	0%	11.4%	0.6%	3%	15.6%	0%	19.2%	-	-	-	-	
PHF	0.89	0.96	0.5	0.5	0.9	0.5	0.5	0.25	0	0.54	0.25	0.67	0.5	0	0.79	0.25	0.63	0.81	0	0.89	-	-	-	-	
Heavy	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	-	
Heavy %	0%	7.4%	0%	0%	2%	0%	0%	0%	0%	0%	0%	6.3%	0%	0%	5.3%	0%	0%	0%	0%	0%	0%	0%	0%	-	
Lights	68	25	4	2	99	2	12	1	0	15	1	15	2	0	18	1	5	26	0	32	-	-	-	-	
Lights %	100%	92.6%	100%	100%	98%	100%	100%	100%	0%	100%	100%	93.8%	100%	0%	94.7%	100%	100%	100%	0%	100%	-	-	-	-	
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	-	
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6.3%	0%	0%	5.3%	0%	0%	0%	0%	0%	0%	0%	0%	-	
Buses	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
Buses %	0%	3.7%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
Articulated Trucks %	0%	3.7%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	
Pedestrians	-	-	-	-	0	-	-	-	-	6	-	-	-	-	0	-	-	-	-	14	-	-	-	-	
Pedestrians%	-	-	-	-	0%	-	-	-	-	28.6%	-	-	-	-	0%	-	-	-	-	66.7%	-	-	-	-	
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-	-	-	
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	4.8%	-	-	-	-	



Peak Hour: 12:00 PM - 01:00 PM Weather:

Start Time	N Approach FARLEY DR						E Approach BEER STORE DRIVEWAY						S Approach FARLEY DR						W Approach INTERNAL RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
12:00:00	35	17	10	0	2	62	4	5	4	0	3	13	3	13	0	0	4	16	2	6	32	0	10	40	131
12:15:00	37	12	9	1	1	59	5	1	2	0	3	8	2	14	0	0	1	16	1	6	20	0	2	27	110
12:30:00	28	12	11	0	0	51	10	3	1	0	1	14	1	18	0	0	1	19	1	5	25	0	3	31	115
12:45:00	22	16	10	0	0	48	14	4	2	0	2	20	0	20	0	0	2	20	3	6	23	0	6	32	120
Grand Total	122	57	40	1	3	220	33	13	9	0	9	55	6	65	0	0	8	71	7	23	100	0	21	130	476
Approach%	55.5%	25.9%	18.2%	0.5%	-	-	60%	23.6%	16.4%	0%	-	-	8.5%	91.5%	0%	0%	-	-	5.4%	17.7%	76.9%	0%	-	-	-
Totals %	25.6%	12%	8.4%	0.2%	46.2%	6.9%	2.7%	1.9%	0%	11.6%	1.3%	13.7%	0%	0%	14.9%	1.5%	4.8%	21%	0%	27.3%	-	-	-		
PHF	0.82	0.84	0.91	0.25	0.89	0.59	0.65	0.56	0	0.69	0.5	0.81	0	0	0.89	0.58	0.96	0.78	0	0.81	-	-	-		
Heavy	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0		
Heavy %	0%	0%	0%	0%	0%	0%	0%	7.7%	0%	0%	1.8%	16.7%	0%	0%	0%	1.4%	0%	0%	0%	0%	0%	0%	0%	0%	
Lights	122	57	40	1	220	33	12	9	0	54	5	65	0	0	70	7	23	100	0	130	-	-	-		
Lights %	100%	100%	100%	100%	100%	100%	100%	92.3%	100%	0%	98.2%	83.3%	100%	0%	0%	98.6%	100%	100%	100%	0%	100%	-	-	-	
Single-Unit Trucks	0	0	0	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0		
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	7.7%	0%	0%	1.8%	16.7%	0%	0%	0%	1.4%	0%	0%	0%	0%	0%	0%	0%	0%	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Buses %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Pedestrians	-	-	-	-	3	-	-	-	-	-	8	-	-	-	-	7	-	-	-	-	-	19	-	-	
Pedestrians%	-	-	-	-	7.3%	-	-	-	-	-	19.5%	-	-	-	-	17.1%	-	-	-	-	-	46.3%	-	-	
Bicycles on Road	0	0	1	0	0	-	0	0	0	0	0	-	1	0	0	0	-	1	0	0	0	0	-	-	
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	2	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	-	2.4%	-	-	-	-	-	2.4%	-	-	-	-	-	4.9%	-	-



Peak Hour: 05:15 PM - 06:15 PM Weather: Clear Sky (20.05 °C)

Start Time	N Approach FARLEY DR						E Approach BEER STORE DRIVEWAY						S Approach FARLEY DR						W Approach INTERNAL RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
17:15:00	44	10	12	0	3	66	10	3	2	0	4	15	3	14	2	0	1	19	1	10	26	0	7	37	137
17:30:00	44	8	15	1	2	68	10	5	4	0	4	19	3	13	1	0	0	17	1	6	14	0	3	21	125
17:45:00	41	17	11	0	1	69	8	3	2	0	6	13	3	9	0	0	4	12	6	1	23	0	11	30	124
18:00:00	38	9	20	0	2	67	10	3	3	0	3	16	2	11	0	0	4	13	1	6	23	0	6	30	126
Grand Total	167	44	58	1	8	270	38	14	11	0	17	63	11	47	3	0	9	61	9	23	86	0	27	118	512
Approach%	61.9%	16.3%	21.5%	0.4%	-	-	60.3%	22.2%	17.5%	0%	-	-	18%	77%	4.9%	0%	-	-	7.6%	19.5%	72.9%	0%	-	-	-
Totals %	32.6%	8.6%	11.3%	0.2%	-	52.7%	7.4%	2.7%	2.1%	0%	-	12.3%	2.1%	9.2%	0.6%	0%	-	11.9%	1.8%	4.5%	16.8%	0%	-	23%	-
PHF	0.95	0.65	0.73	0.25	-	0.98	0.95	0.7	0.69	0	-	0.83	0.92	0.84	0.38	0	-	0.8	0.38	0.58	0.83	0	-	0.8	-
Heavy	0	1	1	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	-
Heavy %	0%	2.3%	1.7%	0%	-	0.7%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	-
Lights	167	43	57	1	-	268	38	14	11	0	-	63	11	47	3	0	-	61	9	23	86	0	-	118	-
Lights %	100%	97.7%	98.3%	100%	-	99.3%	100%	100%	100%	0%	-	100%	100%	100%	100%	0%	-	100%	100%	100%	100%	0%	-	100%	-
Single-Unit Trucks	0	1	1	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	-
Single-Unit Trucks %	0%	2.3%	1.7%	0%	-	0.7%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	-
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	-
Buses %	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	-
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	-
Articulated Trucks %	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	-
Pedestrians	-	-	-	-	7	-	-	-	-	-	14	-	-	-	-	-	7	-	-	-	-	-	24	-	-
Pedestrians%	-	-	-	-	11.5%	-	-	-	-	-	23%	-	-	-	-	-	11.5%	-	-	-	-	-	39.3%	-	-
Bicycles on Road	1	0	0	0	0	-	0	0	0	0	0	-	1	0	0	0	0	-	0	2	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	3	-	-
Bicycles on Crosswalk%	-	-	-	-	1.6%	-	-	-	-	-	4.9%	-	-	-	-	-	3.3%	-	-	-	-	-	4.9%	-	-

Peak Hour: 08:30 AM - 09:30 AM Weather: Mist (3.59 °C)



Peak Hour: 12:00 PM - 01:00 PM Weather:



Peak Hour: 05:15 PM - 06:15 PM Weather: Clear Sky (20.05 °C)





Turning Movement Count (8 - FARLEY DR & SOUTH INTERNAL INTERSECTION)

Start Time	N Approach FARLEY DR						E Approach SOUTH INTERNAL INTERSECTION						S Approach FARLEY DR						W Approach SOUTH INTERNAL INTERSECTION						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0	0	5	2	2	0	0	10	2	4		
07:15:00	1	0	0	0	0	1	0	0	1	0	0	1	1	3	0	0	5	4	1	0	0	0	8	7		
07:30:00	1	1	0	0	0	2	0	0	1	0	0	1	1	0	1	0	0	2	0	0	0	0	11	5		
07:45:00	1	0	1	0	1	2	2	0	1	0	0	3	0	2	0	0	4	2	0	0	1	0	15	8		
08:00:00	0	1	1	0	2	2	2	0	1	0	4	3	0	2	0	0	3	2	1	1	0	9	4			
08:15:00	0	5	1	0	0	6	0	0	0	0	1	0	2	1	1	0	4	4	0	0	0	0	6	0		
08:30:00	1	4	2	0	1	7	0	1	1	0	1	2	1	2	0	0	2	3	1	1	1	0	9	3		
08:45:00	1	5	2	0	0	8	1	0	0	0	0	1	2	3	2	0	9	7	0	0	2	0	12	2		
09:00:00	4	2	1	0	0	7	1	0	0	0	1	1	2	2	4	0	7	8	1	0	4	0	12	5		
09:15:00	2	2	4	0	1	8	0	0	0	0	3	0	2	1	2	0	6	5	2	2	2	0	10	6		
09:30:00	1	3	1	0	2	5	1	0	0	0	0	1	1	3	1	0	10	5	1	0	3	0	10	4		
09:45:00	2	0	0	0	1	2	0	0	2	0	0	2	0	3	2	0	4	5	2	0	2	0	6	4		
BREAK																										
10:00:00	0	1	3	0	1	4	0	1	0	0	0	1	2	1	1	0	7	4	1	1	7	0	7	9		
10:15:00	3	6	4	0	2	13	1	0	1	0	0	2	1	1	0	0	7	2	2	0	4	0	10	6		
10:30:00	0	2	0	0	2	2	5	2	4	0	1	11	2	2	1	0	16	5	0	0	2	0	9	2		
10:45:00	3	2	3	0	3	8	2	0	2	0	2	4	0	4	0	0	4	4	1	2	4	0	7	7		
11:00:00	5	2	3	0	2	10	4	0	1	0	0	5	0	3	0	0	7	3	0	1	1	0	10	2		
11:15:00	2	2	4	0	1	8	1	1	2	0	0	4	4	0	0	1	8	5	2	1	6	0	15	9		
11:30:00	4	2	7	0	0	13	2	0	5	0	0	7	2	6	2	0	11	10	0	2	7	0	12	9		
11:45:00	1	7	9	0	1	17	7	1	2	0	1	10	2	4	4	0	15	10	1	6	5	0	11	12		
12:00:00	2	8	12	1	5	23	7	0	1	0	0	8	1	2	5	0	2	8	5	4	8	0	13	17		
12:15:00	0	7	8	0	3	15	8	0	6	0	0	14	1	2	0	0	8	3	1	4	5	0	7	10		
12:30:00	4	1	8	0	3	13	8	3	1	0	1	12	5	4	0	1	8	10	1	3	6	0	13	10		
12:45:00	3	9	9	0	2	21	5	2	1	0	1	8	3	3	4	0	12	10	0	3	12	0	13	15		
13:00:00	1	0	12	0	2	13	5	0	2	0	1	7	1	3	2	0	8	6	1	1	9	0	17	11		
13:15:00	3	6	4	0	0	13	8	1	3	0	0	12	1	1	2	0	5	4	1	0	8	0	13	9		
13:30:00	3	4	8	0	0	15	8	0	2	0	0	10	1	0	2	0	5	3	1	3	12	0	14	16		
13:45:00	1	2	5	0	3	8	8	2	2	0	0	12	1	2	3	0	7	6	0	2	7	0	11	9		
14:00:00	5	2	5	0	1	12	2	1	2	0	0	5	0	1	2	1	6	4	1	4	5	0	9	10		
14:15:00	0	5	4	0	3	9	7	1	0	0	3	8	2	2	0	0	6	4	2	2	8	0	4	12		
14:30:00	2	3	2	0	0	7	1	0	0	0	2	1	1	5	1	0	9	7	1	1	6	0	8	8		
14:45:00	2	6	3	0	2	11	3	0	4	0	2	7	0	4	2	0	3	6	1	4	3	0	13	8		
BREAK																										
15:00:00	3	7	8	0	0	18	3	0	4	0	3	7	1	4	2	0	4	7	2	1	4	0	9	7		
15:15:00	3	6	5	0	2	14	3	1	0	0	1	4	2	6	3	0	9	11	1	3	5	0	9	9		
15:30:00	1	7	1	1	1	10	3	2	2	0	0	7	2	7	1	0	9	10	2	2	6	0	15	10		
15:45:00	5	3	4	0	3	12	3	0	2	0	1	5	3	4	4	0	9	11	1	1	12	0	8	14		
16:00:00	2	6	6	0	4	14	5	1	1	0	3	7	3	0	1	0	7	4	1	2	5	0	17	8		
16:15:00	3	8	7	0	3	18	4	0	1	0	3	5	4	2	2	0	18	8	1	2	2	0	20	5		
16:30:00	3	4	5	0	6	12	1	0	2	0	2	3	3	3	0	0	14	6	3	5	5	0	17	13		
16:45:00	3	8	7	0	1	18	2	1	5	0	6	8	2	4	1	0	11	7	2	3	6	0	16	11		
17:00:00	4	10	12	0	8	26	2	0	2	0	8	4	3	5	4	0	18	12	1	0	9	0	9	10		
17:15:00	2	5	5	0	2	12	6	1	3	0	0	10	0	4	2	0	3	6	3	1	9	0	10	13		
17:30:00	3	5	5	0	2	13	5	1	1	0	1	7	5	5	4	0	13	14	2	2	7	0	10	11		



Turning Movement Count
 Location Name: FARLEY DR & SOUTH INTERNAL INTERSECTION
 Date: Wed, Sep 20, 2023 Deployment Lead: David Chu

BA Group
 300 45 ST. CLAIR AVE W
 TORONTO ONTARIO, M4V 1K9
 CANADA

17:45:00	3	9	13	0	5	25	3	0	2	0	0	5	3	2	4	0	27	9	4	0	8	0	23	12	51	189
18:00:00	2	5	5	0	4	12	5	2	6	0	3	13	6	1	4	0	21	11	2	2	7	0	22	11	47	184
18:15:00	3	5	11	0	6	19	4	2	3	0	2	9	5	1	2	0	15	8	2	2	4	0	15	8	44	187
18:30:00	2	5	12	0	0	19	8	1	6	0	0	15	2	2	3	0	25	7	1	6	8	0	17	15	56	198
18:45:00	4	7	7	0	6	18	6	2	2	0	3	10	5	3	2	0	18	10	2	3	13	0	17	18	56	203
Grand Total	104	200	239	2	98	545	162	30	90	0	61	282	91	127	83	3	434	304	64	83	251	0	568	398	1529	-
Approach%	19.1%	36.7%	43.9%	0.4%	-	57.4%	10.6%	31.9%	0%	-	29.9%	41.8%	27.3%	1%	-	16.1%	20.9%	63.1%	0%	-	-	-	-	-	-	-
Totals %	6.8%	13.1%	15.6%	0.1%	35.6%	10.6%	2%	5.9%	0%	18.4%	6%	8.3%	5.4%	0.2%	19.9%	4.2%	5.4%	16.4%	0%	26%	-	-	-	-	-	-
Heavy	1	4	2	0	-	1	0	5	0	-	2	4	1	0	-	0	0	1	0	-	-	-	-	-	-	-
Heavy %	1%	2%	0.8%	0%	-	0.6%	0%	5.6%	0%	-	2.2%	3.1%	1.2%	0%	-	0%	0%	0.4%	0%	-	-	-	-	-	-	-
Bicycles	0	3	0	0	-	1	5	2	0	-	0	2	4	0	-	1	3	0	2	-	-	-	-	-	-	-
Bicycle %	0%	1.5%	0%	0%	-	0.6%	16.7%	2.2%	0%	-	0%	1.6%	4.8%	0%	-	1.6%	3.6%	0%	0%	-	-	-	-	-	-	-



Peak Hour: 08:45 AM - 09:45 AM Weather: Mist (3.59 °C)

Start Time	N Approach FARLEY DR						E Approach SOUTH INTERNAL INTERSECTION						S Approach FARLEY DR						W Approach SOUTH INTERNAL INTERSECTION						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:45:00	1	5	2	0	0	8	1	0	0	0	0	1	2	3	2	0	9	7	0	0	2	0	12	2	18
09:00:00	4	2	1	0	0	7	1	0	0	0	1	1	2	2	4	0	7	8	1	0	4	0	12	5	21
09:15:00	2	2	4	0	1	8	0	0	0	0	3	0	2	1	2	0	6	5	2	2	2	0	10	6	19
09:30:00	1	3	1	0	2	5	1	0	0	0	0	1	1	3	1	0	10	5	1	0	3	0	10	4	15
Grand Total	8	12	8	0	3	28	3	0	0	0	4	3	7	9	9	0	32	25	4	2	11	0	44	17	73
Approach%	28.6%	42.9%	28.6%	0%	-	-	100%	0%	0%	0%	-	-	28%	36%	36%	0%	-	-	23.5%	11.8%	64.7%	0%	-	-	-
Totals %	11%	16.4%	11%	0%	38.4%	4.1%	4.1%	0%	0%	0%	4.1%	4.1%	9.6%	12.3%	12.3%	0%	34.2%	34.2%	5.5%	2.7%	15.1%	0%	23.3%	23.3%	-
PHF	0.5	0.6	0.5	0	0.88	0.88	0.75	0	0	0	0.75	0.75	0.88	0.75	0.56	0	0.78	0.78	0.5	0.25	0.69	0	0.71	0.71	-
Heavy	1	1	0	0	2	2	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	-
Heavy %	12.5%	8.3%	0%	0%	7.1%	7.1%	0%	0%	0%	0%	0%	0%	0%	11.1%	0%	0%	4%	4%	0%	0%	0%	0%	0%	0%	-
Lights	7	11	8	0	26	26	3	0	0	0	3	3	7	8	9	0	24	24	4	2	11	0	17	17	-
Lights %	87.5%	91.7%	100%	0%	92.9%	92.9%	100%	0%	0%	0%	100%	100%	100%	88.9%	100%	0%	96%	96%	100%	100%	100%	0%	100%	100%	-
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	-
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11.1%	0%	0%	4%	4%	0%	0%	0%	0%	0%	0%	-
Buses	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Buses %	0%	8.3%	0%	0%	3.6%	3.6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Articulated Trucks	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Articulated Trucks %	12.5%	0%	0%	0%	3.6%	3.6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	4	-	-	-	-	-	32	-	-	-	-	-	44	-	-
Pedestrians%	-	-	-	-	3.6%	-	-	-	-	-	4.8%	-	-	-	-	-	38.6%	-	-	-	-	-	53%	-	-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-



Peak Hour: 12:00 PM - 01:00 PM Weather:

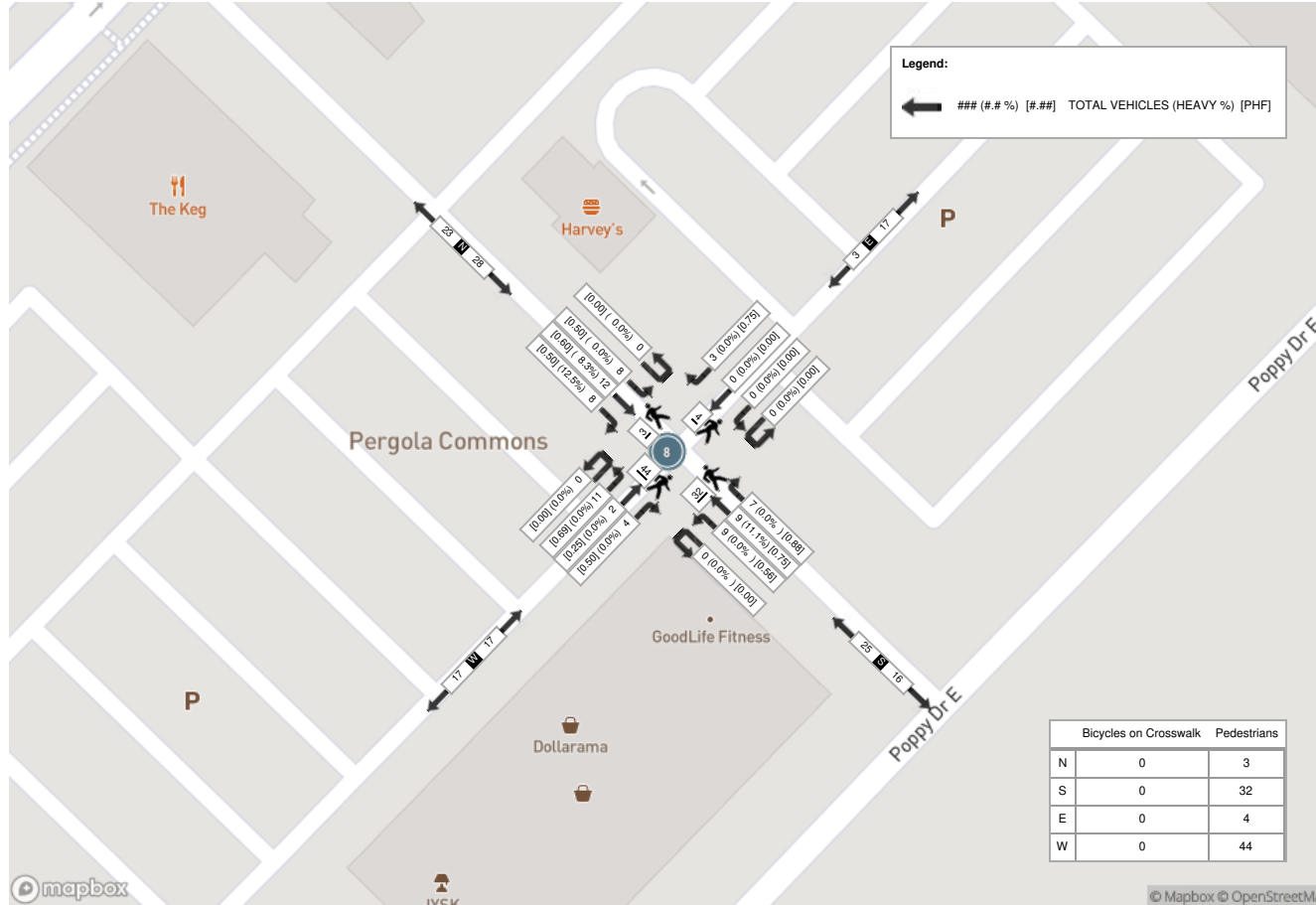
Start Time	N Approach FARLEY DR						E Approach SOUTH INTERNAL INTERSECTION						S Approach FARLEY DR						W Approach SOUTH INTERNAL INTERSECTION						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
12:00:00	2	8	12	1	5	23	7	0	1	0	0	8	1	2	5	0	2	8	5	4	8	0	13	17	56
12:15:00	0	7	8	0	3	15	8	0	6	0	0	14	1	2	0	0	8	3	1	4	5	0	7	10	42
12:30:00	4	1	8	0	3	13	8	3	1	0	1	12	5	4	0	1	8	10	1	3	6	0	13	10	45
12:45:00	3	9	9	0	2	21	5	2	1	0	1	8	3	3	4	0	12	10	0	3	12	0	13	15	54
Grand Total	9	25	37	1	13	72	28	5	9	0	2	42	10	11	9	1	30	31	7	14	31	0	46	52	197
Approach%	12.5%	34.7%	51.4%	1.4%	-	-	66.7%	11.9%	21.4%	0%	-	-	32.3%	35.5%	29%	3.2%	-	-	13.5%	26.9%	59.6%	0%	-	-	-
Totals %	4.6%	12.7%	18.8%	0.5%	36.5%	14.2%	2.5%	4.6%	0%	21.3%	5.1%	5.6%	4.6%	0.5%	15.7%	3.6%	7.1%	15.7%	0%	26.4%	-	-	-	-	-
PHF	0.56	0.69	0.77	0.25	0.78	0.88	0.42	0.38	0	0.75	0.5	0.69	0.45	0.25	0.78	0.35	0.88	0.65	0	0.76	-	-	-	-	-
Heavy	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy %	0%	0%	0%	0%	0%	0%	0%	0%	11.1%	0%	2.4%	0%	9.1%	0%	0%	3.2%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lights	9	25	37	1	72	28	5	8	0	41	10	10	9	1	30	7	14	31	0	52	-	-	-	-	-
Lights %	100%	100%	100%	100%	100%	100%	100%	100%	88.9%	0%	97.6%	100%	90.9%	100%	100%	96.8%	100%	100%	100%	0%	100%	-	-	-	-
Single-Unit Trucks	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	11.1%	0%	2.4%	0%	9.1%	0%	0%	3.2%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pedestrians	-	-	-	-	13	-	-	-	-	2	-	-	-	-	30	-	-	-	-	-	-	-	44	-	-
Pedestrians%	-	-	-	-	14.3%	-	-	-	-	2.2%	-	-	-	-	33%	-	-	-	-	-	-	-	48.4%	-	-
Bicycles on Road	0	1	0	0	0	-	0	0	1	0	0	-	0	1	1	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	-	-	2	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-	-	2.2%	-	-



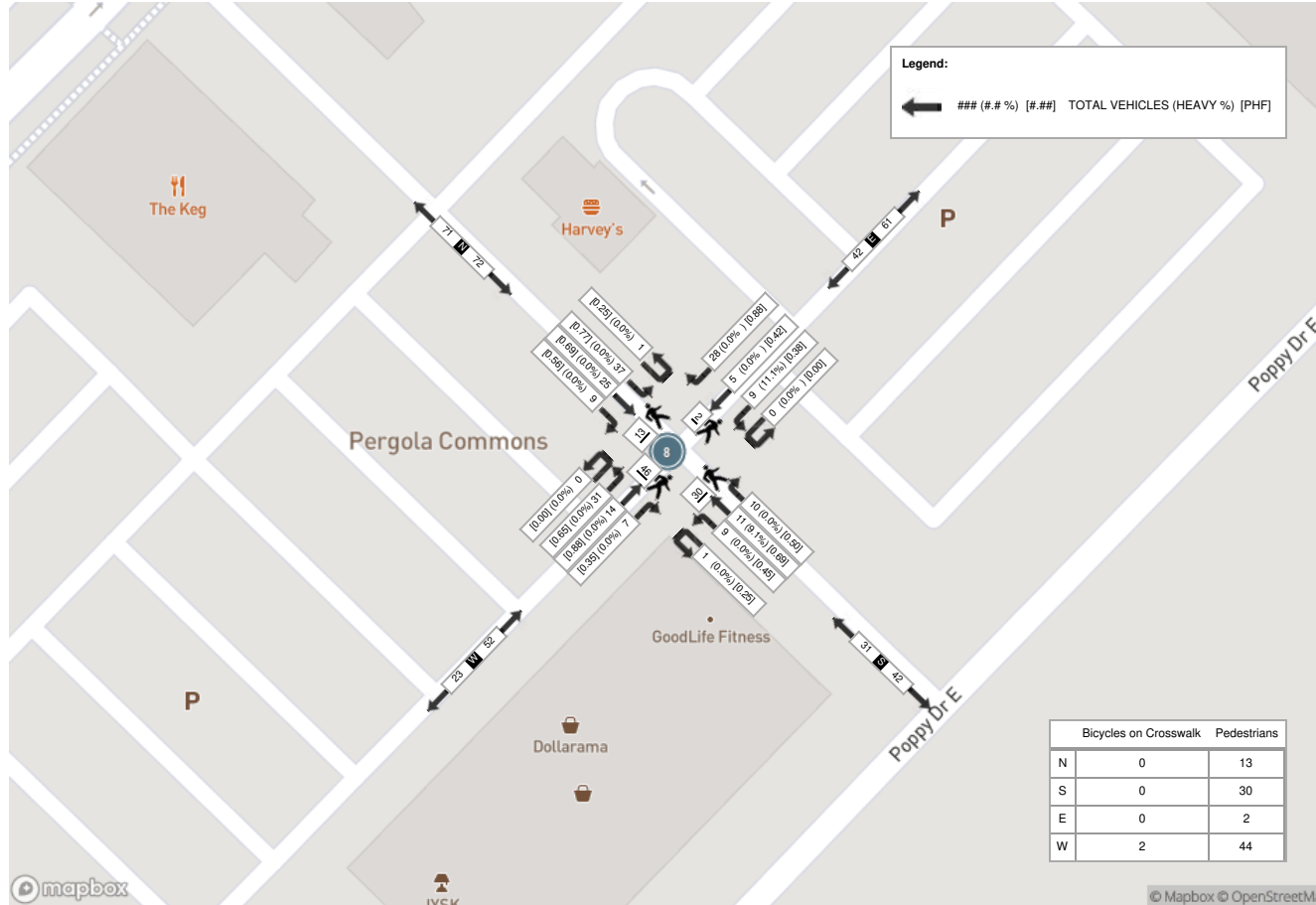
Peak Hour: 06:00 PM - 07:00 PM Weather: Clear Sky (20.05 °C)

Start Time	N Approach FARLEY DR						E Approach SOUTH INTERNAL INTERSECTION						S Approach FARLEY DR						W Approach SOUTH INTERNAL INTERSECTION						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
18:00:00	2	5	5	0	4	12	5	2	6	0	3	13	6	1	4	0	21	11	2	2	7	0	22	11	47
18:15:00	3	5	11	0	6	19	4	2	3	0	2	9	5	1	2	0	15	8	2	2	4	0	15	8	44
18:30:00	2	5	12	0	0	19	8	1	6	0	0	15	2	2	3	0	25	7	1	6	8	0	17	15	56
18:45:00	4	7	7	0	6	18	6	2	2	0	3	10	5	3	2	0	18	10	2	3	13	0	17	18	56
Grand Total	11	22	35	0	16	68	23	7	17	0	8	47	18	7	11	0	79	36	7	13	32	0	71	52	203
Approach%	16.2%	32.4%	51.5%	0%	-	-	48.9%	14.9%	36.2%	0%	-	-	50%	19.4%	30.6%	0%	-	-	13.5%	25%	61.5%	0%	-	-	-
Totals %	5.4%	10.8%	17.2%	0%	33.5%	33.5%	11.3%	3.4%	8.4%	0%	23.2%	23.2%	8.9%	3.4%	5.4%	0%	17.7%	17.7%	3.4%	6.4%	15.8%	0%	25.6%	25.6%	-
PHF	0.69	0.79	0.73	0	0.89	0.89	0.72	0.88	0.71	0	0.78	0.78	0.75	0.58	0.69	0	0.82	0.82	0.88	0.54	0.62	0	0.72	0.72	-
Heavy	0	0	1	0	1	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	-
Heavy %	0%	0%	2.9%	0%	1.5%	1.5%	0%	0%	5.9%	0%	2.1%	2.1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Lights	11	22	34	0	67	67	23	7	16	0	46	46	18	7	11	0	36	36	7	13	32	0	52	-	
Lights %	100%	100%	97.1%	0%	98.5%	98.5%	100%	100%	94.1%	0%	97.9%	97.9%	100%	100%	100%	0%	100%	100%	100%	100%	100%	0%	100%	100%	-
Single-Unit Trucks	0	0	1	0	1	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	-
Single-Unit Trucks %	0%	0%	2.9%	0%	1.5%	1.5%	0%	0%	5.9%	0%	2.1%	2.1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Buses %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	16	-	-	-	-	-	8	-	-	-	-	77	-	-	-	-	-	-	68	-	-
Pedestrians%	-	-	-	-	9.2%	-	-	-	-	-	4.6%	-	-	-	-	44.3%	-	-	-	-	-	-	39.1%	-	-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	2	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	2	-	-	-	-	-	-	3	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	1.1%	-	-	-	-	-	-	1.7%	-	-

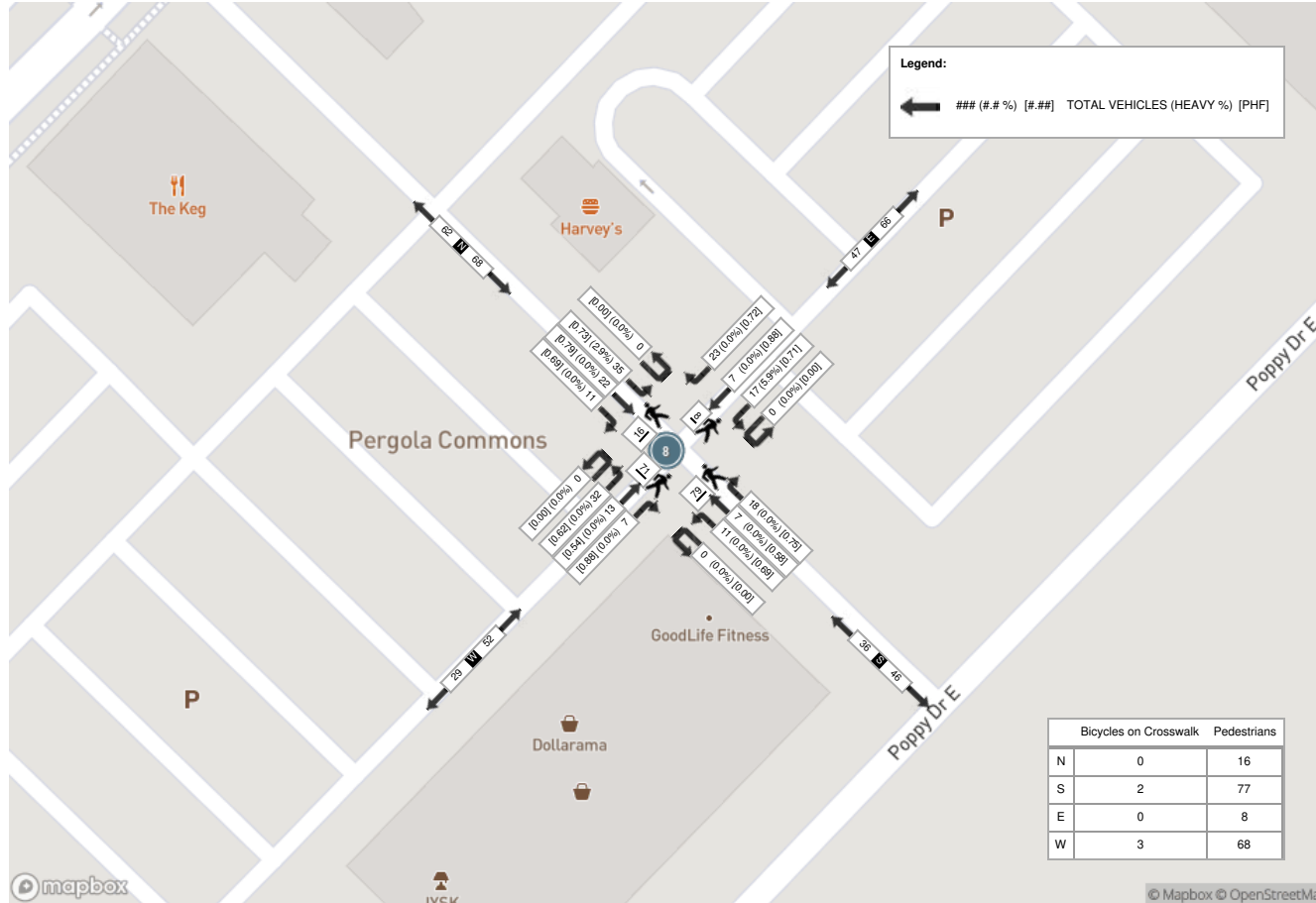
Peak Hour: 08:45 AM - 09:45 AM Weather: Mist (3.59 °C)



Peak Hour: 12:00 PM - 01:00 PM Weather:



Peak Hour: 06:00 PM - 07:00 PM Weather: Clear Sky (20.05 °C)





Turning Movement Count (9 . HAWKINS DR & NORTH INTERNAL RD)

Start Time	N Approach HAWKINS DR					S Approach HAWKINS DR					W Approach NORTH INTERNAL RD					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	UTurn N:N	Peds N:	Approach Total	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	0	2	0	0	2	5	0	0	0	5	0	6	0	2	6	13	
07:15:00	2	3	0	0	5	3	0	0	0	3	0	4	0	0	4	12	
07:30:00	1	2	0	0	3	5	0	0	0	5	0	0	0	1	0	8	
07:45:00	2	9	0	0	11	8	0	0	0	8	0	0	0	2	0	19	52
08:00:00	3	3	0	0	6	8	0	0	0	8	0	2	0	1	2	16	55
08:15:00	0	2	0	0	2	13	1	0	0	14	1	0	0	2	1	17	60
08:30:00	5	6	0	0	11	12	0	0	0	12	0	2	0	5	2	25	77
08:45:00	6	6	0	0	12	6	0	0	0	6	0	2	0	4	2	20	78
09:00:00	2	6	0	0	8	4	0	0	0	4	0	0	0	1	0	12	74
09:15:00	2	4	0	0	6	4	0	0	0	4	0	3	0	4	3	13	70
09:30:00	2	4	0	0	6	3	1	0	0	4	0	2	0	5	2	12	57
09:45:00	4	0	0	0	4	6	0	0	0	6	0	2	0	1	2	12	49
BREAK																	
10:00:00	6	5	0	0	11	6	1	0	0	7	2	6	0	2	8	26	
10:15:00	5	2	0	0	7	6	0	0	0	6	0	2	0	1	2	15	
10:30:00	4	2	0	0	6	10	0	0	0	10	0	3	0	1	3	19	
10:45:00	3	3	0	0	6	5	1	0	0	6	0	4	0	1	4	16	76
11:00:00	1	5	0	0	6	4	1	0	0	5	0	4	0	1	4	15	65
11:15:00	10	2	0	0	12	7	1	0	0	8	0	3	0	2	3	23	73
11:30:00	9	7	0	0	16	9	0	0	0	9	2	10	0	0	12	37	91
11:45:00	9	4	0	0	13	7	0	0	0	7	0	8	0	1	8	28	103
12:00:00	12	3	0	0	15	3	1	0	0	4	1	14	0	3	15	34	122
12:15:00	3	6	1	0	10	7	3	0	0	10	1	13	0	3	14	34	133
12:30:00	2	4	0	0	6	7	0	0	0	7	2	9	0	2	11	24	120
12:45:00	10	4	0	0	14	8	0	0	0	8	1	9	0	4	10	32	124
13:00:00	3	3	0	0	6	8	0	0	0	8	0	3	0	1	3	17	107
13:15:00	12	3	0	0	15	9	0	0	0	9	0	8	0	0	8	32	105
13:30:00	10	7	0	0	17	5	0	0	0	5	2	10	0	3	12	34	115
13:45:00	3	6	1	0	10	6	0	0	0	6	0	8	0	0	8	24	107
14:00:00	8	8	0	0	16	7	0	0	0	7	0	9	0	1	9	32	122
14:15:00	3	5	0	0	8	3	1	0	0	4	0	9	0	0	9	21	111
14:30:00	6	6	0	0	12	3	0	0	0	3	2	6	0	1	8	23	100
14:45:00	9	4	0	0	13	4	0	0	0	4	0	11	0	2	11	28	104

BREAK



15:00:00	2	6	0	0	8	10	0	0	0	10	1	7	0	1	8	26	
15:15:00	9	4	0	0	13	11	1	1	0	13	4	4	0	2	8	34	
15:30:00	8	11	0	0	19	10	0	0	0	10	2	10	0	1	12	41	
15:45:00	5	8	0	1	13	7	0	0	0	7	1	3	0	1	4	24	125
16:00:00	6	6	0	0	12	8	0	0	0	8	3	16	0	3	19	39	138
16:15:00	3	8	0	0	11	18	0	0	0	18	2	14	0	3	16	45	149
16:30:00	10	11	0	0	21	9	1	0	0	10	1	7	0	1	8	39	147
16:45:00	13	6	0	0	19	9	0	0	0	9	0	10	0	3	10	38	161
17:00:00	8	6	0	0	14	9	2	0	0	11	1	12	0	1	13	38	160
17:15:00	12	7	0	0	19	10	0	0	0	10	3	15	0	3	18	47	162
17:30:00	11	8	0	0	19	11	0	0	0	11	2	16	0	1	18	48	171
17:45:00	5	7	0	0	12	14	0	0	0	14	1	14	0	6	15	41	174
18:00:00	10	1	0	0	11	12	0	0	0	12	1	9	0	3	10	33	169
18:15:00	5	7	0	0	12	10	1	0	0	11	2	11	0	0	13	36	158
18:30:00	11	9	0	0	20	9	0	0	0	9	0	19	0	3	19	48	158
18:45:00	5	7	1	0	13	12	1	0	0	13	1	11	0	4	12	38	155
Grand Total	280	248	3	1	531	370	17	1	0	388	39	350	0	93	389	1308	-
Approach%	52.7%	46.7%	0.6%	-	-	95.4%	4.4%	0.3%	-	-	10%	90%	0%	-	-	-	-
Totals %	21.4%	19%	0.2%	-	40.6%	28.3%	1.3%	0.1%	29.7%	3%	26.8%	0%	-	29.7%	-	-	-
Heavy	3	2	0	-	-	10	1	0	-	-	2	4	0	-	-	-	-
Heavy %	1.1%	0.8%	0%	-	-	2.7%	5.9%	0%	-	-	5.1%	1.1%	0%	-	-	-	-
Bicycles	0	1	0	-	-	2	1	0	-	-	2	0	0	-	-	-	-
Bicycle %	0%	0.4%	0%	-	-	0.5%	5.9%	0%	-	-	5.1%	0%	0%	-	-	-	-



Peak Hour: 08:00 AM - 09:00 AM Weather: Mist (3.59 °C)

Start Time	N Approach HAWKINS DR					S Approach HAWKINS DR					W Approach NORTH INTERNAL RD					Int. Total (15 min)
	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	
08:00:00	3	3	0	0	6	8	0	0	0	8	0	2	0	1	2	16
08:15:00	0	2	0	0	2	13	1	0	0	14	1	0	0	2	1	17
08:30:00	5	6	0	0	11	12	0	0	0	12	0	2	0	5	2	25
08:45:00	6	6	0	0	12	6	0	0	0	6	0	2	0	4	2	20
Grand Total	14	17	0	0	31	39	1	0	0	40	1	6	0	12	7	78
Approach%	45.2%	54.8%	0%	-	-	97.5%	2.5%	0%	-	-	14.3%	85.7%	0%	-	-	-
Totals %	17.9%	21.8%	0%	-	39.7%	50%	1.3%	0%	-	51.3%	1.3%	7.7%	0%	-	9%	-
PHF	0.58	0.71	0	-	0.65	0.75	0.25	0	-	0.71	0.25	0.75	0	-	0.88	-
Heavy	0	0	0	-	0	2	0	0	-	2	1	1	0	-	2	-
Heavy %	0%	0%	0%	-	0%	5.1%	0%	0%	-	5%	100%	16.7%	0%	-	28.6%	-
Lights	14	17	0	-	31	37	1	0	-	38	0	5	0	-	5	-
Lights %	100%	100%	0%	-	100%	94.9%	100%	0%	-	95%	0%	83.3%	0%	-	71.4%	-
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	-
Single-Unit Trucks %	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	-
Buses	0	0	0	-	0	2	0	0	-	2	1	1	0	-	2	-
Buses %	0%	0%	0%	-	0%	5.1%	0%	0%	-	5%	100%	16.7%	0%	-	28.6%	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	11	-	-
Pedestrians%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	91.7%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	8.3%	-	-



Peak Hour: 11:30 AM - 12:30 PM Weather:

Start Time	N Approach HAWKINS DR					S Approach HAWKINS DR					W Approach NORTH INTERNAL RD					Int. Total (15 min)
	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	
11:30:00	9	7	0	0	16	9	0	0	0	9	2	10	0	0	12	37
11:45:00	9	4	0	0	13	7	0	0	0	7	0	8	0	1	8	28
12:00:00	12	3	0	0	15	3	1	0	0	4	1	14	0	3	15	34
12:15:00	3	6	1	0	10	7	3	0	0	10	1	13	0	3	14	34
Grand Total	33	20	1	0	54	26	4	0	0	30	4	45	0	7	49	133
Approach%	61.1%	37%	1.9%	-	-	86.7%	13.3%	0%	-	-	8.2%	91.8%	0%	-	-	-
Totals %	24.8%	15%	0.8%	-	40.6%	19.5%	3%	0%	-	22.6%	3%	33.8%	0%	-	36.8%	-
PHF	0.69	0.71	0.25	-	0.84	0.72	0.33	0	-	0.75	0.5	0.8	0	-	0.82	-
Heavy	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	-
Heavy %	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	2.2%	0%	-	2%	-
Lights	33	20	1	-	54	26	4	0	-	30	4	44	0	-	48	-
Lights %	100%	100%	100%	-	100%	100%	100%	0%	-	100%	100%	97.8%	0%	-	98%	-
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	-
Single-Unit Trucks %	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	2.2%	0%	-	2%	-
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	-
Buses %	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	7	-	-
Pedestrians%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	100%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-



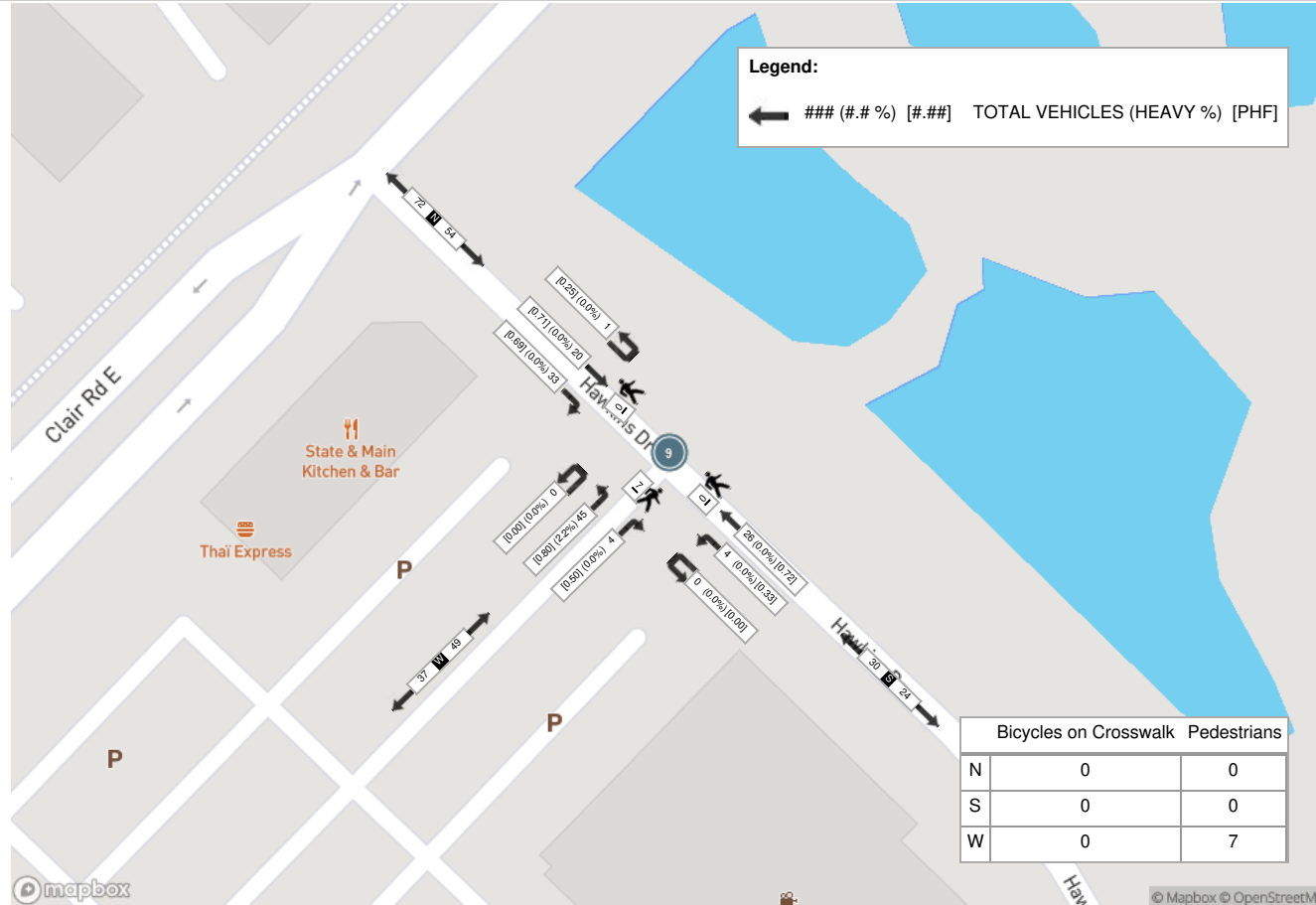
Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (20.05 °C)

Start Time	N Approach HAWKINS DR					S Approach HAWKINS DR					W Approach NORTH INTERNAL RD					Int. Total (15 min)
	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	
17:00:00	8	6	0	0	14	9	2	0	0	11	1	12	0	1	13	38
17:15:00	12	7	0	0	19	10	0	0	0	10	3	15	0	3	18	47
17:30:00	11	8	0	0	19	11	0	0	0	11	2	16	0	1	18	48
17:45:00	5	7	0	0	12	14	0	0	0	14	1	14	0	6	15	41
Grand Total	36	28	0	0	64	44	2	0	0	46	7	57	0	11	64	174
Approach%	56.3%	43.8%	0%	-	-	95.7%	4.3%	0%	-	-	10.9%	89.1%	0%	-	-	-
Totals %	20.7%	16.1%	0%	-	36.8%	25.3%	1.1%	0%	-	26.4%	4%	32.8%	0%	-	36.8%	-
PHF	0.75	0.88	0	-	0.84	0.79	0.25	0	-	0.82	0.58	0.89	0	-	0.89	-
Heavy	0	0	0	-	0	0	0	0	-	0	1	1	0	-	2	-
Heavy %	0%	0%	0%	-	0%	0%	0%	0%	-	0%	14.3%	1.8%	0%	-	3.1%	-
Lights	36	28	0	-	64	44	2	0	-	46	6	56	0	-	62	-
Lights %	100%	100%	0%	-	100%	100%	100%	0%	-	100%	85.7%	98.2%	0%	-	96.9%	-
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	1	1	0	-	2	-
Single-Unit Trucks %	0%	0%	0%	-	0%	0%	0%	0%	-	0%	14.3%	1.8%	0%	-	3.1%	-
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	-
Buses %	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	11	-	-
Pedestrians%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	100%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Mist (3.59 °C)



Peak Hour: 11:30 AM - 12:30 PM Weather:



Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (20.05 °C)





Turning Movement Count (1 . POPPY DR E & 1888 GORDON ST (ACCESS))

Start Time	E Approach POPPY DR E					S Approach 1888 GORDON ST (ACCESS)					W Approach POPPY DR E					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
07:00:00	15	2	0	1	17	1	1	0	0	2	1	9	0	0	10	29	
07:15:00	18	0	0	0	18	1	7	0	0	8	3	1	0	0	4	30	
07:30:00	16	1	0	1	17	0	3	0	0	3	1	5	0	0	6	26	
07:45:00	18	2	0	2	20	5	11	0	0	16	1	5	0	0	6	42	127
08:00:00	24	0	0	0	24	4	9	0	0	13	1	4	0	0	5	42	140
08:15:00	26	1	0	3	27	3	7	0	0	10	1	8	0	0	9	46	156
08:30:00	27	0	0	1	27	1	12	0	0	13	1	10	0	0	11	51	181
08:45:00	17	1	0	0	18	1	6	0	0	7	2	4	0	0	6	31	170
09:00:00	14	0	0	0	14	5	3	0	0	8	0	8	0	0	8	30	158
09:15:00	13	4	0	0	17	1	6	0	0	7	4	4	0	0	8	32	144
09:30:00	8	1	0	2	9	2	6	0	0	8	5	7	0	0	12	29	122
09:45:00	8	1	0	3	9	3	5	0	0	8	3	6	0	0	9	26	117
10:00:00	6	0	0	2	6	0	7	0	0	7	4	9	0	0	13	26	113
10:15:00	10	2	0	0	12	3	4	0	0	7	3	3	0	0	6	25	106
10:30:00	12	2	0	2	14	3	7	0	0	10	5	8	0	0	13	37	114
10:45:00	12	3	0	1	15	2	3	0	0	5	2	11	0	1	13	33	121
11:00:00	13	0	0	0	13	4	4	0	0	8	3	5	0	0	8	29	124
11:15:00	21	3	0	2	24	4	6	0	0	10	5	14	0	0	19	53	152
11:30:00	12	2	0	3	14	4	5	0	2	9	7	10	0	2	17	40	155
11:45:00	12	0	0	0	12	1	6	0	0	7	5	12	0	0	17	36	158
12:00:00	11	2	0	4	13	2	7	0	2	9	6	9	0	2	15	37	166
12:15:00	10	0	0	1	10	1	4	0	0	5	5	9	0	0	14	29	142
12:30:00	14	1	0	0	15	0	9	0	0	9	6	13	0	0	19	43	145
12:45:00	7	0	0	1	7	0	5	0	0	5	5	9	0	0	14	26	135
13:00:00	12	2	0	2	14	3	9	0	0	12	7	14	0	0	21	47	145
13:15:00	12	0	0	1	12	1	5	0	0	6	6	12	0	0	18	36	152
13:30:00	12	0	0	0	12	1	2	0	2	3	4	16	0	1	20	35	144
13:45:00	10	0	0	7	10	0	3	0	0	3	4	17	0	0	21	34	152
14:00:00	19	0	0	2	19	0	2	0	0	2	7	20	0	0	27	48	153
14:15:00	14	0	0	3	14	1	5	0	0	6	4	10	0	0	14	34	151
14:30:00	14	1	1	2	16	5	5	0	0	10	6	11	0	0	17	43	159
14:45:00	11	2	0	2	13	2	4	0	0	6	7	13	0	0	20	39	164
15:00:00	11	3	0	1	14	1	8	0	0	9	6	17	0	0	23	46	162
15:15:00	15	2	0	6	17	1	4	0	0	5	11	22	0	0	33	55	183



15:30:00	9	2	0	1	11	1	1	0	1	2	12	18	0	1	30	43	183
15:45:00	12	1	0	0	13	1	6	0	0	7	10	21	0	0	31	51	195
16:00:00	16	3	0	2	19	0	1	0	0	1	9	28	0	0	37	57	206
16:15:00	20	3	0	3	23	2	5	0	1	7	1	20	0	1	21	51	202
16:30:00	13	3	0	3	16	2	2	0	1	4	10	28	0	1	38	58	217
16:45:00	20	2	0	2	22	1	3	0	0	4	6	20	0	0	26	52	218
17:00:00	13	3	0	0	16	2	3	0	0	5	3	27	0	0	30	51	212
17:15:00	20	1	0	1	21	3	7	0	0	10	9	24	0	0	33	64	225
17:30:00	15	1	0	5	16	0	4	0	0	4	11	31	0	0	42	62	229
17:45:00	15	4	0	2	19	3	6	0	0	9	6	29	0	0	35	63	240
18:00:00	10	0	0	5	10	2	7	0	1	9	12	28	0	2	40	59	248
18:15:00	20	3	0	1	23	3	10	0	0	13	5	29	0	0	34	70	254
18:30:00	26	4	0	9	30	0	5	0	0	5	9	21	0	0	30	65	257
18:45:00	15	2	0	4	17	0	3	0	0	3	7	25	0	0	32	52	246
Grand Total	698	70	1	93	769	86	253	0	10	339	251	684	0	11	935	2043	-
Approach%	90.8%	9.1%	0.1%	-	-	25.4%	74.6%	0%	-	-	26.8%	73.2%	0%	-	-	-	-
Totals %	34.2%	3.4%	0%	37.6%	4.2%	12.4%	0%	16.6%	12.3%	33.5%	0%	45.8%	-	-	-	-	-
Heavy	36	8	0	-	5	12	0	-	10	19	0	-	-	-	-	-	-
Heavy %	5.2%	11.4%	0%	-	5.8%	4.7%	0%	-	4%	2.8%	0%	-	-	-	-	-	-
Bicycles	2	0	0	-	0	1	0	-	2	1	0	-	-	-	-	-	-
Bicycle %	0.3%	0%	0%	-	0%	0.4%	0%	-	0.8%	0.1%	0%	-	-	-	-	-	-



Peak Hour: 05:45 PM - 06:45 PM Weather: Overcast Clouds (0.71 °C)

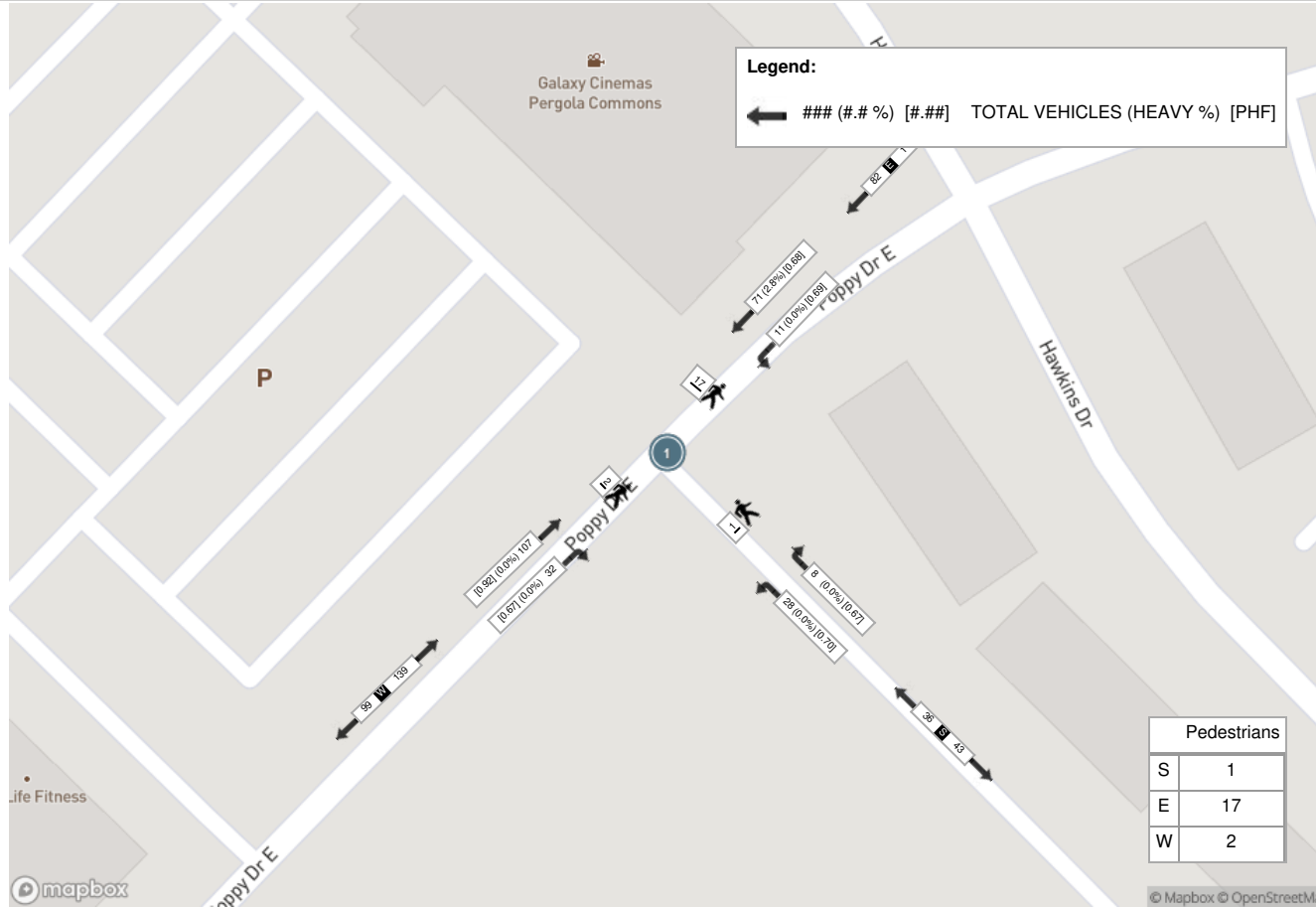
Start Time	E Approach POPPY DR E					S Approach 1888 GORDON ST (ACCESS)					W Approach POPPY DR E				Int. Total (15 min)	
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds		Approach Total
17:45:00	15	4	0	2	19	3	6	0	0	9	6	29	0	0	35	63
18:00:00	10	0	0	5	10	2	7	0	1	9	12	28	0	2	40	59
18:15:00	20	3	0	1	23	3	10	0	0	13	5	29	0	0	34	70
18:30:00	26	4	0	9	30	0	5	0	0	5	9	21	0	0	30	65
Grand Total	71	11	0	17	82	8	28	0	1	36	32	107	0	2	139	257
Approach%	86.6%	13.4%	0%	-	-	22.2%	77.8%	0%	-	-	23%	77%	0%	-	-	-
Totals %	27.6%	4.3%	0%	-	31.9%	3.1%	10.9%	0%	-	14%	12.5%	41.6%	0%	-	54.1%	-
PHF	0.68	0.69	0	-	0.68	0.67	0.7	0	-	0.69	0.67	0.92	0	-	0.87	-
Heavy	2	0	0	-	2	0	0	0	-	0	0	0	0	-	0	-
Heavy %	2.8%	0%	0%	-	2.4%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	-
Lights	69	11	0	-	80	8	28	0	-	36	32	107	0	-	139	-
Lights %	97.2%	100%	0%	-	97.6%	100%	100%	0%	-	100%	100%	100%	0%	-	100%	-
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	-
Single-Unit Trucks %	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	-
Buses	2	0	0	-	2	0	0	0	-	0	0	0	0	-	0	-
Buses %	2.8%	0%	0%	-	2.4%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	-
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	-
Articulated Trucks %	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	-
Pedestrians	-	-	-	17	-	-	-	-	1	-	-	-	-	2	-	-
Pedestrians%	-	-	-	85%	-	-	-	-	5%	-	-	-	-	10%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	1	0	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-



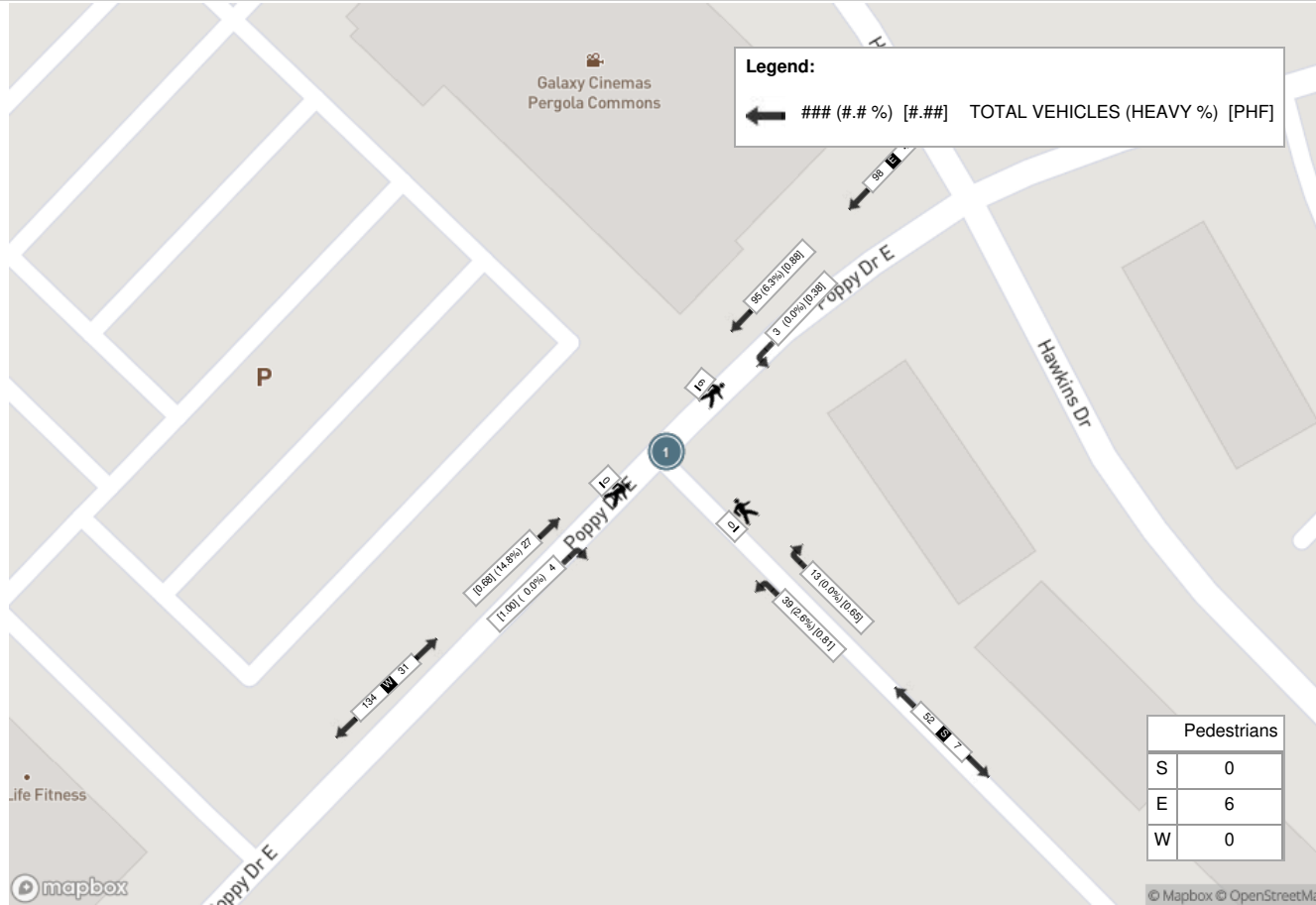
Selected Hour: 07:45 AM - 08:45 AM Weather:

Start Time	E Approach POPPY DR E					S Approach 1888 GORDON ST (ACCESS)					W Approach POPPY DR E				Int. Total (15 min)	
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds		Approach Total
07:45:00	18	2	0	2	20	5	11	0	0	16	1	5	0	0	6	42
08:00:00	24	0	0	0	24	4	9	0	0	13	1	4	0	0	5	42
08:15:00	26	1	0	3	27	3	7	0	0	10	1	8	0	0	9	46
08:30:00	27	0	0	1	27	1	12	0	0	13	1	10	0	0	11	51
Grand Total	95	3	0	6	98	13	39	0	0	52	4	27	0	0	31	181
Approach%	96.9%	3.1%	0%		-	25%	75%	0%		-	12.9%	87.1%	0%		-	-
Totals %	52.5%	1.7%	0%		54.1%	7.2%	21.5%	0%		28.7%	2.2%	14.9%	0%		17.1%	-
PHF	0.88	0.38	0		0.91	0.65	0.81	0		0.81	1	0.68	0		0.7	-
Heavy	6	0	0		6	0	1	0		1	0	4	0		4	-
Heavy %	6.3%	0%	0%		6.1%	0%	2.6%	0%		1.9%	0%	14.8%	0%		12.9%	-
Lights	89	3	0		92	13	38	0		51	4	23	0		27	-
Lights %	93.7%	100%	0%		93.9%	100%	97.4%	0%		98.1%	100%	85.2%	0%		87.1%	-
Single-Unit Trucks	1	0	0		1	0	1	0		1	0	0	0		0	-
Single-Unit Trucks %	1.1%	0%	0%		1%	0%	2.6%	0%		1.9%	0%	0%	0%		0%	-
Buses	5	0	0		5	0	0	0		0	0	4	0		4	-
Buses %	5.3%	0%	0%		5.1%	0%	0%	0%		0%	0%	14.8%	0%		12.9%	-
Articulated Trucks	0	0	0		0	0	0	0		0	0	0	0		0	-
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	6	-	-	-	0		-	-	-	-	0	-	-
Pedestrians%	-	-	-	100%	-	-	-	0%		-	-	-	-	0%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0		-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	0%		-	-	-	-	0%	-	-

Peak Hour: 05:45 PM - 06:45 PM Weather: Overcast Clouds (0.71 °C)



Selected Hour: 07:45 AM - 08:45 AM Weather:





Turning Movement Count (5 . POPPY DR E & FARLEY DR)

Start Time	N Approach FARLEY DR					E Approach POPPY DR E					W Approach POPPY DR E					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	UTurn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	2	1	0	2	3	1	19	0	0	20	7	2	0	0	9	32	
07:15:00	2	1	0	2	3	1	24	0	0	25	6	2	0	0	8	36	
07:30:00	1	1	0	0	2	2	25	0	0	27	6	0	0	0	6	35	
07:45:00	1	0	0	1	1	2	33	0	1	35	10	0	0	0	10	46	149
08:00:00	4	0	0	2	4	2	31	0	0	33	5	0	0	0	5	42	159
08:15:00	3	2	0	0	5	1	30	0	0	31	7	3	0	0	10	46	169
08:30:00	0	5	0	5	5	3	21	0	0	24	13	1	0	0	14	43	177
08:45:00	1	4	0	1	5	2	19	0	0	21	4	6	0	0	10	36	167
09:00:00	0	3	0	3	3	3	18	0	0	21	6	5	0	0	11	35	160
09:15:00	3	1	0	5	4	2	16	0	0	18	8	3	0	0	11	33	147
09:30:00	2	2	0	0	4	4	15	0	0	19	7	0	0	0	7	30	134
09:45:00	1	3	0	0	4	4	18	0	0	22	7	1	1	0	9	35	133
BREAK																	
10:00:00	1	1	0	1	2	2	13	0	0	15	11	2	0	0	13	30	
10:15:00	3	6	0	3	9	1	9	0	0	10	12	1	0	0	13	32	
10:30:00	5	1	0	1	6	2	14	0	0	16	16	3	0	0	19	41	
10:45:00	3	2	0	5	5	2	14	0	0	16	5	2	0	0	7	28	131
11:00:00	2	0	0	1	2	1	14	0	0	15	2	2	0	0	4	21	122
11:15:00	7	1	0	2	8	0	13	0	0	13	10	4	0	0	14	35	125
11:30:00	6	1	0	1	7	6	20	0	0	26	15	6	1	0	22	55	139
11:45:00	8	2	0	2	10	3	11	0	0	14	13	5	0	0	18	42	153
12:00:00	6	7	0	5	13	4	13	0	0	17	15	4	0	0	19	49	181
12:15:00	10	4	0	0	14	1	16	0	0	17	18	2	0	1	20	51	197
12:30:00	3	1	0	7	4	2	18	0	0	20	10	6	0	1	16	40	182
12:45:00	3	6	0	2	9	4	11	0	0	15	11	7	0	0	18	42	182
13:00:00	3	0	0	4	3	0	12	0	0	12	15	6	0	0	21	36	169
13:15:00	6	2	0	3	8	0	9	0	0	9	14	4	2	0	20	37	155
13:30:00	5	3	0	4	8	0	13	0	0	13	7	3	0	0	10	31	146
13:45:00	3	1	0	2	4	3	11	0	0	14	13	2	0	0	15	33	137
14:00:00	5	1	0	0	6	1	17	0	0	18	16	3	0	0	19	43	144
14:15:00	4	3	0	5	7	2	11	0	0	13	8	2	0	0	10	30	137
14:30:00	4	1	0	1	5	3	11	0	0	14	12	5	0	0	17	36	142
14:45:00	7	3	0	2	10	2	16	0	0	18	8	4	0	0	12	40	149
BREAK																	



15:00:00	4	7	0	4	11	1	13	0	0	14	15	7	0	0	22	47	
15:15:00	1	6	0	4	7	2	16	0	0	18	25	9	0	0	34	59	
15:30:00	4	5	0	1	9	4	14	0	0	18	25	6	0	0	31	58	
15:45:00	3	6	0	2	9	4	13	0	0	17	23	6	0	0	29	55	219
16:00:00	4	3	0	8	7	1	18	0	0	19	21	3	0	0	24	50	222
16:15:00	8	3	0	3	11	5	14	0	0	19	32	3	0	0	35	65	228
16:30:00	6	3	0	2	9	3	13	0	0	16	27	3	0	0	30	55	225
16:45:00	12	4	0	3	16	3	15	0	0	18	23	4	0	0	27	61	231
17:00:00	7	5	0	6	12	4	14	0	0	18	31	8	0	0	39	69	250
17:15:00	5	6	0	5	11	5	10	0	0	15	39	2	0	0	41	67	252
17:30:00	4	4	0	1	8	5	22	0	0	27	35	8	0	0	43	78	275
17:45:00	8	7	0	2	15	3	18	0	0	21	41	6	0	0	47	83	297
18:00:00	7	6	0	6	13	4	26	0	0	30	27	7	0	1	34	77	305
18:15:00	4	6	0	5	10	2	19	0	0	21	24	6	0	0	30	61	299
18:30:00	9	3	0	4	12	4	17	1	0	22	18	3	0	0	21	55	276
18:45:00	6	5	0	4	11	2	12	0	0	14	20	8	0	0	28	53	246
Grand Total	206	148	0	132	354	118	789	1	1	908	743	185	4	3	932	2194	-
Approach%	58.2%	41.8%	0%	-	-	13%	86.9%	0.1%	-	-	79.7%	19.8%	0.4%	-	-	-	-
Totals %	9.4%	6.7%	0%	16.1%	5.4%	36%	0%	41.4%	33.9%	8.4%	0.2%	42.5%	-	-	-	-	-
Heavy	9	1	0	-	1	44	0	-	30	6	0	-	-	-	-	-	-
Heavy %	4.4%	0.7%	0%	-	0.8%	5.6%	0%	-	4%	3.2%	0%	-	-	-	-	-	-
Bicycles	0	2	0	-	3	1	0	-	3	1	0	-	-	-	-	-	-
Bicycle %	0%	1.4%	0%	-	2.5%	0.1%	0%	-	0.4%	0.5%	0%	-	-	-	-	-	-



Peak Hour: 07:45 AM - 08:45 AM Weather: Mist (3.59 °C)

Start Time	N Approach FARLEY DR					E Approach POPPY DR E					W Approach POPPY DR E					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
07:45:00	1	0	0	1	1	2	33	0	1	35	10	0	0	0	10	46
08:00:00	4	0	0	2	4	2	31	0	0	33	5	0	0	0	5	42
08:15:00	3	2	0	0	5	1	30	0	0	31	7	3	0	0	10	46
08:30:00	0	5	0	5	5	3	21	0	0	24	13	1	0	0	14	43
Grand Total	8	7	0	8	15	8	115	0	1	123	35	4	0	0	39	177
Approach%	53.3%	46.7%	0%	-	-	6.5%	93.5%	0%	-	-	89.7%	10.3%	0%	-	-	-
Totals %	4.5%	4%	0%	8.5%	8.5%	4.5%	65%	0%	69.5%	69.5%	19.8%	2.3%	0%	22%	22%	-
PHF	0.5	0.35	0	0.75	0.75	0.67	0.87	0	0.88	0.88	0.67	0.33	0	0.7	0.7	-
Heavy	0	1	0	1	1	0	6	0	6	6	4	2	0	6	6	-
Heavy %	0%	14.3%	0%	6.7%	6.7%	0%	5.2%	0%	4.9%	4.9%	11.4%	50%	0%	15.4%	15.4%	-
Lights	8	6	0	14	14	8	109	0	117	117	31	2	0	33	33	-
Lights %	100%	85.7%	0%	93.3%	93.3%	100%	94.8%	0%	95.1%	95.1%	88.6%	50%	0%	84.6%	84.6%	-
Single-Unit Trucks	0	1	0	1	1	0	1	0	1	1	2	0	0	2	2	-
Single-Unit Trucks %	0%	14.3%	0%	6.7%	6.7%	0%	0.9%	0%	0.8%	0.8%	5.7%	0%	0%	5.1%	5.1%	-
Buses	0	0	0	0	0	0	5	0	5	5	2	2	0	4	4	-
Buses %	0%	0%	0%	0%	0%	0%	4.3%	0%	4.1%	4.1%	5.7%	50%	0%	10.3%	10.3%	-
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	8	-	-	-	-	1	-	-	-	-	0	-	-
Pedestrians%	-	-	-	88.9%	-	-	-	-	11.1%	-	-	-	-	0%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-



Peak Hour: 11:30 AM - 12:30 PM Weather:

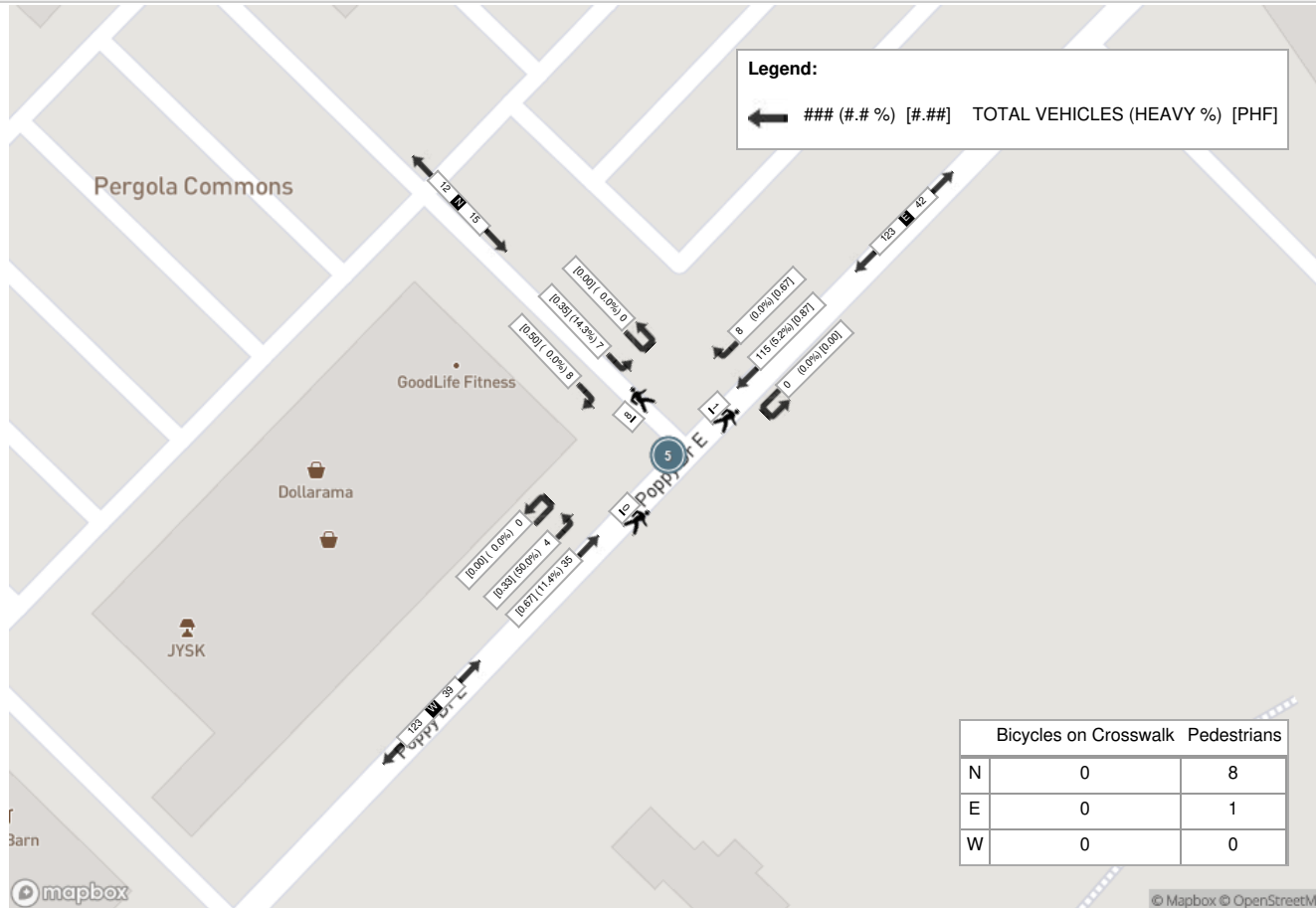
Start Time	N Approach FARLEY DR					E Approach POPPY DR E					W Approach POPPY DR E					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
11:30:00	6	1	0	1	7	6	20	0	0	26	15	6	1	0	22	55
11:45:00	8	2	0	2	10	3	11	0	0	14	13	5	0	0	18	42
12:00:00	6	7	0	5	13	4	13	0	0	17	15	4	0	0	19	49
12:15:00	10	4	0	0	14	1	16	0	0	17	18	2	0	1	20	51
Grand Total	30	14	0	8	44	14	60	0	0	74	61	17	1	1	79	197
Approach%	68.2%	31.8%	0%	-	-	18.9%	81.1%	0%	-	-	77.2%	21.5%	1.3%	-	-	-
Totals %	15.2%	7.1%	0%	-	22.3%	7.1%	30.5%	0%	-	37.6%	31%	8.6%	0.5%	-	40.1%	-
PHF	0.75	0.5	0	-	0.79	0.58	0.75	0	-	0.71	0.85	0.71	0.25	-	0.9	-
Heavy	4	0	0	-	4	1	4	0	-	5	6	0	0	-	6	-
Heavy %	13.3%	0%	0%	-	9.1%	7.1%	6.7%	0%	-	6.8%	9.8%	0%	0%	-	7.6%	-
Lights	26	14	0	-	40	13	56	0	-	69	55	17	1	-	73	-
Lights %	86.7%	100%	0%	-	90.9%	92.9%	93.3%	0%	-	93.2%	90.2%	100%	100%	-	92.4%	-
Single-Unit Trucks	3	0	0	-	3	1	2	0	-	3	6	0	0	-	6	-
Single-Unit Trucks %	10%	0%	0%	-	6.8%	7.1%	3.3%	0%	-	4.1%	9.8%	0%	0%	-	7.6%	-
Buses	0	0	0	-	0	0	2	0	-	2	0	0	0	-	0	-
Buses %	0%	0%	0%	-	0%	0%	3.3%	0%	-	2.7%	0%	0%	0%	-	0%	-
Articulated Trucks	1	0	0	-	1	0	0	0	-	0	0	0	0	-	0	-
Articulated Trucks %	3.3%	0%	0%	-	2.3%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	-
Pedestrians	-	-	-	8	-	-	-	0	-	-	-	-	-	1	-	-
Pedestrians%	-	-	-	88.9%	-	-	-	0%	-	-	-	-	-	11.1%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	-	-	0	0	0	-	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	0%	-	-	-	-	-	0%	-	-



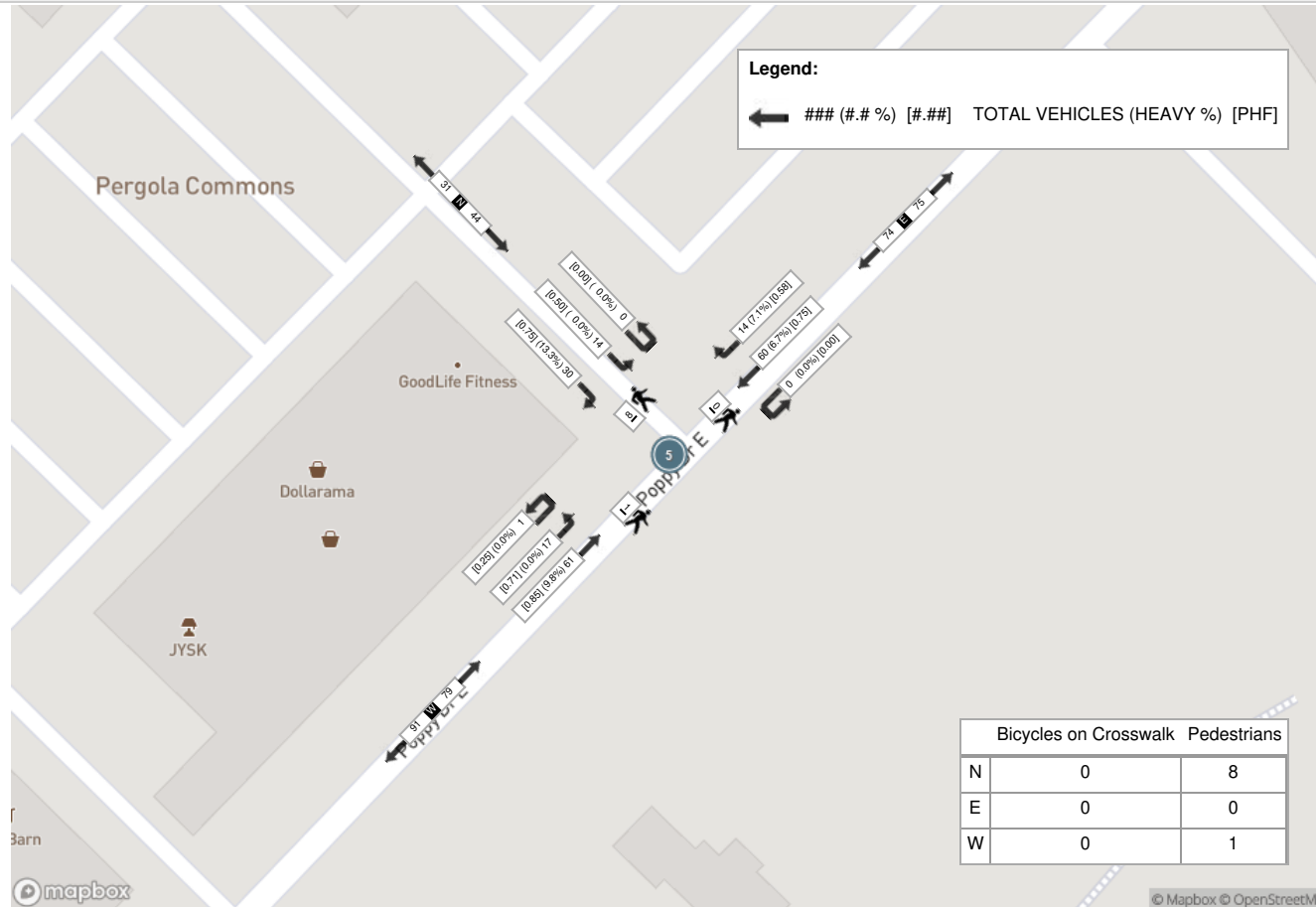
Peak Hour: 05:15 PM - 06:15 PM Weather: Clear Sky (20.05 °C)

Start Time	N Approach FARLEY DR					E Approach POPPY DR E					W Approach POPPY DR E					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
17:15:00	5	6	0	5	11	5	10	0	0	15	39	2	0	0	41	67
17:30:00	4	4	0	1	8	5	22	0	0	27	35	8	0	0	43	78
17:45:00	8	7	0	2	15	3	18	0	0	21	41	6	0	0	47	83
18:00:00	7	6	0	6	13	4	26	0	0	30	27	7	0	1	34	77
Grand Total	24	23	0	14	47	17	76	0	0	93	142	23	0	1	165	305
Approach%	51.1%	48.9%	0%	-	-	18.3%	81.7%	0%	-	-	86.1%	13.9%	0%	-	-	-
Totals %	7.9%	7.5%	0%	15.4%	15.4%	5.6%	24.9%	0%	30.5%	30.5%	46.6%	7.5%	0%	54.1%	54.1%	-
PHF	0.75	0.82	0	0.78	0.78	0.85	0.73	0	0.78	0.78	0.87	0.72	0	0.88	0.88	-
Heavy	0	0	0	0	0	0	3	0	3	3	1	0	0	1	1	-
Heavy %	0%	0%	0%	0%	0%	0%	3.9%	0%	3.2%	3.2%	0.7%	0%	0%	0.6%	0.6%	-
Lights	24	23	0	47	47	17	73	0	90	90	141	23	0	164	164	-
Lights %	100%	100%	0%	100%	100%	100%	96.1%	0%	96.8%	96.8%	99.3%	100%	0%	99.4%	99.4%	-
Single-Unit Trucks	0	0	0	0	0	0	1	0	1	1	1	0	0	1	1	-
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	1.3%	0%	1.1%	1.1%	0.7%	0%	0%	0.6%	0.6%	-
Buses	0	0	0	0	0	0	2	0	2	2	0	0	0	0	0	-
Buses %	0%	0%	0%	0%	0%	0%	2.6%	0%	2.2%	2.2%	0%	0%	0%	0%	0%	-
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	14	-	-	-	0	-	-	-	-	-	1	-	-
Pedestrians%	-	-	-	93.3%	-	-	-	0%	-	-	-	-	-	6.7%	-	-
Bicycles on Road	0	0	0	0	-	2	0	0	-	-	1	1	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	0%	-	-	-	-	-	0%	-	-

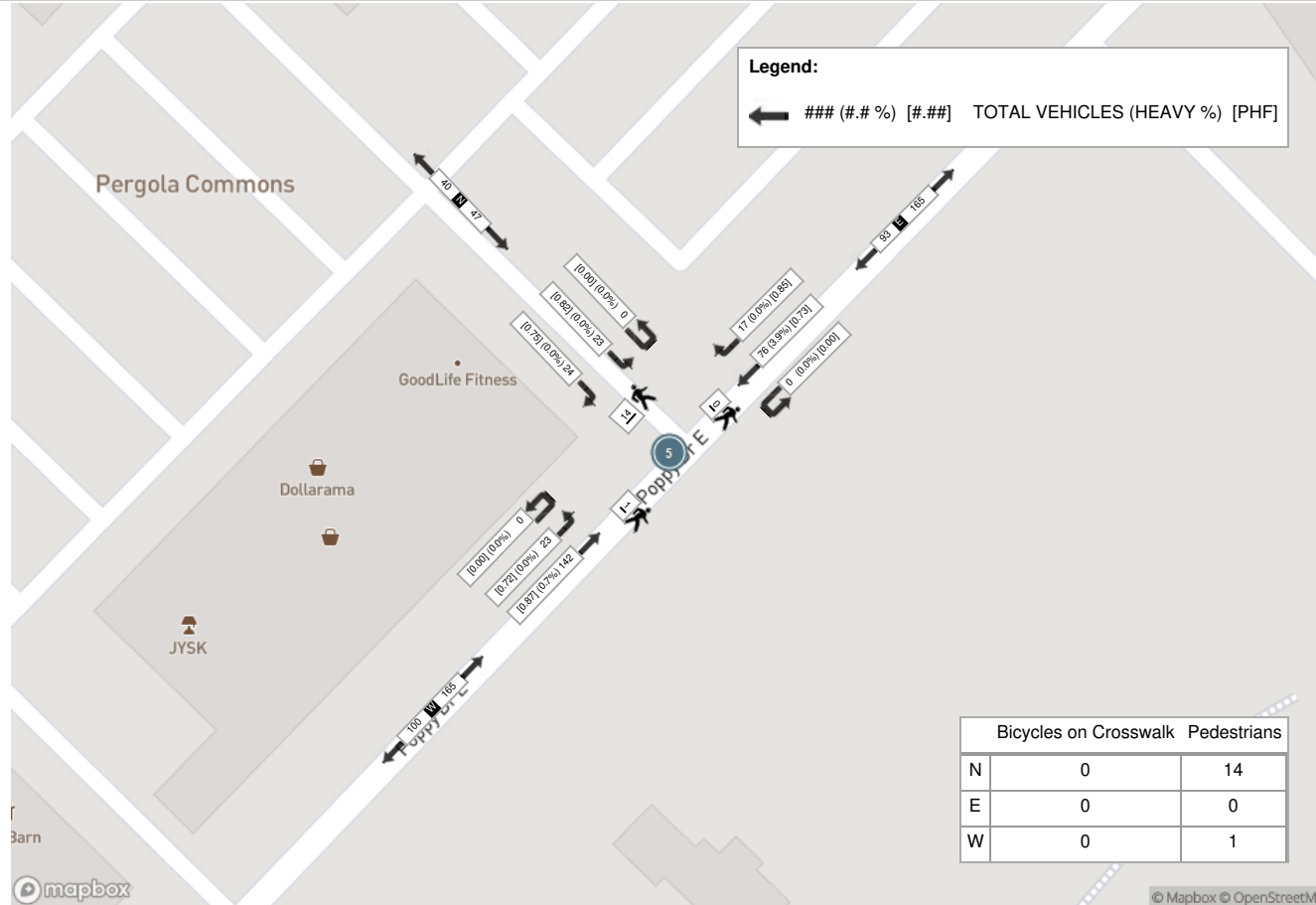
Peak Hour: 07:45 AM - 08:45 AM Weather: Mist (3.59 °C)



Peak Hour: 11:30 AM - 12:30 PM Weather:



Peak Hour: 05:15 PM - 06:15 PM Weather: Clear Sky (20.05 °C)





Turning Movement Count (4 . POPPY DR E & GORDON ST)

Start Time	N Approach GORDON ST						Approach Total	E Approach POPPY DR E						Approach Total	S Approach GORDON ST						Approach Total	W Approach POPPY DR E						Approach Total	Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Right E:N		Thru E:W	Left E:S	UTurn E:E	Peds E:	Right S:E	Thru S:N		Left S:W	UTurn S:S	Peds S:	Right W:S	Thru W:E	Left W:N		UTurn W:W	Peds W:							
07:00:00	1	132	3	0	1	136	13	0	9	0	1	22	6	52	5	0	2	63	3	1	0	0	1	4	225					
07:15:00	0	166	3	0	1	169	7	1	22	0	1	30	4	67	3	0	1	74	6	1	1	0	0	8	281					
07:30:00	0	154	4	0	0	158	12	0	12	0	4	24	2	91	2	0	0	95	5	0	1	0	0	6	283					
07:45:00	1	151	4	0	0	156	18	2	17	0	1	37	9	120	1	0	0	130	2	1	1	0	0	4	327	1116				
08:00:00	0	142	3	1	0	146	26	2	11	0	2	39	3	147	1	0	1	151	3	2	2	0	1	7	343	1234				
08:15:00	1	139	6	0	1	146	27	1	7	0	1	35	5	150	2	0	1	157	3	3	2	0	1	8	346	1299				
08:30:00	3	114	5	0	1	122	16	1	7	0	2	24	6	147	6	0	0	159	1	3	2	0	0	6	311	1327				
08:45:00	1	132	10	0	2	143	15	2	7	0	3	24	4	157	3	0	0	164	1	1	2	0	1	4	335	1335				
09:00:00	0	119	9	0	2	128	17	1	7	0	0	25	4	114	5	0	0	123	3	1	2	0	1	6	282	1274				
09:15:00	0	108	5	1	1	114	9	6	5	0	5	20	6	94	8	0	2	108	3	1	2	0	0	6	248	1176				
09:30:00	1	91	6	1	1	99	14	3	6	0	5	23	4	97	5	0	0	106	2	0	4	0	0	6	234	1099				
09:45:00	1	99	1	0	2	101	15	2	7	0	6	24	8	95	4	0	2	107	2	1	2	0	1	5	237	1001				
BREAK																														
10:00:00	2	108	10	0	1	120	15	1	6	0	3	22	5	124	5	0	1	134	2	1	2	0	1	5	281					
10:15:00	0	100	11	0	1	111	8	2	9	0	5	19	7	118	4	0	0	129	2	2	3	0	0	7	266					
10:30:00	0	105	11	1	1	117	15	1	10	0	1	26	12	99	2	0	1	113	4	1	2	0	2	7	263					
10:45:00	2	87	5	1	1	95	14	4	8	0	1	26	5	123	5	0	0	133	0	1	4	0	0	5	259	1069				
11:00:00	1	106	1	0	2	108	7	4	10	0	5	21	4	123	4	0	0	131	1	0	5	0	1	6	266	1054				
11:15:00	0	98	10	2	1	110	17	0	7	0	3	24	7	102	4	0	2	113	3	3	3	0	3	9	256	1044				
11:30:00	2	104	13	0	0	119	16	3	13	0	9	32	11	124	3	0	0	138	4	4	1	0	0	9	298	1079				
11:45:00	2	114	18	1	35	135	18	7	13	0	3	38	13	114	8	0	2	135	5	3	4	0	0	12	320	1140				
12:00:00	1	131	16	1	3	149	17	3	11	0	3	31	10	128	8	0	1	146	5	5	3	0	2	13	339	1213				
12:15:00	1	101	17	1	0	120	21	6	12	0	4	39	8	124	5	0	0	137	3	2	3	0	1	8	304	1261				
12:30:00	2	114	12	1	2	129	19	4	12	0	3	35	14	95	3	0	1	112	9	2	2	0	1	13	289	1252				
12:45:00	2	104	13	0	3	119	18	4	11	0	2	33	10	104	10	0	1	124	2	2	5	0	1	9	285	1217				
13:00:00	0	88	10	2	1	100	20	4	7	0	3	31	17	114	5	0	0	136	3	5	4	0	0	12	279	1157				
13:15:00	1	105	11	1	5	118	11	6	13	0	5	30	6	113	8	0	1	127	2	3	5	0	1	10	285	1138				
13:30:00	1	110	7	1	2	119	12	5	11	0	3	28	11	134	6	0	0	151	6	3	1	0	2	10	308	1157				
13:45:00	4	96	7	1	2	108	12	6	4	0	2	22	7	95	5	0	0	107	2	0	7	0	1	9	246	1118				
14:00:00	0	96	12	0	1	108	16	6	7	0	2	29	11	103	5	0	3	119	2	4	0	0	3	6	262	1101				
14:15:00	2	99	5	3	1	109	13	0	9	0	1	22	6	96	5	0	0	107	3	4	1	0	0	8	246	1062				
14:30:00	2	130	13	0	2	145	10	5	8	0	1	23	8	112	2	0	4	122	1	0	1	0	2	2	292	1046				
14:45:00	1	110	8	1	2	120	11	2	11	0	0	24	7	127	5	0	0	139	3	4	6	0	0	13	296	1096				
BREAK																														
15:00:00	3	106	14	1	9	124	11	10	8	0	2	29	10	128	5	0	1	143	5	2	2	0	0	9	305					
15:15:00	2	112	18	0	1	132	18	3	7	0	3	28	21	145	10	0	1	176	5	3	4	0	2	12	348					
15:30:00	2	118	18	0	2	138	8	6	12	0	3	26	11	154	13	0	0	178	4	7	1	0	0	12	354					
15:45:00	2	128	15	2	3	147	16	2	11	0	5	29	12	167	6	0	2	185	3	6	3	0	0	12	373	1380				
16:00:00	2	140	17	0	3	159	16	9	7	0	9	32	13	144	8	0	2	165	4	4	3	0	1	11	367	1442				
16:15:00	0	138	13	0	4	151	19	4	9	0	7	32	19	165	10	0	0	194	2	6	7	0	0	15	392	1486				
16:30:00	2	121	15	1	1	139	10	5	9	0	1	24	10	165	7	0	0	182	4	8	3	0	0	15	360	1492				
16:45:00	1	169	13	1	5	184	17	9	14	0	7	40	17	150	11	0	0	178	2	6	3	0	1	11	413	1532				
17:00:00	1	120	26	2	4	149	12	5	18	0	3	35	20	174	14	0	1	208	6	3	2	0	2	11	403	1568				
17:15:00	5	119	25	1	6	150	11	4	9	0	4	24	18	174	9	0	2	201	3	8	7	0	2	18	393	1569				
17:30:00	3	131	14	0	3	148	18	2	11	0	3	31	32	173	13	0	0	218	8	4	4	0	1	16	413	1622				



17:45:00	1	142	24	1	2	168	23	2	11	0	2	36	20	140	5	0	0	165	2	7	5	0	1	14	383	1592
18:00:00	3	110	22	0	2	135	25	5	18	0	3	48	18	159	5	0	2	182	1	6	7	0	3	14	379	1568
18:15:00	3	98	22	1	0	124	28	4	8	0	2	40	10	136	3	0	0	149	6	6	4	0	1	16	329	1504
18:30:00	3	84	14	0	2	101	23	4	9	0	5	36	8	135	5	0	1	148	2	4	0	0	1	6	291	1382
18:45:00	1	86	19	0	5	106	20	2	6	0	4	28	17	130	3	0	1	150	2	2	4	0	3	8	292	1291
Grand Total	69	5575	558	30	130	6232	754	170	476	0	153	1400	496	6042	274	0	39	6812	155	146	142	0	45	443	14887	-
Approach%	1.1%	89.5%	9%	0.5%	-	53.9%	12.1%	34%	0%	-	7.3%	88.7%	4%	0%	-	35%	33%	32.1%	0%	-	-	-	-	-	-	-
Totals %	0.5%	37.4%	3.7%	0.2%	41.9%	5.1%	1.1%	3.2%	0%	9.4%	3.3%	40.6%	1.8%	0%	45.8%	1%	1%	1%	0%	3%	-	-	-	-	-	-
Heavy	4	312	17	0	-	42	8	16	0	-	19	326	12	0	-	6	8	36	0	-	-	-	-	-	-	-
Heavy %	5.8%	5.6%	3%	0%	-	5.6%	4.7%	3.4%	0%	-	3.8%	5.4%	4.4%	0%	-	3.9%	5.5%	25.4%	0%	-	-	-	-	-	-	-
Bicycles	0	5	0	0	-	0	1	0	0	-	2	5	0	0	-	0	1	0	0	-	-	-	-	-	-	-
Bicycle %	0%	0.1%	0%	0%	-	0%	0.6%	0%	0%	-	0.4%	0.1%	0%	0%	-	0%	0.7%	0%	0%	-	-	-	-	-	-	-



Peak Hour: 08:00 AM - 09:00 AM Weather: Mist (3.59 °C)

Start Time	N Approach GORDON ST						E Approach POPPY DR E						S Approach GORDON ST						W Approach POPPY DR E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	0	142	3	1	0	146	26	2	11	0	2	39	3	147	1	0	1	151	3	2	2	0	1	7	343
08:15:00	1	139	6	0	1	146	27	1	7	0	1	35	5	150	2	0	1	157	3	3	2	0	1	8	346
08:30:00	3	114	5	0	1	122	16	1	7	0	2	24	6	147	6	0	0	159	1	3	2	0	0	6	311
08:45:00	1	132	10	0	2	143	15	2	7	0	3	24	4	157	3	0	0	164	1	1	2	0	1	4	335
Grand Total	5	527	24	1	4	557	84	6	32	0	8	122	18	601	12	0	2	631	8	9	8	0	3	25	1335
Approach%	0.9%	94.6%	4.3%	0.2%	-	-	68.9%	4.9%	26.2%	0%	-	-	2.9%	95.2%	1.9%	0%	-	-	32%	36%	32%	0%	-	-	-
Totals %	0.4%	39.5%	1.8%	0.1%	41.7%	6.3%	0.4%	2.4%	0%	9.1%	1.3%	45%	0.9%	0%	47.3%	0.6%	0.7%	0.6%	0%	1.9%	-	-			
PHF	0.42	0.93	0.6	0.25	0.95	0.78	0.75	0.73	0	0.78	0.75	0.96	0.5	0	0.96	0.67	0.75	1	0	0.78	-	-			
Heavy	1	31	1	0	33	5	3	0	0	8	3	43	1	0	47	0	2	6	0	8	-	-			
Heavy %	20%	5.9%	4.2%	0%	5.9%	6%	50%	0%	0%	6.6%	16.7%	7.2%	8.3%	0%	7.4%	0%	22.2%	75%	0%	32%	-	-			
Lights	4	496	23	1	524	79	3	32	0	114	15	558	11	0	584	8	7	2	0	17	-	-			
Lights %	80%	94.1%	95.8%	100%	94.1%	94%	50%	100%	0%	93.4%	83.3%	92.8%	91.7%	0%	92.6%	100%	77.8%	25%	0%	68%	-	-			
Single-Unit Trucks	1	13	1	0	15	2	1	0	0	3	1	22	1	0	24	0	0	2	0	2	-	-			
Single-Unit Trucks %	20%	2.5%	4.2%	0%	2.7%	2.4%	16.7%	0%	0%	2.5%	5.6%	3.7%	8.3%	0%	3.8%	0%	0%	25%	0%	8%	-	-			
Buses	0	3	0	0	3	3	2	0	0	5	2	13	0	0	15	0	2	3	0	5	-	-			
Buses %	0%	0.6%	0%	0%	0.5%	3.6%	33.3%	0%	0%	4.1%	11.1%	2.2%	0%	0%	2.4%	0%	22.2%	37.5%	0%	20%	-	-			
Articulated Trucks	0	15	0	0	15	0	0	0	0	0	0	8	0	0	8	0	0	1	0	1	-	-			
Articulated Trucks %	0%	2.8%	0%	0%	2.7%	0%	0%	0%	0%	0%	0%	1.3%	0%	0%	1.3%	0%	0%	12.5%	0%	4%	-	-			
Pedestrians	-	-	-	-	4	-	-	-	-	8	-	-	-	-	2	-	-	-	-	3	-	-			
Pedestrians%	-	-	-	-	23.5%	-	-	-	-	47.1%	-	-	-	-	11.8%	-	-	-	-	17.6%	-	-			
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-			
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	0%	-	-			
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	-	-	-	-	0	-	-			
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	0%	-	-			



Peak Hour: 11:30 AM - 12:30 PM Weather:

Start Time	N Approach GORDON ST						E Approach POPPY DR E						S Approach GORDON ST						W Approach POPPY DR E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
11:30:00	2	104	13	0	0	119	16	3	13	0	9	32	11	124	3	0	0	138	4	4	1	0	0	9	298
11:45:00	2	114	18	1	35	135	18	7	13	0	3	38	13	114	8	0	2	135	5	3	4	0	0	12	320
12:00:00	1	131	16	1	3	149	17	3	11	0	3	31	10	128	8	0	1	146	5	5	3	0	2	13	339
12:15:00	1	101	17	1	0	120	21	6	12	0	4	39	8	124	5	0	0	137	3	2	3	0	1	8	304
Grand Total	6	450	64	3	38	523	72	19	49	0	19	140	42	490	24	0	3	556	17	14	11	0	3	42	1261
Approach%	1.1%	86%	12.2%	0.6%	-	-	51.4%	13.6%	35%	0%	-	-	7.6%	88.1%	4.3%	0%	-	-	40.5%	33.3%	26.2%	0%	-	-	-
Totals %	0.5%	35.7%	5.1%	0.2%	41.5%	5.7%	1.5%	3.9%	0%	11.1%	3.3%	38.9%	1.9%	0%	44.1%	1.3%	1.1%	0.9%	0%	3.3%	-	-	-		
PHF	0.75	0.86	0.89	0.75	0.88	0.86	0.68	0.94	0	0.9	0.81	0.96	0.75	0	0.95	0.85	0.7	0.69	0	0.81	-	-	-		
Heavy	0	35	5	0	40	3	3	5	0	11	3	32	1	0	36	1	0	3	0	4	-	-	-		
Heavy %	0%	7.8%	7.8%	0%	7.6%	4.2%	15.8%	10.2%	0%	7.9%	7.1%	6.5%	4.2%	0%	6.5%	5.9%	0%	27.3%	0%	9.5%	-	-	-		
Lights	6	415	59	3	483	69	16	44	0	129	39	458	23	0	520	16	14	8	0	38	-	-	-		
Lights %	100%	92.2%	92.2%	100%	92.4%	95.8%	84.2%	89.8%	0%	92.1%	92.9%	93.5%	95.8%	0%	93.5%	94.1%	100%	72.7%	0%	90.5%	-	-	-		
Single-Unit Trucks	0	16	5	0	21	1	2	4	0	7	2	15	1	0	18	1	0	0	0	1	-	-	-		
Single-Unit Trucks %	0%	3.6%	7.8%	0%	4%	1.4%	10.5%	8.2%	0%	5%	4.8%	3.1%	4.2%	0%	3.2%	5.9%	0%	0%	0%	2.4%	-	-	-		
Buses	0	5	0	0	5	2	0	0	0	2	0	3	0	0	3	0	0	2	0	2	-	-	-		
Buses %	0%	1.1%	0%	0%	1%	2.8%	0%	0%	0%	1.4%	0%	0.6%	0%	0%	0.5%	0%	0%	18.2%	0%	4.8%	-	-	-		
Articulated Trucks	0	14	0	0	14	0	1	1	0	2	1	14	0	0	15	0	0	1	0	1	-	-	-		
Articulated Trucks %	0%	3.1%	0%	0%	2.7%	0%	5.3%	2%	0%	1.4%	2.4%	2.9%	0%	0%	2.7%	0%	0%	9.1%	0%	2.4%	-	-	-		
Pedestrians	-	-	-	-	36	-	-	-	-	19	-	-	-	-	3	-	-	-	-	2	-	-	-		
Pedestrians%	-	-	-	-	57.1%	-	-	-	-	30.2%	-	-	-	-	4.8%	-	-	-	-	3.2%	-	-	-		
Bicycles on Road	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	-	-	-		
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-		
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-	-		
Bicycles on Crosswalk%	-	-	-	-	3.2%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	1.6%	-	-	-		



Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (20.05 °C)

Start Time	N Approach GORDON ST						E Approach POPPY DR E						S Approach GORDON ST						W Approach POPPY DR E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	1	169	13	1	5	184	17	9	14	0	7	40	17	150	11	0	0	178	2	6	3	0	1	11	413
17:00:00	1	120	26	2	4	149	12	5	18	0	3	35	20	174	14	0	1	208	6	3	2	0	2	11	403
17:15:00	5	119	25	1	6	150	11	4	9	0	4	24	18	174	9	0	2	201	3	8	7	0	2	18	393
17:30:00	3	131	14	0	3	148	18	2	11	0	3	31	32	173	13	0	0	218	8	4	4	0	1	16	413
Grand Total	10	539	78	4	18	631	58	20	52	0	17	130	87	671	47	0	3	805	19	21	16	0	6	56	1622
Approach%	1.6%	85.4%	12.4%	0.6%	-	-	44.6%	15.4%	40%	0%	-	-	10.8%	83.4%	5.8%	0%	-	-	33.9%	37.5%	28.6%	0%	-	-	-
Totals %	0.6%	33.2%	4.8%	0.2%	38.9%	3.6%	1.2%	3.2%	0%	8%	5.4%	41.4%	2.9%	0%	49.6%	1.2%	1.3%	1%	0%	3.5%	-	-	-	-	
PHF	0.5	0.8	0.75	0.5	0.86	0.81	0.81	0.56	0.72	0	0.81	0.68	0.96	0.84	0	0.92	0.59	0.66	0.57	0	0.78	-	-	-	
Heavy	0	15	1	0	16	2	0	1	0	3	1	19	1	0	21	0	0	3	0	3	-	-	-	-	
Heavy %	0%	2.8%	1.3%	0%	2.5%	3.4%	0%	1.9%	0%	2.3%	1.1%	2.8%	2.1%	0%	2.6%	0%	0%	18.8%	0%	5.4%	-	-	-	-	
Lights	10	524	77	4	615	56	20	51	0	127	86	652	46	0	784	19	21	13	0	53	-	-	-	-	
Lights %	100%	97.2%	98.7%	100%	97.5%	96.6%	100%	98.1%	0%	97.7%	98.9%	97.2%	97.9%	0%	97.4%	100%	100%	81.3%	0%	94.6%	-	-	-	-	
Single-Unit Trucks	0	6	1	0	7	0	0	1	0	1	0	8	0	0	8	0	0	1	0	1	-	-	-	-	
Single-Unit Trucks %	0%	1.1%	1.3%	0%	1.1%	0%	0%	1.9%	0%	0.8%	1.1%	1.2%	0%	0%	1%	0%	0%	6.3%	0%	1.8%	-	-	-	-	
Buses	0	5	0	0	5	2	0	0	0	2	0	7	0	0	7	0	0	2	0	2	-	-	-	-	
Buses %	0%	0.9%	0%	0%	0.8%	3.4%	0%	0%	0%	1.5%	0%	1%	0%	0%	0.9%	0%	0%	12.5%	0%	3.6%	-	-	-	-	
Articulated Trucks	0	4	0	0	4	0	0	0	0	0	1	4	1	0	6	0	0	0	0	0	-	-	-	-	
Articulated Trucks %	0%	0.7%	0%	0%	0.6%	0%	0%	0%	0%	0%	1.1%	0.6%	2.1%	0%	0.7%	0%	0%	0%	0%	0%	-	-	-	-	
Pedestrians	-	-	-	-	17	-	-	-	-	15	-	-	-	3	-	-	-	-	6	-	-	-	-	-	
Pedestrians%	-	-	-	-	38.6%	-	-	-	-	34.1%	-	-	-	6.8%	-	-	-	-	13.6%	-	-	-	-	-	
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	2	-	-	-	-	-	-	0	-	-	-	0	-	-	-	
Bicycles on Crosswalk%	-	-	-	-	2.3%	-	-	-	-	4.5%	-	-	-	-	-	-	0%	-	-	-	0%	-	-	-	

Peak Hour: 08:00 AM - 09:00 AM Weather: Mist (3.59 °C)



Peak Hour: 11:30 AM - 12:30 PM Weather:



Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (20.05 °C)



Turning Movement Count (6 . POPPY DR E & HAWKINS DR)

Start Time	N Approach HAWKINS DR						Approach Total	E Approach POPPY DR E					Approach Total	S Approach HAWKINS DR					Approach Total	W Approach POPPY DR E					Approach Total	Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Right E:N		Thru E:W	Left E:S	UTurn E:E	Peds E:	Right S:E		Thru S:N	Left S:W	UTurn S:S	Peds S:	Right W:S		Thru W:E	Left W:N	UTurn W:W	Peds W:				
07:00:00	1	0	1	0	4	2	3	15	0	0	0	18	0	0	1	0	0	1	2	3	2	0	1	7	28		
07:15:00	3	0	0	0	0	3	1	18	1	0	0	20	0	1	1	0	0	2	0	5	1	0	1	6	31		
07:30:00	0	1	1	0	0	2	1	20	0	0	1	21	1	0	3	1	1	5	0	5	4	0	0	9	37		
07:45:00	6	0	3	0	0	9	0	20	1	0	1	21	0	2	3	0	1	5	0	3	6	0	2	9	44	140	
08:00:00	2	0	1	0	15	3	1	18	0	0	3	19	0	2	2	0	4	4	0	2	7	0	9	9	35	147	
08:15:00	2	1	0	1	5	4	3	21	0	0	6	24	0	2	2	0	10	4	1	4	5	0	5	10	42	158	
08:30:00	3	0	3	0	3	6	3	15	1	0	3	19	1	3	3	0	0	7	0	12	6	0	0	18	50	171	
08:45:00	3	0	3	0	1	6	2	11	0	0	5	13	0	0	2	0	1	2	0	5	4	0	1	9	30	157	
09:00:00	3	1	2	0	2	6	1	15	0	0	0	16	1	0	1	0	1	2	1	8	3	0	1	12	36	158	
09:15:00	4	0	0	0	5	4	0	14	0	0	5	14	0	2	0	0	7	2	2	5	2	0	3	9	29	145	
09:30:00	2	1	0	0	5	3	1	4	0	0	0	5	0	1	1	0	2	2	0	7	2	0	4	9	19	114	
09:45:00	0	0	1	0	0	1	3	16	0	0	0	19	0	0	2	0	2	2	1	3	3	0	0	7	29	113	
BREAK																											
10:00:00	2	1	3	0	3	6	1	10	0	0	0	11	0	3	1	0	7	4	1	5	2	0	3	8	29		
10:15:00	1	1	1	0	7	3	1	8	0	0	1	9	0	1	0	0	2	1	1	6	4	0	1	11	24		
10:30:00	1	1	0	0	5	2	4	7	0	0	0	11	1	2	2	0	6	5	2	10	3	0	1	15	33		
10:45:00	2	0	2	0	3	4	1	11	0	0	0	12	1	1	1	0	2	3	1	3	4	0	3	8	27	113	
11:00:00	3	0	2	0	1	5	1	7	0	0	1	8	0	2	3	0	6	5	1	1	2	0	2	4	22	106	
11:15:00	0	0	2	0	0	2	4	8	0	0	2	12	0	0	1	0	3	1	0	3	4	0	2	7	22	104	
11:30:00	5	0	3	0	2	8	2	11	0	0	0	13	0	0	3	0	1	3	0	10	7	0	0	17	41	112	
11:45:00	3	1	0	0	1	4	2	5	0	0	0	7	0	2	2	0	2	4	4	7	3	0	0	14	29	114	
12:00:00	1	1	2	0	4	4	2	8	0	0	0	10	0	1	2	0	1	3	2	9	1	0	3	12	29	121	
12:15:00	4	0	3	0	2	7	3	9	0	0	1	12	1	0	0	0	1	1	0	13	6	0	3	19	39	138	
12:30:00	2	0	4	0	7	6	3	13	0	0	1	16	1	0	0	0	1	1	0	8	4	0	2	12	35	132	
12:45:00	1	1	4	0	6	6	3	6	1	0	1	10	0	2	2	0	3	4	0	10	4	0	5	14	34	137	
13:00:00	1	1	0	0	0	2	3	7	0	0	0	10	0	2	0	0	2	2	3	7	2	0	3	12	26	134	
13:15:00	2	0	1	0	1	3	2	8	0	0	0	10	1	0	0	0	2	1	1	8	6	0	0	15	29	124	
13:30:00	5	2	2	0	6	9	0	6	0	0	0	6	0	2	1	0	2	3	0	6	3	0	2	9	27	116	
13:45:00	1	1	4	0	1	6	1	10	0	0	0	11	0	1	1	0	2	2	2	9	4	0	2	15	34	116	
14:00:00	5	0	3	0	4	8	1	9	0	0	0	10	0	3	1	0	0	4	3	8	3	0	1	14	36	126	
14:15:00	2	1	1	0	5	4	1	7	0	0	0	8	0	0	1	0	0	1	0	4	3	0	1	7	20	117	
14:30:00	2	3	3	0	2	8	1	11	0	0	1	12	0	1	1	0	1	2	0	7	1	0	1	8	30	120	
14:45:00	3	0	1	0	3	4	1	12	0	0	0	13	0	0	1	0	4	1	0	6	4	0	3	10	28	114	
BREAK																											
15:00:00	3	2	2	0	6	7	3	10	1	0	1	14	0	0	0	0	4	0	1	11	6	0	0	18	39		
15:15:00	3	1	4	0	1	8	2	9	0	0	1	11	0	1	2	0	5	3	0	18	10	0	3	28	50		
15:30:00	4	3	5	0	1	12	3	11	0	0	3	14	0	1	0	0	5	1	1	14	7	0	3	22	49		
15:45:00	5	2	3	0	8	10	2	14	0	0	2	16	0	0	1	0	19	1	1	15	5	0	2	21	48	186	
16:00:00	4	2	4	0	4	10	2	10	1	0	2	13	0	0	3	0	10	3	1	9	5	0	2	15	41	188	
16:15:00	3	4	1	0	7	8	1	9	0	0	0	10	0	0	3	0	4	3	3	9	18	0	3	30	51	189	
16:30:00	6	3	3	0	7	12	1	11	0	0	0	12	1	0	1	0	3	2	4	13	8	0	0	25	51	191	
16:45:00	3	0	3	0	11	6	1	10	0	0	0	11	0	1	2	0	2	3	1	14	7	1	1	23	43	186	
17:00:00	3	2	2	0	7	7	3	10	0	0	4	13	0	2	4	0	2	6	2	22	6	0	4	30	56	201	
17:15:00	2	0	8	0	10	10	0	6	1	0	0	7	1	2	5	0	4	8	4	29	8	0	3	41	66	216	
17:30:00	8	0	2	0	5	10	1	13	1	0	0	15	0	0	1	0	5	1	1	18	13	0	0	32	58	223	



17:45:00	5	2	1	0	6	8	1	16	0	0	4	17	1	1	3	0	2	5	4	23	10	0	8	37	67	247
18:00:00	2	0	0	0	1	2	1	18	0	0	4	19	0	1	3	0	3	4	3	13	12	0	6	28	53	244
18:15:00	1	3	5	0	3	9	0	13	1	0	2	14	0	3	4	0	2	7	2	19	7	0	1	28	58	236
18:30:00	4	1	4	0	10	9	3	14	0	0	0	17	0	1	1	0	4	2	1	13	6	0	5	20	48	226
18:45:00	5	4	0	0	9	9	3	11	0	0	2	14	0	3	1	0	3	4	2	10	7	0	4	19	46	205
Grand Total	136	47	103	1	199	287	83	545	9	0	57	637	11	52	78	1	154	142	59	452	250	1	110	762	1828	-
Approach%	47.4%	16.4%	35.9%	0.3%	-	13%	85.6%	1.4%	0%	-	-	7.7%	36.6%	54.9%	0.7%	-	7.7%	59.3%	32.8%	0.1%	-	-	-	-	-	-
Totals %	7.4%	2.6%	5.6%	0.1%	15.7%	4.5%	29.8%	0.5%	0%	34.8%	0.6%	2.8%	4.3%	0.1%	7.8%	3.2%	24.7%	13.7%	0.1%	41.7%	-	-	-	-	-	-
Heavy	6	0	0	0	-	5	26	0	0	-	1	0	1	0	-	2	6	12	0	-	-	-	-	-	-	-
Heavy %	4.4%	0%	0%	0%	-	6%	4.8%	0%	0%	-	9.1%	0%	1.3%	0%	-	3.4%	1.3%	4.8%	0%	-	-	-	-	-	-	-
Bicycles	0	0	1	0	-	1	7	0	0	-	0	0	1	0	-	0	7	0	0	-	-	-	-	-	-	-
Bicycle %	0%	0%	1%	0%	-	1.2%	1.3%	0%	0%	-	0%	0%	1.3%	0%	-	0%	1.5%	0%	0%	-	-	-	-	-	-	-



Peak Hour: 07:45 AM - 08:45 AM Weather: Mist (3.59 °C)

Start Time	N Approach HAWKINS DR						E Approach POPPY DR E						S Approach HAWKINS DR						W Approach POPPY DR E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:45:00	6	0	3	0	0	9	0	20	1	0	1	21	0	2	3	0	1	5	0	3	6	0	2	9	44
08:00:00	2	0	1	0	15	3	1	18	0	0	3	19	0	2	2	0	4	4	0	2	7	0	9	9	35
08:15:00	2	1	0	1	5	4	3	21	0	0	6	24	0	2	2	0	10	4	1	4	5	0	5	10	42
08:30:00	3	0	3	0	3	6	3	15	1	0	3	19	1	3	3	0	0	7	0	12	6	0	0	18	50
Grand Total	13	1	7	1	23	22	7	74	2	0	13	83	1	9	10	0	15	20	1	21	24	0	16	46	171
Approach%	59.1%	4.5%	31.8%	4.5%	-	-	8.4%	89.2%	2.4%	0%	-	-	5%	45%	50%	0%	-	-	2.2%	45.7%	52.2%	0%	-	-	-
Totals %	7.6%	0.6%	4.1%	0.6%	12.9%	12.9%	4.1%	43.3%	1.2%	0%	48.5%	48.5%	0.6%	5.3%	5.8%	0%	11.7%	11.7%	0.6%	12.3%	14%	0%	26.9%	26.9%	-
PHF	0.54	0.25	0.58	0.25	0.61	0.61	0.58	0.88	0.5	0	0.86	0.86	0.25	0.75	0.83	0	0.71	0.71	0.25	0.44	0.86	0	0.64	0.64	-
Heavy	1	0	0	0	1	1	0	3	0	0	3	3	0	0	0	0	0	0	0	2	3	0	5	5	-
Heavy %	7.7%	0%	0%	0%	4.5%	4.5%	0%	4.1%	0%	0%	3.6%	3.6%	0%	0%	0%	0%	0%	0%	0%	9.5%	12.5%	0%	10.9%	10.9%	-
Lights	12	1	7	1	21	21	7	71	2	0	80	80	1	9	10	0	20	20	1	19	21	0	41	41	-
Lights %	92.3%	100%	100%	100%	95.5%	95.5%	100%	95.9%	100%	0%	96.4%	96.4%	100%	100%	100%	0%	100%	100%	100%	90.5%	87.5%	0%	89.1%	89.1%	-
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	-
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4.8%	0%	0%	2.2%	2.2%	-
Buses	1	0	0	0	1	1	0	3	0	0	3	3	0	0	0	0	0	0	0	1	3	0	4	4	-
Buses %	7.7%	0%	0%	0%	4.5%	4.5%	0%	4.1%	0%	0%	3.6%	3.6%	0%	0%	0%	0%	0%	0%	0%	4.8%	12.5%	0%	8.7%	8.7%	-
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	22	-	-	-	-	-	13	-	-	-	-	-	15	-	-	-	-	-	16	-	-
Pedestrians%	-	-	-	-	32.8%	-	-	-	-	-	19.4%	-	-	-	-	-	22.4%	-	-	-	-	-	23.9%	-	-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	1.5%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-



Peak Hour: 11:30 AM - 12:30 PM Weather:

Start Time	N Approach HAWKINS DR						E Approach POPPY DR E						S Approach HAWKINS DR						W Approach POPPY DR E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
11:30:00	5	0	3	0	2	8	2	11	0	0	0	13	0	0	3	0	1	3	0	10	7	0	0	17	41
11:45:00	3	1	0	0	1	4	2	5	0	0	0	7	0	2	2	0	2	4	4	7	3	0	0	14	29
12:00:00	1	1	2	0	4	4	2	8	0	0	0	10	0	1	2	0	1	3	2	9	1	0	3	12	29
12:15:00	4	0	3	0	2	7	3	9	0	0	1	12	1	0	0	0	1	1	0	13	6	0	3	19	39
Grand Total	13	2	8	0	9	23	9	33	0	0	1	42	1	3	7	0	5	11	6	39	17	0	6	62	138
Approach%	56.5%	8.7%	34.8%	0%	-	-	21.4%	78.6%	0%	0%	-	-	9.1%	27.3%	63.6%	0%	-	-	9.7%	62.9%	27.4%	0%	-	-	-
Totals %	9.4%	1.4%	5.8%	0%	16.7%	16.7%	6.5%	23.9%	0%	0%	30.4%	30.4%	0.7%	2.2%	5.1%	0%	8%	8%	4.3%	28.3%	12.3%	0%	44.9%	44.9%	-
PHF	0.65	0.5	0.67	0	0.72	0.72	0.75	0.75	0	0	0.81	0.81	0.25	0.38	0.58	0	0.69	0.69	0.38	0.75	0.61	0	0.82	0.82	-
Heavy	0	0	0	0	0	0	0	3	0	0	3	3	1	0	1	0	2	2	2	2	0	0	4	4	-
Heavy %	0%	0%	0%	0%	0%	0%	0%	9.1%	0%	0%	7.1%	7.1%	100%	0%	14.3%	0%	18.2%	18.2%	33.3%	5.1%	0%	0%	6.5%	6.5%	-
Lights	13	2	8	0	23	23	9	30	0	0	39	39	0	3	6	0	9	9	4	37	17	0	58	58	-
Lights %	100%	100%	100%	0%	100%	100%	100%	90.9%	0%	0%	92.9%	92.9%	0%	100%	85.7%	0%	81.8%	81.8%	66.7%	94.9%	100%	0%	93.5%	93.5%	-
Single-Unit Trucks	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	2	2	2	2	0	0	4	4	-
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	2.4%	2.4%	100%	0%	14.3%	0%	18.2%	18.2%	33.3%	5.1%	0%	0%	6.5%	6.5%	-
Buses	0	0	0	0	0	0	0	2	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	-
Buses %	0%	0%	0%	0%	0%	0%	0%	6.1%	0%	0%	4.8%	4.8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	8	-	-	-	-	-	1	-	-	-	-	-	5	-	-	-	-	-	6	-	-
Pedestrians%	-	-	-	-	38.1%	-	-	-	-	-	4.8%	-	-	-	-	-	23.8%	-	-	-	-	-	28.6%	-	-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	4.8%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-



Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (20.05 °C)

Start Time	N Approach HAWKINS DR						E Approach POPPY DR E						S Approach HAWKINS DR						W Approach POPPY DR E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
17:00:00	3	2	2	0	7	7	3	10	0	0	4	13	0	2	4	0	2	6	2	22	6	0	4	30	56
17:15:00	2	0	8	0	10	10	0	6	1	0	0	7	1	2	5	0	4	8	4	29	8	0	3	41	66
17:30:00	8	0	2	0	5	10	1	13	1	0	0	15	0	0	1	0	5	1	1	18	13	0	0	32	58
17:45:00	5	2	1	0	6	8	1	16	0	0	4	17	1	1	3	0	2	5	4	23	10	0	8	37	67
Grand Total	18	4	13	0	28	35	5	45	2	0	8	52	2	5	13	0	13	20	11	92	37	0	15	140	247
Approach%	51.4%	11.4%	37.1%	0%	-	-	9.6%	86.5%	3.8%	0%	-	-	10%	25%	65%	0%	-	-	7.9%	65.7%	26.4%	0%	-	-	-
Totals %	7.3%	1.6%	5.3%	0%	14.2%	14.2%	2%	18.2%	0.8%	0%	21.1%	21.1%	0.8%	2%	5.3%	0%	8.1%	8.1%	4.5%	37.2%	15%	0%	56.7%	56.7%	-
PHF	0.56	0.5	0.41	0	0.88	0.88	0.42	0.7	0.5	0	0.76	0.76	0.5	0.63	0.65	0	0.63	0.63	0.69	0.79	0.71	0	0.85	0.85	-
Heavy	1	0	0	0	1	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	-
Heavy %	5.6%	0%	0%	0%	2.9%	2.9%	0%	2.2%	0%	0%	1.9%	1.9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Lights	17	4	13	0	34	34	5	44	2	0	51	51	2	5	13	0	20	20	11	92	37	0	140	140	-
Lights %	94.4%	100%	100%	0%	97.1%	97.1%	100%	97.8%	100%	0%	98.1%	98.1%	100%	100%	100%	0%	100%	100%	100%	100%	100%	0%	100%	100%	-
Single-Unit Trucks	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Single-Unit Trucks %	5.6%	0%	0%	0%	2.9%	2.9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Buses	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	-
Buses %	0%	0%	0%	0%	0%	0%	0%	2.2%	0%	0%	1.9%	1.9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	14	-	-	-	-	-	8	-	-	-	-	-	13	-	-	-	-	-	15	-	-
Pedestrians%	-	-	-	-	21.9%	-	-	-	-	-	12.5%	-	-	-	-	-	20.3%	-	-	-	-	-	23.4%	-	-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	-	14	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	21.9%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-

Peak Hour: 07:45 AM - 08:45 AM Weather: Mist (3.59 °C)



Peak Hour: 11:30 AM - 12:30 PM Weather:



Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (20.05 °C)





Turning Movement Count (2 - CLAIR RD E & FARLEY DR)

Start Time	N Approach FARLEY DRIVE						E Approach CLAIR ROAD						S Approach PLAZA DRIVEWAY						W Approach CLAIR ROAD						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
10:00:00	35	9	10	0	5	54	12	74	9	0	0	95	2	18	10	0	0	30	11	55	26	0	1	92	271	
10:15:00	22	11	12	0	2	45	18	69	6	0	2	93	5	19	17	0	0	41	25	44	23	0	1	92	271	
10:30:00	40	13	18	0	0	71	16	83	5	0	0	104	5	17	21	0	0	43	25	55	21	0	1	101	319	
10:45:00	34	13	13	0	2	60	22	69	5	0	4	96	7	16	33	0	0	56	38	64	25	0	1	127	339	1200
11:00:00	34	12	24	0	2	70	8	60	7	0	1	75	6	21	19	0	1	46	27	62	32	0	1	121	312	1241
11:15:00	31	24	12	1	0	68	8	74	7	0	3	89	4	27	22	0	0	53	30	50	28	0	4	108	318	1288
11:30:00	33	9	17	1	3	60	14	79	6	0	3	99	10	15	28	0	2	53	35	74	26	0	2	135	347	1316
11:45:00	30	27	12	0	1	69	11	77	10	0	2	98	8	18	39	0	5	65	42	58	22	0	4	122	354	1331
12:00:00	31	24	18	0	1	73	14	77	12	0	3	103	9	10	31	0	2	50	43	64	32	0	6	139	365	1384
12:15:00	30	20	11	0	0	61	14	78	16	0	2	108	4	19	20	0	2	43	33	81	22	0	4	136	348	1414
12:30:00	36	18	17	0	0	71	12	83	5	0	1	100	13	22	31	0	5	66	36	76	26	1	8	139	376	1443
12:45:00	29	18	18	0	2	65	25	70	10	0	3	105	5	20	22	0	2	47	36	75	36	0	4	147	364	1453
13:00:00	40	22	16	0	5	78	15	73	10	0	2	98	6	25	29	0	4	60	34	65	28	0	9	127	363	1451
13:15:00	27	20	11	0	5	58	14	66	11	0	3	91	7	18	29	0	2	54	31	51	30	0	3	112	315	1418
13:30:00	26	23	17	0	1	66	11	64	13	0	0	88	7	17	32	0	0	56	36	79	23	0	8	138	348	1390
13:45:00	31	18	13	0	2	62	12	76	11	0	4	99	11	23	35	0	0	69	23	69	36	0	0	128	358	1384
14:00:00	27	8	20	0	1	55	15	75	11	0	2	101	6	20	26	1	1	53	31	73	36	0	3	140	349	1370
14:15:00	39	20	13	0	0	72	13	77	9	0	4	99	6	21	25	0	1	52	33	58	21	0	3	112	335	1390
14:30:00	24	17	18	0	1	59	16	68	4	0	3	88	7	13	22	0	2	42	41	82	24	0	6	147	336	1378
14:45:00	38	14	24	0	5	76	15	83	6	0	6	104	7	19	28	0	4	54	35	81	29	0	7	145	379	1399
15:00:00	30	16	16	0	5	62	14	52	12	0	2	78	10	13	23	0	1	46	29	69	24	0	5	122	308	1358
15:15:00	36	19	17	0	3	72	20	75	10	0	5	105	10	16	31	0	1	57	41	80	41	0	3	162	396	1419
15:30:00	36	17	22	1	4	76	18	65	6	0	8	89	9	24	42	0	3	75	45	64	23	0	8	132	372	1455
15:45:00	27	19	24	0	4	70	16	86	7	0	4	109	12	29	26	0	1	67	39	66	30	0	16	135	381	1457
Grand Total	766	411	393	3	54	1573	353	1753	208	0	67	2314	176	460	641	1	39	1278	799	1595	664	1	108	3059	8224	-
Approach%	48.7%	26.1%	25%	0.2%	-	-	15.3%	75.8%	9%	0%	-	-	13.8%	36%	50.2%	0.1%	-	-	26.1%	52.1%	21.7%	0%	-	-	-	-
Totals	9.3%	5%	4.8%	0%	-	19.1%	4.3%	21.3%	2.5%	0%	-	28.1%	2.1%	5.6%	7.8%	0%	-	15.5%	9.7%	19.4%	8.1%	0%	-	37.2%	-	-
Heavy	2	0	1	0	-	-	0	36	0	0	-	-	0	0	4	0	-	-	2	40	5	0	-	-	-	-
Heavy %	0.3%	0%	0.3%	0%	-	-	0%	2.1%	0%	0%	-	-	0%	0%	0.6%	0%	-	-	0.3%	2.5%	0.8%	0%	-	-	-	-
Bicycles	0	0	0	0	-	-	0	1	0	0	-	-	0	1	0	0	-	-	0	0	0	0	-	-	-	-
Bicycle %	0%	0%	0%	0%	-	-	0%	0.1%	0%	0%	-	-	0%	0.2%	0%	0%	-	-	0%	0%	0%	0%	-	-	-	-



Peak Hour: 03:00 PM - 04:00 PM Weather: Light Rain (8.22 °C)

Start Time	N Approach FARLEY DRIVE						E Approach CLAIR ROAD						S Approach PLAZA DRIVEWAY						W Approach CLAIR ROAD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
15:00:00	30	16	16	0	5	62	14	52	12	0	2	78	10	13	23	0	1	46	29	69	24	0	5	122	308
15:15:00	36	19	17	0	3	72	20	75	10	0	5	105	10	16	31	0	1	57	41	80	41	0	3	162	396
15:30:00	36	17	22	1	4	76	18	65	6	0	8	89	9	24	42	0	3	75	45	64	23	0	8	132	372
15:45:00	27	19	24	0	4	70	16	86	7	0	4	109	12	29	26	0	1	67	39	66	30	0	16	135	381
Grand Total	129	71	79	1	16	280	68	278	35	0	19	381	41	82	122	0	6	245	154	279	118	0	32	551	1457
Approach%	46.1%	25.4%	28.2%	0.4%	-	-	17.8%	73%	9.2%	0%	-	-	16.7%	33.5%	49.8%	0%	-	-	27.9%	50.6%	21.4%	0%	-	-	-
Totals %	8.9%	4.9%	5.4%	0.1%	19.2%	4.7%	19.1%	2.4%	0%	26.1%	2.8%	5.6%	8.4%	0%	16.8%	10.6%	19.1%	8.1%	0%	37.8%	-	-	-		
PHF	0.9	0.93	0.82	0.25	0.92	0.85	0.81	0.73	0	0.87	0.85	0.71	0.73	0	0.82	0.86	0.87	0.72	0	0.85	-	-	-		
Heavy	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	6	2	0	8	-	-		
Heavy %	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	2.9%	0%	0%	0%	0%	0%	0%	0%	2.2%	1.7%	0%	1.5%	-	-	
Lights	129	71	79	1	280	68	267	35	0	370	41	82	122	0	245	154	273	116	0	543	-	-	-		
Lights %	100%	100%	100%	100%	100%	100%	100%	96%	100%	0%	97.1%	100%	100%	100%	0%	100%	100%	97.8%	98.3%	0%	98.5%	-	-	-	
Single-Unit Trucks	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	2	0	4	-	-		
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	1.1%	0%	0%	0.8%	0%	0%	0%	0%	0%	0%	0%	0.7%	1.7%	0%	0.7%	-	-	
Buses	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	-	-		
Buses %	0%	0%	0%	0%	0%	0%	0%	1.4%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1.4%	0%	0%	0.7%	-	-	
Articulated Trucks	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	-	-		
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	1.4%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	
Pedestrians	-	-	-	-	15	-	-	-	-	-	15	-	-	-	-	6	-	-	-	-	19	-	-	-	
Pedestrians%	-	-	-	-	20.5%	-	-	-	-	-	20.5%	-	-	-	-	8.2%	-	-	-	-	26%	-	-	-	
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	0	-	-	-	-	13	-	-	-	
Bicycles on Crosswalk%	-	-	-	-	1.4%	-	-	-	-	-	5.5%	-	-	-	-	0%	-	-	-	-	17.8%	-	-	-	
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-	-	
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	

Peak Hour: 03:00 PM - 04:00 PM Weather: Light Rain (8.22 °C)





Turning Movement Count (1 . CLAIR RD E & GORDON ST)

Start Time	N Approach GORDON ST						E Approach CLAIR RD						S Approach GORDON ST						W Approach CLAIR RD						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
10:00:00	24	76	19	0	4	119	14	71	32	0	3	117	16	80	16	0	0	112	12	65	37	0	1	114	462	
10:15:00	18	74	16	0	4	108	11	81	27	0	0	119	12	81	22	0	4	115	13	65	44	0	3	122	464	
10:30:00	31	84	28	0	1	143	23	80	38	0	1	141	14	90	25	0	2	129	10	68	46	0	1	124	537	
10:45:00	31	104	27	0	6	162	24	86	26	0	0	136	20	87	13	0	0	120	19	81	41	0	3	141	559	2022
11:00:00	19	112	25	0	1	156	20	67	28	0	3	115	25	87	22	0	0	134	13	81	59	0	0	153	558	2118
11:15:00	13	100	31	0	4	144	18	73	39	0	2	130	16	93	31	0	6	140	17	71	55	0	3	143	557	2211
11:30:00	25	97	31	0	11	153	19	76	44	0	10	139	22	94	19	0	3	135	20	87	44	0	3	151	578	2252
11:45:00	24	103	42	0	4	169	22	87	35	0	2	144	9	85	29	0	2	123	12	75	41	0	3	128	564	2257
12:00:00	23	105	40	1	3	169	28	81	35	0	5	144	17	87	22	0	4	126	17	89	57	0	1	163	602	2301
12:15:00	17	116	33	0	5	166	16	79	36	0	2	131	18	90	18	0	5	126	27	92	55	0	2	174	597	2341
12:30:00	27	100	40	0	2	167	24	92	32	0	6	148	19	110	22	0	3	151	13	84	42	0	0	139	605	2368
12:45:00	19	99	41	0	13	159	22	75	38	0	6	135	16	91	28	0	2	135	13	87	48	0	1	148	577	2381
13:00:00	16	107	34	0	10	157	20	75	45	0	5	140	15	101	27	0	1	143	15	78	61	0	5	154	594	2373
13:15:00	21	104	32	0	12	157	22	77	34	0	6	133	15	74	27	0	2	116	22	74	43	0	3	139	545	2321
13:30:00	21	110	35	1	4	167	22	78	27	0	0	127	17	64	21	0	0	102	18	101	42	0	0	161	557	2273
13:45:00	24	115	32	0	11	171	26	85	43	0	6	154	18	93	23	0	1	134	12	89	37	0	10	138	597	2293
14:00:00	27	97	35	0	2	159	22	79	38	0	0	139	21	95	35	0	3	151	18	89	56	1	4	164	613	2312
14:15:00	19	99	35	0	1	153	19	87	46	0	5	152	13	102	26	0	2	141	17	71	46	0	0	134	580	2347
14:30:00	15	101	32	0	5	148	23	59	29	0	4	111	22	103	16	0	1	141	21	102	59	0	2	182	582	2372
14:45:00	19	102	41	1	13	163	21	82	42	0	7	145	19	85	25	0	8	129	21	90	37	0	6	148	585	2360
15:00:00	19	103	35	0	9	157	24	58	38	0	3	120	16	98	23	0	2	137	13	89	41	0	5	143	557	2304
15:15:00	17	112	41	1	8	171	15	71	38	0	5	124	26	96	25	1	12	148	10	101	43	0	7	154	597	2321
15:30:00	10	111	40	0	6	161	35	86	36	0	4	157	16	101	17	0	4	134	18	88	43	0	3	149	601	2340
15:45:00	19	123	37	1	7	180	28	86	35	1	5	150	16	81	25	0	3	122	12	80	37	0	0	129	581	2336
Grand Total	498	2454	802	5	146	3759	518	1871	861	1	90	3251	418	2168	557	1	70	3144	383	1997	1114	1	66	3495	13649	-
Approach%	13.2%	65.3%	21.3%	0.1%	-	-	15.9%	57.6%	26.5%	0%	-	-	13.3%	69%	17.7%	0%	-	-	11%	57.1%	31.9%	0%	-	-	-	-
Totals	3.6%	18%	5.9%	0%	27.5%	-	3.8%	13.7%	6.3%	0%	23.8%	-	3.1%	15.9%	4.1%	0%	23%	-	2.8%	14.6%	8.2%	0%	25.6%	-	-	-
Heavy	20	12	13	0	-	-	0	14	13	0	-	-	13	11	27	0	-	-	1	4	1	0	-	-	-	-
Heavy %	4%	0.5%	1.6%	0%	-	-	0%	0.7%	1.5%	0%	-	-	3.1%	0.5%	4.8%	0%	-	-	0.3%	0.2%	0.1%	0%	-	-	-	-
Bicycles	1	1	0	0	-	-	0	1	0	0	-	-	0	3	0	0	-	-	0	0	0	0	-	-	-	-
Bicycle %	0.2%	0%	0%	0%	-	-	0%	0.1%	0%	0%	-	-	0%	0.1%	0%	0%	-	-	0%	0%	0%	0%	-	-	-	-



Peak Hour: 12:00 PM - 01:00 PM Weather: Light Rain (8.22 °C)

Start Time	N Approach GORDON ST						E Approach CLAIR RD						S Approach GORDON ST						W Approach CLAIR RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
12:00:00	23	105	40	1	3	169	28	81	35	0	5	144	17	87	22	0	4	126	17	89	57	0	1	163	602
12:15:00	17	116	33	0	5	166	16	79	36	0	2	131	18	90	18	0	5	126	27	92	55	0	2	174	597
12:30:00	27	100	40	0	2	167	24	92	32	0	6	148	19	110	22	0	3	151	13	84	42	0	0	139	605
12:45:00	19	99	41	0	13	159	22	75	38	0	6	135	16	91	28	0	2	135	13	87	48	0	1	148	577
Grand Total	86	420	154	1	23	661	90	327	141	0	19	558	70	378	90	0	14	538	70	352	202	0	4	624	2381
Approach%	13%	63.5%	23.3%	0.2%	-	-	16.1%	58.6%	25.3%	0%	-	-	13%	70.3%	16.7%	0%	-	-	11.2%	56.4%	32.4%	0%	-	-	-
Totals %	3.6%	17.6%	6.5%	0%	27.8%	27.8%	3.8%	13.7%	5.9%	0%	23.4%	23.4%	2.9%	15.9%	3.8%	0%	22.6%	22.6%	2.9%	14.8%	8.5%	0%	26.2%	26.2%	-
PHF	0.8	0.91	0.94	0.25	0.98	0.98	0.8	0.89	0.93	0	0.94	0.94	0.92	0.86	0.8	0	0.89	0.89	0.65	0.96	0.89	0	0.9	0.9	-
Heavy	4	1	2	0	7	7	0	1	1	0	2	2	2	1	5	0	8	8	0	0	0	0	0	0	-
Heavy %	4.7%	0.2%	1.3%	0%	1.1%	1.1%	0%	0.3%	0.7%	0%	0.4%	0.4%	2.9%	0.3%	5.6%	0%	1.5%	1.5%	0%	0%	0%	0%	0%	0%	-
Lights	82	419	152	1	654	654	90	326	140	0	556	556	68	377	85	0	530	530	70	352	202	0	624	624	-
Lights %	95.3%	99.8%	98.7%	100%	98.9%	98.9%	100%	99.7%	99.3%	0%	99.6%	99.6%	97.1%	99.7%	94.4%	0%	98.5%	98.5%	100%	100%	100%	0%	100%	100%	-
Single-Unit Trucks	0	0	0	0	0	0	0	0	1	0	1	1	1	0	1	0	2	2	0	0	0	0	0	0	-
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0.7%	0%	0.2%	0.2%	1.4%	0%	1.1%	0%	0.4%	0.4%	0%	0%	0%	0%	0%	0%	-
Buses	4	1	2	0	7	7	0	1	0	0	1	1	0	1	4	0	5	5	0	0	0	0	0	0	-
Buses %	4.7%	0.2%	1.3%	0%	1.1%	1.1%	0%	0.3%	0%	0%	0.2%	0.2%	0%	0.3%	4.4%	0%	0.9%	0.9%	0%	0%	0%	0%	0%	0%	-
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1.4%	0%	0%	0%	0.2%	0.2%	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	22	-	-	-	-	-	19	-	-	-	-	-	13	-	-	-	-	-	3	-	-
Pedestrians%	-	-	-	-	36.7%	-	-	-	-	-	31.7%	-	-	-	-	-	21.7%	-	-	-	-	-	5%	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	-	-	1.7%	-	-	-	-	-	0%	-	-	-	-	-	1.7%	-	-	-	-	-	1.7%	-	-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-

Peak Hour: 12:00 PM - 01:00 PM Weather: Light Rain (8.22 °C)





Turning Movement Count (3 - CLAIR RD E & HAWKINS DR)

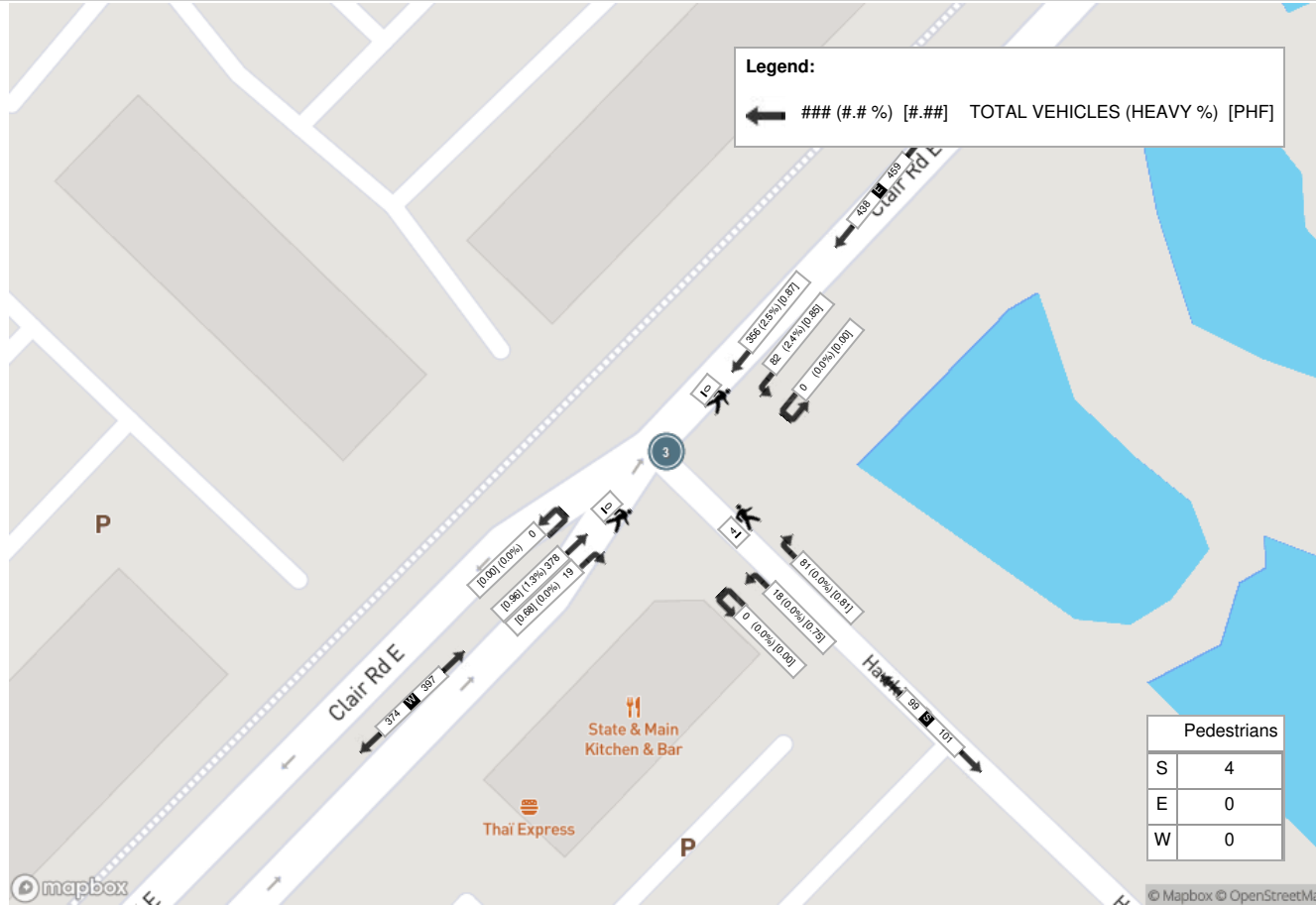
Start Time	E Approach CLAIR RD					S Approach HAWKINS DR					W Approach CLAIR RD					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
10:00:00	89	12	0	0	101	11	5	0	0	16	5	62	0	0	67	184	
10:15:00	92	12	1	0	105	8	0	0	2	8	4	57	0	0	61	174	
10:30:00	108	7	0	0	115	10	3	0	0	13	3	71	0	0	74	202	
10:45:00	84	15	0	0	99	11	3	0	0	14	4	79	0	0	83	196	756
11:00:00	75	8	0	0	83	14	3	0	0	17	4	85	0	1	89	189	761
11:15:00	86	12	0	0	98	14	3	0	0	17	4	63	0	0	67	182	769
11:30:00	98	8	0	0	106	10	5	0	3	15	6	92	0	1	98	219	786
11:45:00	92	11	0	0	103	6	2	0	0	8	3	74	0	0	77	188	778
12:00:00	100	13	1	0	114	15	3	0	0	18	4	87	0	0	91	223	812
12:15:00	103	12	0	0	115	15	4	0	1	19	5	89	0	0	94	228	858
12:30:00	103	15	0	0	118	14	2	0	0	16	4	101	0	0	105	239	878
12:45:00	94	15	0	0	109	8	8	0	1	16	4	93	0	0	97	222	912
13:00:00	97	10	0	1	107	15	1	0	1	16	2	83	0	0	85	208	897
13:15:00	84	14	0	0	98	15	3	0	0	18	5	64	0	0	69	185	854
13:30:00	85	13	0	0	98	19	2	0	1	21	8	94	0	0	102	221	836
13:45:00	101	16	0	0	117	10	2	0	0	12	4	89	0	0	93	222	836
14:00:00	91	11	0	0	102	15	4	0	0	19	5	96	0	0	101	222	850
14:15:00	96	9	0	0	105	17	6	0	0	23	1	76	0	0	77	205	870
14:30:00	87	14	0	0	101	17	3	0	1	20	5	101	0	0	106	227	876
14:45:00	101	14	0	0	115	12	2	0	2	14	3	107	0	0	110	239	893
15:00:00	73	21	0	0	94	17	6	0	2	23	1	95	0	0	96	213	884
15:15:00	96	15	0	0	111	17	3	0	1	20	7	98	0	0	105	236	915
15:30:00	85	24	0	0	109	22	5	0	1	27	4	88	0	0	92	228	916
15:45:00	102	22	0	0	124	25	4	0	0	29	7	97	0	0	104	257	934
Grand Total	2222	323	2	1	2547	337	82	0	16	419	102	2041	0	2	2143	5109	-
Approach%	87.2%	12.7%	0.1%	-	-	80.4%	19.6%	0%	-	-	4.8%	95.2%	0%	-	-	-	-
Totals %	43.5%	6.3%	0%	-	49.9%	6.6%	1.6%	0%	-	8.2%	2%	39.9%	0%	-	41.9%	-	-
Heavy	23	2	0	-	-	0	0	0	-	-	1	31	0	-	-	-	-
Heavy %	1%	0.6%	0%	-	-	0%	0%	0%	-	-	1%	1.5%	0%	-	-	-	-
Bicycles	2	0	0	-	-	0	0	0	-	-	0	0	0	-	-	-	-
Bicycle %	0.1%	0%	0%	-	-	0%	0%	0%	-	-	0%	0%	0%	-	-	-	-



Peak Hour: 03:00 PM - 04:00 PM Weather: Light Rain (8.22 °C)

Start Time	E Approach CLAIR RD					S Approach HAWKINS DR					W Approach CLAIR RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
15:00:00	73	21	0	0	94	17	6	0	2	23	1	95	0	0	96	213
15:15:00	96	15	0	0	111	17	3	0	1	20	7	98	0	0	105	236
15:30:00	85	24	0	0	109	22	5	0	1	27	4	88	0	0	92	228
15:45:00	102	22	0	0	124	25	4	0	0	29	7	97	0	0	104	257
Grand Total	356	82	0	0	438	81	18	0	4	99	19	378	0	0	397	934
Approach%	81.3%	18.7%	0%		-	81.8%	18.2%	0%		-	4.8%	95.2%	0%		-	-
Totals %	38.1%	8.8%	0%		46.9%	8.7%	1.9%	0%		10.6%	2%	40.5%	0%		42.5%	-
PHF	0.87	0.85	0		0.88	0.81	0.75	0		0.85	0.68	0.96	0		0.95	-
Heavy	9	2	0		11	0	0	0		0	0	5	0		5	-
Heavy %	2.5%	2.4%	0%		2.5%	0%	0%	0%		0%	0%	1.3%	0%		1.3%	-
Lights	347	80	0		427	81	18	0		99	19	373	0		392	-
Lights %	97.5%	97.6%	0%		97.5%	100%	100%	0%		100%	100%	98.7%	0%		98.7%	-
Single-Unit Trucks	5	1	0		6	0	0	0		0	0	1	0		1	-
Single-Unit Trucks %	1.4%	1.2%	0%		1.4%	0%	0%	0%		0%	0%	0.3%	0%		0.3%	-
Buses	4	1	0		5	0	0	0		0	0	4	0		4	-
Buses %	1.1%	1.2%	0%		1.1%	0%	0%	0%		0%	0%	1.1%	0%		1%	-
Pedestrians	-	-	-	0	-	-	-	-	4	-	-	-	-	0	-	-
Pedestrians%	-	-	-	0%	-	-	-	-	100%	-	-	-	-	0%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-

Peak Hour: 03:00 PM - 04:00 PM Weather: Light Rain (8.22 °C)





Turning Movement Count (7 . FARLEY DR & NORTH INTERNAL INTERSECTION)

Start Time	N Approach FARLEY DR						E Approach BEER STORE DRIVEWAY						S Approach FARLEY DR						W Approach INTERNAL RD						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
10:00:00	20	4	5	0	0	29	8	3	0	0	0	11	0	7	0	0	1	7	1	3	17	1	0	22	69	
10:15:00	30	4	8	0	0	42	5	4	2	0	0	11	0	7	0	0	0	7	1	3	28	0	1	32	92	
10:30:00	31	3	10	0	1	44	3	2	2	0	3	7	2	8	0	0	0	10	1	3	32	0	2	36	97	
10:45:00	31	8	17	0	0	56	7	6	3	0	2	16	1	16	0	0	1	17	1	1	34	0	1	36	125	383
11:00:00	30	7	9	0	0	46	14	4	3	0	0	21	0	12	0	0	0	12	2	6	18	0	2	26	105	419
11:15:00	44	8	9	0	0	61	11	5	1	0	1	17	3	14	0	0	0	17	1	4	30	0	6	35	130	457
11:30:00	27	10	13	0	3	50	7	4	3	0	1	14	2	16	0	0	1	18	0	3	30	0	3	33	115	475
11:45:00	48	15	16	0	0	79	11	1	1	0	1	13	2	21	0	0	2	23	1	4	33	0	3	38	153	503
12:00:00	41	12	27	0	0	80	11	2	1	0	3	14	1	17	0	0	1	18	0	4	22	0	7	26	138	536
12:15:00	38	14	16	0	2	68	10	4	2	0	3	16	0	7	0	0	0	7	2	3	25	0	1	30	121	527
12:30:00	33	10	16	0	0	59	11	5	3	0	2	19	1	18	0	0	3	19	0	5	38	0	9	43	140	552
12:45:00	32	16	15	0	1	63	12	6	2	0	4	20	1	11	0	0	4	12	3	3	26	0	5	32	127	526
13:00:00	41	14	12	0	1	67	15	6	5	0	2	26	4	17	1	0	0	22	2	3	28	0	5	33	148	536
13:15:00	32	15	15	0	0	62	8	5	1	0	3	14	0	19	1	0	0	20	0	4	26	0	3	30	126	541
13:30:00	46	13	11	0	0	70	13	3	4	0	5	20	2	16	2	0	3	20	1	2	32	0	5	35	145	546
13:45:00	33	11	10	0	0	54	9	7	4	0	4	20	4	13	0	0	4	17	2	4	40	0	2	46	137	556
14:00:00	30	12	13	0	0	55	12	5	1	0	3	18	3	18	0	0	1	21	2	3	31	0	3	36	130	538
14:15:00	33	16	13	0	2	62	13	3	0	0	2	16	0	13	0	0	0	13	1	5	26	0	5	32	123	535
14:30:00	34	11	17	0	2	62	9	3	1	0	5	13	0	10	0	0	0	10	2	4	20	0	4	26	111	501
14:45:00	31	12	11	0	0	54	10	4	4	0	4	18	3	17	0	0	1	20	4	3	27	0	7	34	126	490
15:00:00	29	12	17	0	1	58	16	9	6	0	3	31	4	19	0	0	0	23	1	5	17	0	5	23	135	495
15:15:00	36	17	17	0	3	70	9	3	4	0	8	16	2	15	1	0	3	18	3	9	29	0	3	41	145	517
15:30:00	27	15	25	0	2	67	19	8	4	0	7	31	2	28	0	0	2	30	1	3	33	0	11	37	165	571
15:45:00	30	16	19	0	1	65	23	6	4	0	1	33	3	10	0	0	7	13	0	5	31	0	16	36	147	592
Grand Total	807	275	341	0	19	1423	266	108	61	0	67	435	40	349	5	0	34	394	32	92	673	1	109	798	3050	-
Approach%	56.7%	19.3%	24%	0%	-	-	61.1%	24.8%	14%	0%	-	-	10.2%	88.6%	1.3%	0%	-	-	4%	11.5%	84.3%	0.1%	-	-	-	-
Totals %	26.5%	9%	11.2%	0%	-	46.7%	8.7%	3.5%	2%	0%	-	14.3%	1.3%	11.4%	0.2%	0%	-	12.9%	1%	3%	22.1%	0%	-	26.2%	-	-
Heavy	1	1	0	0	-	-	2	0	0	0	-	-	0	0	0	0	-	-	0	0	1	0	-	-	-	-
Heavy %	0.1%	0.4%	0%	0%	-	-	0.8%	0%	0%	0%	-	-	0%	0%	0%	0%	-	-	0%	0%	0.1%	0%	-	-	-	-
Bicycles	0	1	0	0	-	-	0	0	0	0	-	-	0	1	0	0	-	-	0	1	0	0	-	-	-	-
Bicycle %	0%	0.4%	0%	0%	-	-	0%	0%	0%	0%	-	-	0%	0.3%	0%	0%	-	-	0%	1.1%	0%	0%	-	-	-	-



Peak Hour: 03:00 PM - 04:00 PM Weather: Light Rain (8.22 °C)

Start Time	N Approach FARLEY DR						E Approach BEER STORE DRIVEWAY						S Approach FARLEY DR						W Approach INTERNAL RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
15:00:00	29	12	17	0	1	58	16	9	6	0	3	31	4	19	0	0	0	23	1	5	17	0	5	23	135
15:15:00	36	17	17	0	3	70	9	3	4	0	8	16	2	15	1	0	3	18	3	9	29	0	3	41	145
15:30:00	27	15	25	0	2	67	19	8	4	0	7	31	2	28	0	0	2	30	1	3	33	0	11	37	165
15:45:00	30	16	19	0	1	65	23	6	4	0	1	33	3	10	0	0	7	13	0	5	31	0	16	36	147
Grand Total	122	60	78	0	7	260	67	26	18	0	19	111	11	72	1	0	12	84	5	22	110	0	35	137	592
Approach%	46.9%	23.1%	30%	0%	-	-	60.4%	23.4%	16.2%	0%	-	-	13.1%	85.7%	1.2%	0%	-	3.6%	16.1%	80.3%	0%	-	-	-	-
Totals %	20.6%	10.1%	13.2%	0%	43.9%	11.3%	4.4%	3%	0%	18.8%	1.9%	12.2%	0.2%	0%	14.2%	0.8%	3.7%	18.6%	0%	23.1%	-	-	-	-	-
PHF	0.85	0.88	0.78	0	0.93	0.73	0.72	0.75	0	0.84	0.69	0.64	0.25	0	0.7	0.42	0.61	0.83	0	0.84	-	-	-	-	-
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lights	122	60	78	0	260	67	26	18	0	111	11	72	1	0	84	5	22	110	0	137	-	-	-	-	-
Lights %	100%	100%	100%	0%	100%	100%	100%	100%	0%	100%	100%	100%	100%	0%	100%	100%	100%	100%	0%	100%	-	-	-	-	-
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pedestrians	-	-	-	-	7	-	-	-	-	15	-	-	-	-	8	-	-	-	-	20	-	-	-	-	-
Pedestrians%	-	-	-	-	9.6%	-	-	-	-	20.5%	-	-	-	-	11%	-	-	-	-	27.4%	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	4	-	-	-	-	4	-	-	-	-	15	-	-	-	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	5.5%	-	-	-	-	5.5%	-	-	-	-	20.5%	-	-	-	-	-
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	0	0	0	0	-	
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-

Peak Hour: 03:00 PM - 04:00 PM Weather: Light Rain (8.22 °C)





Turning Movement Count (8 - FARLEY DR & SOUTH INTERNAL INTERSECTION)

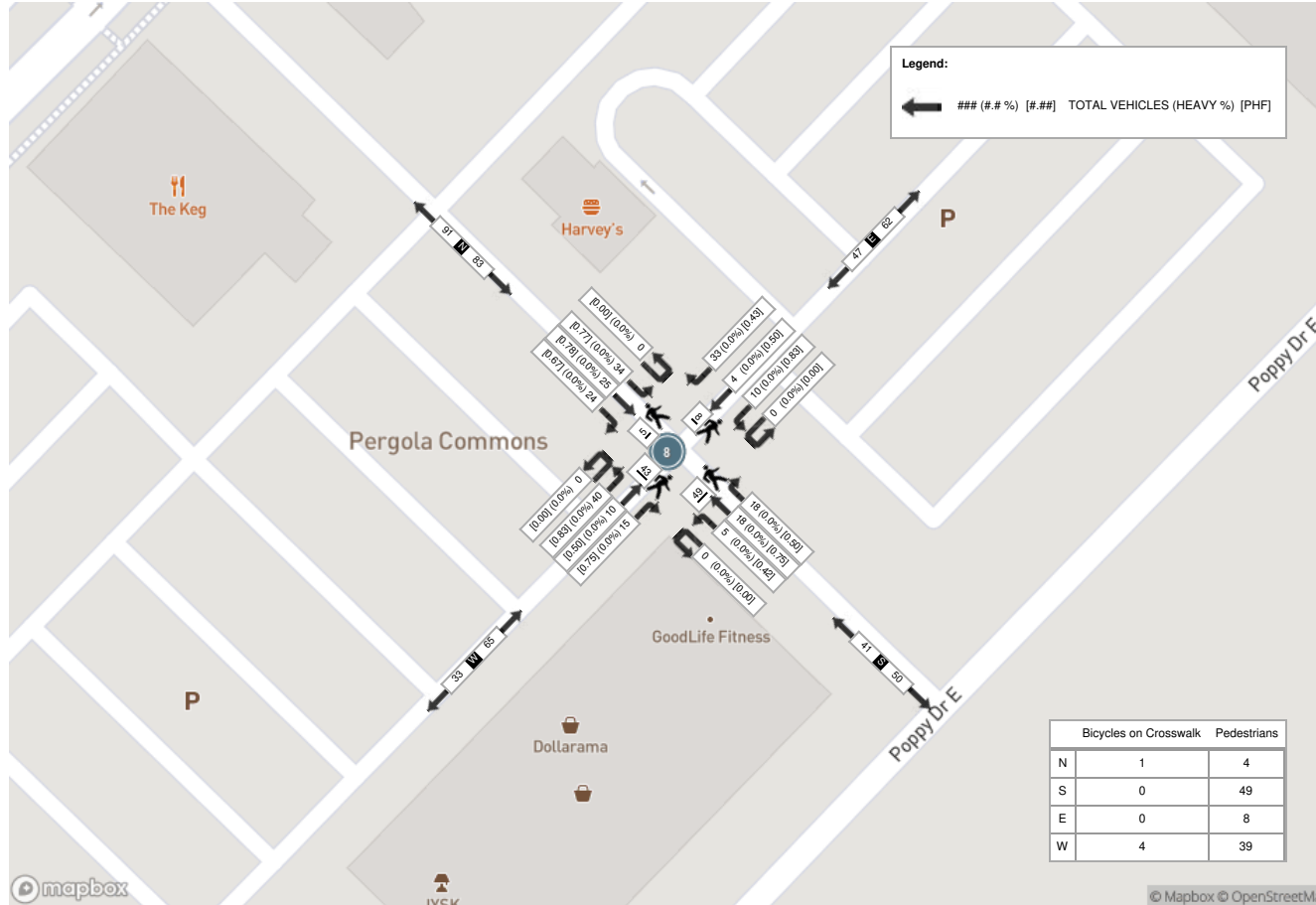
Start Time	N Approach FARLEY DR						E Approach SOUTH INTERNAL INTERSECTION						S Approach FARLEY DR						W Approach SOUTH INTERNAL INTERSECTION						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
10:00:00	3	2	1	0	3	6	1	0	0	0	1	1	1	1	2	0	4	4	1	3	3	0	8	7	18	
10:15:00	1	3	3	0	2	7	1	1	2	0	1	4	1	1	2	0	5	4	1	0	5	0	7	6	21	
10:30:00	1	2	2	0	1	5	1	0	5	0	3	6	2	2	0	0	18	4	3	0	6	0	6	9	24	
10:45:00	5	6	1	1	2	13	6	1	3	0	0	10	1	4	2	1	14	8	2	1	7	0	9	10	41	104
11:00:00	2	6	3	0	0	11	2	0	1	0	0	3	2	4	4	0	11	10	1	3	7	0	5	11	35	121
11:15:00	5	5	1	0	1	11	3	0	0	0	0	3	2	6	2	0	6	10	4	1	7	0	9	12	36	136
11:30:00	5	3	5	0	1	13	4	0	2	0	0	6	2	4	1	0	10	7	2	1	8	0	13	11	37	149
11:45:00	4	6	6	0	2	16	10	0	1	0	0	11	1	6	0	0	17	7	5	2	9	0	16	16	50	158
12:00:00	1	4	8	0	4	13	2	0	3	0	1	5	6	3	0	0	7	9	4	2	13	0	9	19	46	169
12:15:00	4	3	8	0	1	15	5	1	2	0	1	8	7	1	1	0	9	9	4	0	1	0	10	5	37	170
12:30:00	2	5	8	0	4	15	11	3	8	0	1	22	5	2	1	0	10	8	1	1	6	0	11	8	53	186
12:45:00	5	5	11	1	1	22	5	1	1	0	3	7	1	2	3	0	16	6	3	6	4	0	9	13	48	184
13:00:00	3	7	11	0	1	21	5	2	3	0	4	10	4	5	2	0	6	11	1	4	13	0	7	18	60	198
13:15:00	5	2	9	0	2	16	5	3	1	0	0	9	3	1	0	0	13	4	5	3	14	1	4	23	52	213
13:30:00	5	3	9	0	3	17	5	1	2	0	0	8	4	5	2	0	10	11	2	1	9	0	4	12	48	208
13:45:00	6	7	5	0	5	18	4	0	2	0	2	6	3	6	1	0	13	10	2	2	7	0	3	11	45	205
14:00:00	1	5	8	1	4	15	5	2	0	0	0	7	2	1	3	0	11	6	2	2	12	0	11	16	44	189
14:15:00	4	5	7	0	0	16	5	0	4	0	0	9	2	2	2	0	9	6	3	1	5	0	10	9	40	177
14:30:00	5	6	3	0	3	14	3	3	1	0	4	7	1	1	2	1	10	5	2	4	6	0	8	12	38	167
14:45:00	9	5	6	0	0	20	4	1	3	0	3	8	1	6	1	0	4	8	5	0	10	0	16	15	51	173
15:00:00	4	5	8	0	0	17	6	0	2	0	1	8	4	5	3	0	14	12	5	1	11	0	9	17	54	183
15:15:00	7	7	11	0	3	25	4	1	2	0	1	7	4	3	1	0	6	8	3	4	12	0	7	19	59	202
15:30:00	4	8	9	0	2	21	19	2	3	0	3	24	9	4	0	0	25	13	2	5	7	0	11	14	72	236
15:45:00	3	6	12	0	2	21	4	3	3	0	1	10	2	2	2	0	8	6	1	4	6	0	15	11	48	233
Grand Total	94	116	155	3	47	368	120	25	54	0	30	199	70	77	37	2	256	186	64	51	188	1	217	304	1057	-
Approach%	25.5%	31.5%	42.1%	0.8%	-	-	60.3%	12.6%	27.1%	0%	-	-	37.6%	41.4%	19.9%	1.1%	-	-	21.1%	16.8%	61.8%	0.3%	-	-	-	-
Totals %	8.9%	11%	14.7%	0.3%	34.8%	11.4%	2.4%	5.1%	0%	18.8%	6.6%	7.3%	3.5%	0.2%	17.6%	6.1%	4.8%	17.8%	0.1%	28.8%	-	-	-	-	-	-
Heavy	0	0	1	0	-	0	0	1	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	-	-
Heavy %	0%	0%	0.6%	0%	-	0%	0%	1.9%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	-	-	-
Bicycles	4	0	0	0	-	0	0	0	0	-	0	0	0	1	0	-	0	0	0	0	0	0	-	-	-	-
Bicycle %	4.3%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	2.7%	0%	-	0%	0%	0%	0%	0%	0%	-	-	-	-



Peak Hour: 02:45 PM - 03:45 PM Weather: Light Rain (8.22 °C)

Start Time	N Approach FARLEY DR						E Approach SOUTH INTERNAL INTERSECTION						S Approach FARLEY DR						W Approach SOUTH INTERNAL INTERSECTION						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
14:45:00	9	5	6	0	0	20	4	1	3	0	3	8	1	6	1	0	4	8	5	0	10	0	16	15	51
15:00:00	4	5	8	0	0	17	6	0	2	0	1	8	4	5	3	0	14	12	5	1	11	0	9	17	54
15:15:00	7	7	11	0	3	25	4	1	2	0	1	7	4	3	1	0	6	8	3	4	12	0	7	19	59
15:30:00	4	8	9	0	2	21	19	2	3	0	3	24	9	4	0	0	25	13	2	5	7	0	11	14	72
Grand Total	24	25	34	0	5	83	33	4	10	0	8	47	18	18	5	0	49	41	15	10	40	0	43	65	236
Approach%	28.9%	30.1%	41%	0%	-	-	70.2%	8.5%	21.3%	0%	-	-	43.9%	43.9%	12.2%	0%	-	-	23.1%	15.4%	61.5%	0%	-	-	-
Totals %	10.2%	10.6%	14.4%	0%	35.2%	14%	1.7%	4.2%	0%	19.9%	7.6%	7.6%	2.1%	0%	17.4%	6.4%	4.2%	16.9%	0%	27.5%	-	-	-	-	
PHF	0.67	0.78	0.77	0	0.83	0.43	0.5	0.83	0	0.49	0.5	0.75	0.42	0	0.79	0.75	0.5	0.83	0	0.86	-	-	-	-	
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lights	24	25	34	0	5	83	33	4	10	0	8	47	18	18	5	0	49	41	15	10	40	0	43	65	-
Lights %	100%	100%	100%	0%	100%	100%	100%	100%	100%	0%	100%	100%	100%	100%	100%	0%	100%	100%	100%	100%	100%	0%	100%	100%	-
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Pedestrians	-	-	-	-	4	-	-	-	-	-	8	-	-	-	-	-	49	-	-	-	-	-	39	-	-
Pedestrians %	-	-	-	-	3.8%	-	-	-	-	-	7.6%	-	-	-	-	-	46.7%	-	-	-	-	-	37.1%	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	-
Bicycles on Crosswalk %	-	-	-	-	1%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	3.8%	-	-
Bicycles on Road	3	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	0	0	0	0	0	-	-
Bicycles on Road %	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-

Peak Hour: 02:45 PM - 03:45 PM Weather: Light Rain (8.22 °C)





Turning Movement Count (9 . HAWKINS DR & NORTH INTERNAL RD)

Start Time	N Approach HAWKINS DR					S Approach HAWKINS DR					W Approach NORTH INTERNAL RD					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	UTurn N:N	Peds N:	Approach Total	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Left W:N	UTurn W:W	Peds W:	Approach Total		
10:00:00	7	9	0	0	16	8	1	0	0	9	0	8	0	1	8	33	
10:15:00	7	8	0	0	15	4	0	0	0	4	0	4	0	1	4	23	
10:30:00	5	7	0	0	12	4	1	0	0	5	1	9	0	0	10	27	
10:45:00	13	7	0	0	20	5	0	0	0	5	0	8	0	0	8	33	116
11:00:00	7	6	0	0	13	4	0	0	0	4	1	12	0	0	13	30	113
11:15:00	13	3	0	0	16	7	0	0	0	7	0	11	0	0	11	34	124
11:30:00	9	5	0	0	14	7	1	0	0	8	0	9	0	0	9	31	128
11:45:00	10	3	0	0	13	1	0	0	0	1	0	7	0	2	7	21	116
12:00:00	15	4	0	0	19	7	0	0	0	7	1	11	0	0	12	38	124
12:15:00	11	6	0	0	17	10	0	0	0	10	0	8	0	0	8	35	125
12:30:00	11	7	0	0	18	5	1	0	0	6	1	10	0	4	11	35	129
12:45:00	16	5	0	0	21	7	0	0	0	7	2	8	0	4	10	38	146
13:00:00	10	3	0	0	13	6	1	0	0	7	3	13	0	0	16	36	144
13:15:00	10	8	0	0	18	8	0	0	0	8	1	12	0	1	13	39	148
13:30:00	16	6	0	0	22	8	1	0	0	9	0	13	0	0	13	44	157
13:45:00	14	6	0	0	20	4	0	0	0	4	2	9	0	1	11	35	154
14:00:00	11	5	0	0	16	3	1	0	0	4	1	15	0	0	16	36	154
14:15:00	6	3	0	0	9	6	0	0	0	6	2	17	0	0	19	34	149
14:30:00	10	8	0	0	18	5	1	0	0	6	0	16	0	0	16	40	145
14:45:00	14	4	0	0	18	1	1	1	0	3	0	16	0	0	16	37	147
15:00:00	18	5	0	0	23	9	1	0	0	10	0	14	0	0	14	47	158
15:15:00	16	5	0	0	21	7	0	0	0	7	2	13	0	0	15	43	167
15:30:00	23	5	0	0	28	7	1	0	0	8	0	21	0	0	21	57	184
15:45:00	23	8	0	0	31	8	2	0	0	10	2	22	0	0	24	65	212
Grand Total	295	136	0	0	431	141	13	1	0	155	19	286	0	14	305	891	-
Approach%	68.4%	31.6%	0%		-	91%	8.4%	0.6%		-	6.2%	93.8%	0%		-	-	-
Totals %	33.1%	15.3%	0%		48.4%	15.8%	1.5%	0.1%		17.4%	2.1%	32.1%	0%		34.2%	-	-
Heavy	0	1	0		-	0	0	0		-	1	0	0		-	-	-
Heavy %	0%	0.7%	0%		-	0%	0%	0%		-	5.3%	0%	0%		-	-	-
Bicycles	0	0	0		-	1	0	0		-	0	2	0		-	-	-
Bicycle %	0%	0%	0%		-	0.7%	0%	0%		-	0%	0.7%	0%		-	-	-



Peak Hour: 03:00 PM - 04:00 PM Weather: Light Rain (8.22 °C)

Start Time	N Approach HAWKINS DR					S Approach HAWKINS DR					W Approach NORTH INTERNAL RD					Int. Total (15 min)
	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	
15:00:00	18	5	0	0	23	9	1	0	0	10	0	14	0	0	14	47
15:15:00	16	5	0	0	21	7	0	0	0	7	2	13	0	0	15	43
15:30:00	23	5	0	0	28	7	1	0	0	8	0	21	0	0	21	57
15:45:00	23	8	0	0	31	8	2	0	0	10	2	22	0	0	24	65
Grand Total	80	23	0	0	103	31	4	0	0	35	4	70	0	0	74	212
Approach%	77.7%	22.3%	0%	-	-	88.6%	11.4%	0%	-	-	5.4%	94.6%	0%	-	-	-
Totals %	37.7%	10.8%	0%	48.6%	14.6%	1.9%	0%	16.5%	1.9%	33%	0%	34.9%	-	-	-	-
PHF	0.87	0.72	0	0.83	0.86	0.5	0	0.88	0.5	0.8	0	0.77	-	-	-	-
Heavy	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	-
Heavy %	0%	4.3%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Lights	80	22	0	102	31	4	0	35	4	70	0	74	-	-	-	-
Lights %	100%	95.7%	0%	99%	100%	100%	0%	100%	100%	100%	0%	100%	-	-	-	-
Single-Unit Trucks	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	-
Single-Unit Trucks %	0%	4.3%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	0	-	-	-	0	-	-	-	-	0	-	-	-
Pedestrians%	-	-	-	0%	-	-	-	0%	-	-	-	-	0%	-	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	-	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	0%	-	-	-	-	0%	-	-	-

Peak Hour: 03:00 PM - 04:00 PM Weather: Light Rain (8.22 °C)





Turning Movement Count (1 . POPPY DR E & 1888 GORDON ST (ACCESS))

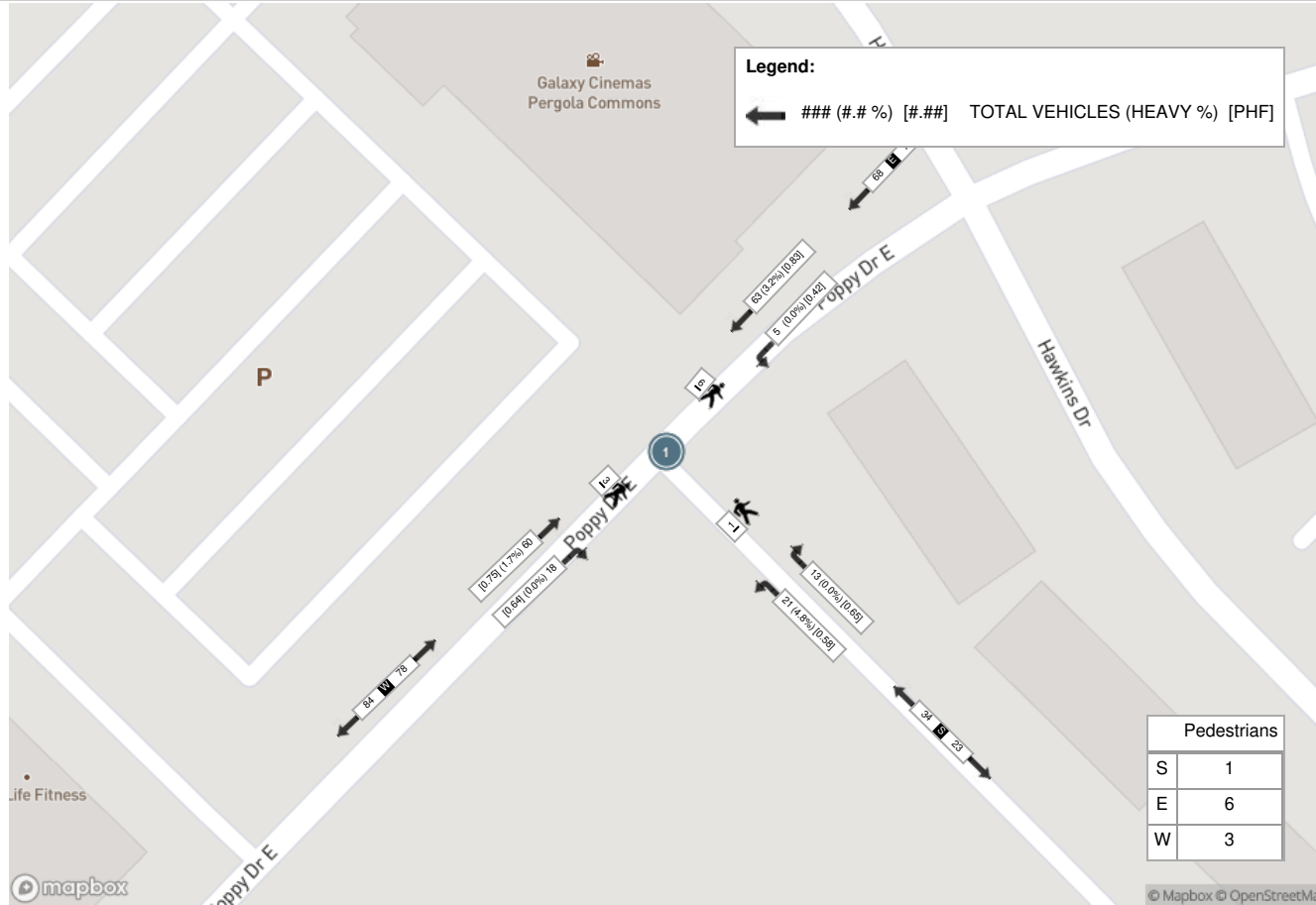
Start Time	E Approach POPPY DR E					S Approach 1888 GORDON ST (ACCESS)					W Approach POPPY DR E					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
12:00:00	19	3	1	3	23	1	6	0	0	7	7	9	0	0	16	46	
12:15:00	14	1	0	2	15	5	5	0	1	10	7	20	0	2	27	52	
12:30:00	16	1	0	0	17	4	9	0	0	13	0	14	0	1	14	44	
12:45:00	14	0	0	1	14	3	1	0	0	4	4	17	0	0	21	39	181
13:00:00	16	2	0	0	18	3	5	0	0	8	7	10	1	0	18	44	179
13:15:00	13	2	0	2	15	0	4	0	0	4	4	13	0	0	17	36	163
13:30:00	10	2	0	0	12	0	5	0	0	5	0	19	0	0	19	36	155
13:45:00	14	2	0	2	16	5	5	0	0	10	4	17	0	0	21	47	163
14:00:00	12	1	0	2	13	1	4	0	3	5	6	15	0	4	21	39	158
14:15:00	11	5	0	0	16	1	4	0	0	5	5	14	0	0	19	40	162
14:30:00	9	3	0	0	12	3	2	0	0	5	5	18	0	0	23	40	166
14:45:00	18	1	0	3	19	0	3	0	0	3	3	11	0	0	14	36	155
15:00:00	9	4	0	0	13	0	1	0	0	1	6	15	0	0	21	35	151
15:15:00	12	2	0	2	14	0	5	0	0	5	8	19	0	0	27	46	157
15:30:00	16	3	0	1	19	2	1	0	0	3	7	9	0	0	16	38	155
15:45:00	19	1	0	0	20	1	7	0	0	8	4	19	0	0	23	51	170
Grand Total	222	33	1	18	256	29	67	0	4	96	77	239	1	7	317	669	-
Approach%	86.7%	12.9%	0.4%	-	-	30.2%	69.8%	0%	-	-	24.3%	75.4%	0.3%	-	-	-	-
Totals %	33.2%	4.9%	0.1%	-	38.3%	4.3%	10%	0%	-	14.3%	11.5%	35.7%	0.1%	-	47.4%	-	-
Heavy	9	0	0	-	-	0	1	0	-	-	0	1	0	-	-	-	-
Heavy %	4.1%	0%	0%	-	-	0%	1.5%	0%	-	-	0%	0.4%	0%	-	-	-	-
Bicycles	5	0	0	-	-	0	0	0	-	-	0	0	0	-	-	-	-
Bicycle %	2.3%	0%	0%	-	-	0%	0%	0%	-	-	0%	0%	0%	-	-	-	-



Peak Hour: 12:00 PM - 01:00 PM Weather: Overcast Clouds (8.61 °C)

Start Time	E Approach POPPY DR E					S Approach 1888 GORDON ST (ACCESS)					W Approach POPPY DR E				Int. Total (15 min)	
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds		Approach Total
12:00:00	19	3	1	3	23	1	6	0	0	7	7	9	0	0	16	46
12:15:00	14	1	0	2	15	5	5	0	1	10	7	20	0	2	27	52
12:30:00	16	1	0	0	17	4	9	0	0	13	0	14	0	1	14	44
12:45:00	14	0	0	1	14	3	1	0	0	4	4	17	0	0	21	39
Grand Total	63	5	1	6	69	13	21	0	1	34	18	60	0	3	78	181
Approach%	91.3%	7.2%	1.4%		-	38.2%	61.8%	0%		-	23.1%	76.9%	0%		-	-
Totals %	34.8%	2.8%	0.6%		38.1%	7.2%	11.6%	0%		18.8%	9.9%	33.1%	0%		43.1%	-
PHF	0.83	0.42	0.25		0.75	0.65	0.58	0		0.65	0.64	0.75	0		0.72	-
Heavy	2	0	0		2	0	1	0		1	0	1	0		1	-
Heavy %	3.2%	0%	0%		2.9%	0%	4.8%	0%		2.9%	0%	1.7%	0%		1.3%	-
Lights	61	5	1		67	13	20	0		33	18	59	0		77	-
Lights %	96.8%	100%	100%		97.1%	100%	95.2%	0%		97.1%	100%	98.3%	0%		98.7%	-
Single-Unit Trucks	0	0	0		0	0	1	0		1	0	0	0		0	-
Single-Unit Trucks %	0%	0%	0%		0%	0%	4.8%	0%		2.9%	0%	0%	0%		0%	-
Buses	2	0	0		2	0	0	0		0	0	0	0		0	-
Buses %	3.2%	0%	0%		2.9%	0%	0%	0%		0%	0%	0%	0%		0%	-
Articulated Trucks	0	0	0		0	0	0	0		0	0	1	0		1	-
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	1.7%	0%		1.3%	-
Pedestrians	-	-	-	6	-	-	-	1		-	-	-	-	3	-	-
Pedestrians%	-	-	-	60%	-	-	-	10%		-	-	-	-	30%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	0%		-	-	-	-	0%	-	-

Peak Hour: 12:00 PM - 01:00 PM Weather: Overcast Clouds (8.61 °C)





Turning Movement Count (5 . POPPY DR E & FARLEY DR)

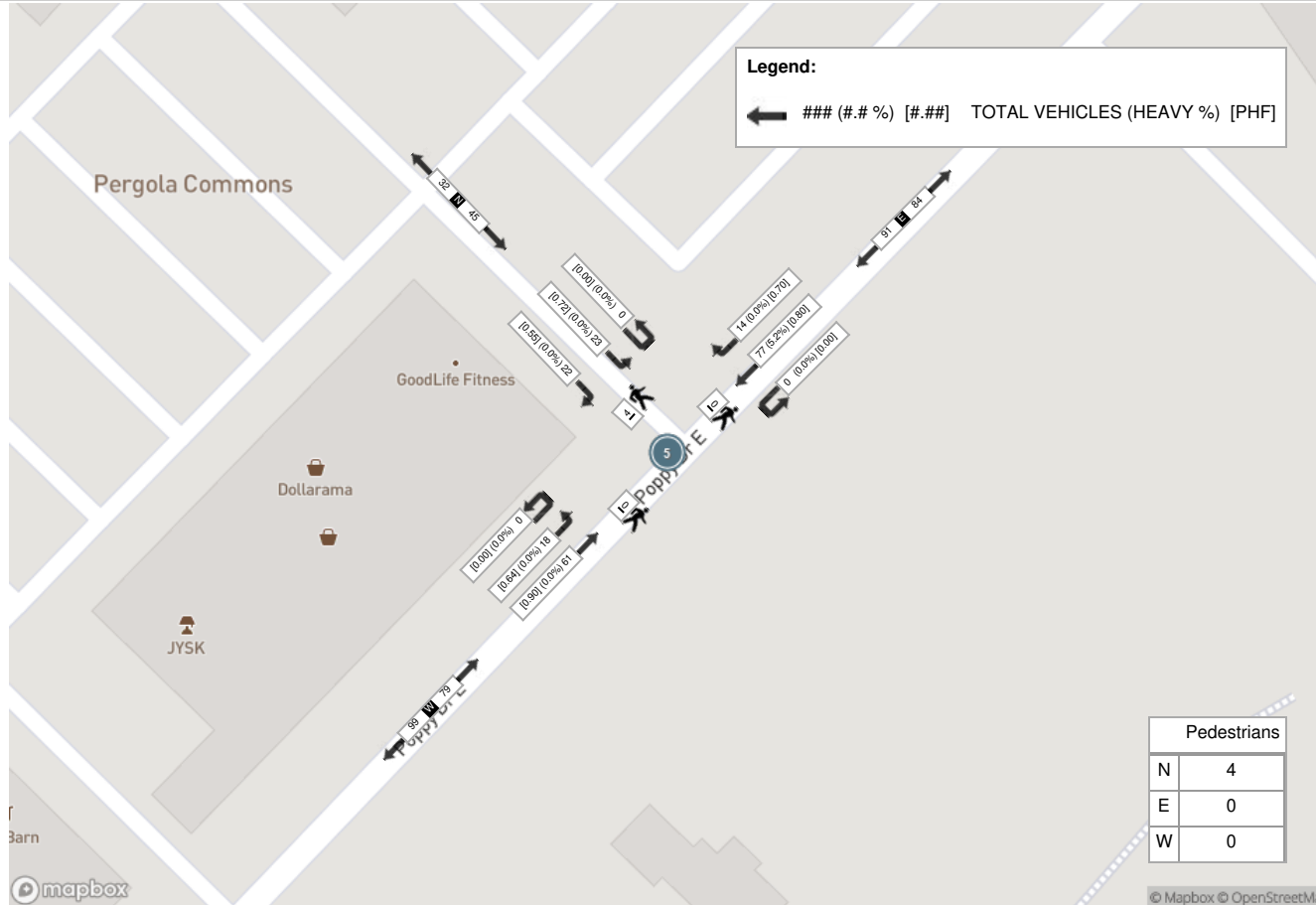
Start Time	N Approach FARLEY DR					E Approach POPPY DR E					W Approach POPPY DR E					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	UTurn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
10:00:00	2	1	0	1	3	1	15	0	0	16	8	3	0	0	11	30	
10:15:00	4	2	0	1	6	2	18	0	0	20	10	2	0	0	12	38	
10:30:00	7	3	0	3	10	3	25	0	0	28	13	1	0	0	14	52	
10:45:00	5	6	0	0	11	7	8	0	0	15	5	1	0	0	6	32	152
11:00:00	6	3	0	1	9	3	15	0	0	18	9	6	0	0	15	42	164
11:15:00	7	2	0	1	9	4	16	0	0	20	11	5	0	0	16	45	171
11:30:00	5	2	0	0	7	4	18	0	0	22	13	4	0	0	17	46	165
11:45:00	3	8	0	2	11	3	24	0	0	27	13	2	0	0	15	53	186
12:00:00	5	6	0	2	11	5	19	0	0	24	17	7	0	0	24	59	203
12:15:00	4	5	0	0	9	2	17	0	0	19	16	6	0	0	22	50	208
12:30:00	10	4	0	0	14	4	17	0	0	21	15	3	0	0	18	53	215
12:45:00	3	5	0	1	8	4	17	0	0	21	9	5	0	0	14	43	205
13:00:00	9	3	0	2	12	2	16	0	0	18	14	6	0	0	20	50	196
13:15:00	4	3	0	0	7	2	15	0	0	17	15	3	0	0	18	42	188
13:30:00	4	3	0	6	7	3	18	0	0	21	17	8	0	0	25	53	188
13:45:00	5	7	0	2	12	2	13	0	0	15	17	9	0	0	26	53	198
14:00:00	3	3	0	3	6	4	15	0	0	19	9	2	0	0	11	36	184
14:15:00	6	5	0	1	11	1	17	0	0	18	19	3	0	0	22	51	193
14:30:00	5	6	0	3	11	2	18	0	0	20	15	2	0	0	17	48	188
14:45:00	9	4	0	3	13	6	16	0	0	22	8	2	1	0	11	46	181
15:00:00	5	6	0	4	11	6	13	0	0	19	17	7	0	0	24	54	199
15:15:00	10	2	0	4	12	2	17	0	0	19	19	5	0	0	24	55	203
15:30:00	9	4	0	4	13	2	13	0	0	15	19	12	0	0	31	59	214
15:45:00	5	4	0	1	9	4	13	0	0	17	12	1	0	0	13	39	207
Grand Total	135	97	0	45	232	78	393	0	0	471	320	105	1	0	426	1129	-
Approach%	58.2%	41.8%	0%	-	-	16.6%	83.4%	0%	-	-	75.1%	24.6%	0.2%	-	-	-	-
Totals %	12%	8.6%	0%	-	20.5%	6.9%	34.8%	0%	-	41.7%	28.3%	9.3%	0.1%	-	37.7%	-	-
Heavy	0	0	0	-	-	0	15	0	-	-	0	0	0	-	-	-	-
Heavy %	0%	0%	0%	-	-	0%	3.8%	0%	-	-	0%	0%	0%	-	-	-	-
Bicycles	0	0	0	-	-	0	0	0	-	-	0	1	0	-	-	-	-
Bicycle %	0%	0%	0%	-	-	0%	0%	0%	-	-	0%	1%	0%	-	-	-	-



Peak Hour: 11:45 AM - 12:45 PM Weather: Light Rain (8.22 °C)

Start Time	N Approach FARLEY DR					E Approach POPPY DR E					W Approach POPPY DR E					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
11:45:00	3	8	0	2	11	3	24	0	0	27	13	2	0	0	15	53
12:00:00	5	6	0	2	11	5	19	0	0	24	17	7	0	0	24	59
12:15:00	4	5	0	0	9	2	17	0	0	19	16	6	0	0	22	50
12:30:00	10	4	0	0	14	4	17	0	0	21	15	3	0	0	18	53
Grand Total	22	23	0	4	45	14	77	0	0	91	61	18	0	0	79	215
Approach%	48.9%	51.1%	0%	-	-	15.4%	84.6%	0%	-	-	77.2%	22.8%	0%	-	-	-
Totals %	10.2%	10.7%	0%	-	20.9%	6.5%	35.8%	0%	-	42.3%	28.4%	8.4%	0%	-	36.7%	-
PHF	0.55	0.72	0	-	0.8	0.7	0.8	0	-	0.84	0.9	0.64	0	-	0.82	-
Heavy	0	0	0	-	0	0	4	0	-	4	0	0	0	-	0	-
Heavy %	0%	0%	0%	-	0%	0%	5.2%	0%	-	4.4%	0%	0%	0%	-	0%	-
Lights	22	23	0	-	45	14	73	0	-	87	61	18	0	-	79	-
Lights %	100%	100%	0%	-	100%	100%	94.8%	0%	-	95.6%	100%	100%	0%	-	100%	-
Buses	0	0	0	-	0	0	4	0	-	4	0	0	0	-	0	-
Buses %	0%	0%	0%	-	0%	0%	5.2%	0%	-	4.4%	0%	0%	0%	-	0%	-
Pedestrians	-	-	-	4	-	-	-	0	-	-	-	-	-	0	-	-
Pedestrians%	-	-	-	100%	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Road	0	0	0	0	-	0	0	0	-	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%	-	-	-	0%	-	-	-	-	-	0%	-	-

Peak Hour: 11:45 AM - 12:45 PM Weather: Light Rain (8.22 °C)





Turning Movement Count (4 . POPPY DR E & GORDON ST)

Start Time	N Approach GORDON ST						E Approach POPPY DR E						S Approach GORDON ST						W Approach POPPY DR E						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
10:00:00	0	103	10	0	1	113	15	4	8	0	0	27	5	106	4	1	0	116	5	2	2	0	0	9	265	
10:15:00	1	103	8	1	1	113	19	2	8	0	4	29	5	97	4	0	1	106	2	3	4	0	1	9	257	
10:30:00	5	104	10	2	0	121	17	2	13	0	1	32	7	119	7	0	0	133	2	1	1	0	0	4	290	
10:45:00	1	131	5	0	0	137	10	5	6	0	0	21	4	114	6	0	0	124	1	3	3	0	0	7	289	1101
11:00:00	0	130	7	3	1	140	20	7	6	0	0	33	9	122	4	0	1	135	5	2	3	0	1	10	318	1154
11:15:00	3	134	9	1	0	147	18	5	8	0	1	31	7	125	4	0	3	136	6	3	2	0	3	11	325	1222
11:30:00	5	123	15	0	0	143	17	6	14	0	1	37	7	119	3	0	0	129	1	1	6	0	1	8	317	1249
11:45:00	1	124	16	0	1	141	21	4	12	0	2	37	7	108	12	0	0	127	6	3	2	0	0	11	316	1276
12:00:00	2	124	19	1	0	146	15	7	13	0	3	35	10	121	7	0	1	138	8	2	1	0	0	11	330	1288
12:15:00	2	145	20	2	2	169	16	3	15	0	1	34	9	122	5	0	0	136	2	2	5	0	0	9	348	1311
12:30:00	3	113	11	0	0	127	19	7	13	0	0	39	10	140	5	0	1	155	5	1	4	0	1	10	331	1325
12:45:00	4	130	10	0	0	144	22	0	10	0	7	32	8	108	5	0	1	121	3	2	6	0	1	11	308	1317
13:00:00	2	134	16	2	3	154	21	3	10	0	2	34	9	136	2	0	0	147	3	2	5	0	0	10	345	1332
13:15:00	2	144	16	2	2	164	15	3	10	0	0	28	7	103	5	1	0	116	4	4	4	0	2	12	320	1304
13:30:00	1	123	19	0	4	143	18	5	19	0	4	42	13	89	7	0	6	109	4	3	0	0	4	7	301	1274
13:45:00	1	148	9	1	1	159	18	1	14	0	0	33	12	116	4	0	2	132	5	7	6	0	2	18	342	1308
14:00:00	3	131	11	2	0	147	14	0	10	0	5	24	5	139	9	0	1	153	10	0	3	0	0	13	337	1300
14:15:00	1	124	15	2	0	142	16	6	14	0	1	36	12	128	4	0	0	144	4	2	2	0	2	8	330	1310
14:30:00	2	139	10	0	3	151	18	4	13	0	4	35	9	125	6	0	0	140	2	3	2	0	0	7	333	1342
14:45:00	0	135	14	1	1	150	22	2	9	0	2	33	8	116	7	0	1	131	5	2	3	0	4	10	324	1324
15:00:00	2	128	10	3	4	143	15	3	17	0	3	35	10	121	5	0	4	136	1	3	1	0	3	5	319	1306
15:15:00	2	137	17	1	7	157	16	6	13	0	0	35	12	142	13	0	1	167	7	6	6	0	2	19	378	1354
15:30:00	2	135	17	2	2	156	11	5	13	0	5	29	17	126	8	1	0	152	4	5	3	0	1	12	349	1370
15:45:00	2	140	16	1	1	159	19	3	8	0	1	30	1	103	11	0	0	115	6	3	3	0	0	12	316	1362
Grand Total	47	3082	310	27	34	3466	412	93	276	0	47	781	203	2845	147	3	23	3198	101	65	77	0	28	243	7688	-
Approach%	1.4%	88.9%	8.9%	0.8%	-	-	52.8%	11.9%	35.3%	0%	-	-	6.3%	89%	4.6%	0.1%	-	41.6%	26.7%	31.7%	0%	-	-	-	-	
Totals	0.6%	40.1%	4%	0.4%	45.1%	-	5.4%	1.2%	3.6%	0%	10.2%	-	2.6%	37%	1.9%	0%	41.6%	1.3%	0.8%	1%	0%	3.2%	-	-	-	
Heavy	0	23	0	0	-	-	14	0	0	0	-	-	0	25	1	0	-	1	0	13	0	-	-	-	-	
Heavy %	0%	0.7%	0%	0%	-	-	3.4%	0%	0%	0%	-	-	0%	0.9%	0.7%	0%	-	1%	0%	16.9%	0%	-	-	-	-	
Bicycles	0	0	0	1	-	-	0	0	0	0	-	-	1	1	0	0	-	0	0	0	0	-	-	-	-	
Bicycle %	0%	0%	0%	3.7%	-	-	0%	0%	0%	0%	-	-	0.5%	0%	0%	0%	-	0%	0%	0%	0%	-	-	-	-	



Peak Hour: 02:45 PM - 03:45 PM Weather: Light Rain (8.22 °C)

Start Time	N Approach GORDON ST						E Approach POPPY DR E						S Approach GORDON ST						W Approach POPPY DR E						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
14:45:00	0	135	14	1	1	150	22	2	9	0	2	33	8	116	7	0	1	131	5	2	3	0	4	10	324
15:00:00	2	128	10	3	4	143	15	3	17	0	3	35	10	121	5	0	4	136	1	3	1	0	3	5	319
15:15:00	2	137	17	1	7	157	16	6	13	0	0	35	12	142	13	0	1	167	7	6	6	0	2	19	378
15:30:00	2	135	17	2	2	156	11	5	13	0	5	29	17	126	8	1	0	152	4	5	3	0	1	12	349
Grand Total	6	535	58	7	14	606	64	16	52	0	10	132	47	505	33	1	6	586	17	16	13	0	10	46	1370
Approach%	1%	88.3%	9.6%	1.2%		-	48.5%	12.1%	39.4%	0%		-	8%	86.2%	5.6%	0.2%		-	37%	34.8%	28.3%	0%		-	-
Totals %	0.4%	39.1%	4.2%	0.5%		44.2%	4.7%	1.2%	3.8%	0%		9.6%	3.4%	36.9%	2.4%	0.1%		42.8%	1.2%	1.2%	0.9%	0%		3.4%	-
PHF	0.75	0.98	0.85	0.58		0.96	0.73	0.67	0.76	0		0.94	0.69	0.89	0.63	0.25		0.88	0.61	0.67	0.54	0		0.61	-
Heavy	0	5	0	0		5	3	0	0	0		3	0	3	0	0		3	0	0	3	0		3	-
Heavy %	0%	0.9%	0%	0%		0.8%	4.7%	0%	0%	0%		2.3%	0%	0.6%	0%	0%		0.5%	0%	0%	23.1%	0%		6.5%	-
Lights	6	530	58	7		601	61	16	52	0		129	47	502	33	1		583	17	16	10	0		43	-
Lights %	100%	99.1%	100%	100%		99.2%	95.3%	100%	100%	0%		97.7%	100%	99.4%	100%	100%		99.5%	100%	100%	76.9%	0%		93.5%	-
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	-
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
Buses	0	2	0	0		2	3	0	0	0		3	0	2	0	0		2	0	0	3	0		3	-
Buses %	0%	0.4%	0%	0%		0.3%	4.7%	0%	0%	0%		2.3%	0%	0.4%	0%	0%		0.3%	0%	0%	23.1%	0%		6.5%	-
Articulated Trucks	0	3	0	0		3	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	-
Articulated Trucks %	0%	0.6%	0%	0%		0.5%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	13	-	-	-	-	-	10	-	-	-	-	-	6	-	-	-	-	-	10	-	-
Pedestrians%	-	-	-	-	32.5%	-	-	-	-	-	25%	-	-	-	-	-	15%	-	-	-	-	-	25%	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	2.5%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-
Bicycles on Road	0	0	0	1	0	-	0	0	0	0	0	-	1	1	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-

Peak Hour: 02:45 PM - 03:45 PM Weather: Light Rain (8.22 °C)





Turning Movement Count (6 . POPPY DR E & HAWKINS DR)

Start Time	N Approach HAWKINS DR						E Approach POPPY DR E						S Approach HAWKINS DR						W Approach POPPY DR E						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
10:00:00	5	1	3	0	1	9	4	7	0	0	0	11	0	1	2	0	3	3	0	5	4	0	0	9	32	
10:15:00	2	0	6	1	2	9	1	12	1	0	2	14	0	1	0	0	0	1	2	4	2	0	1	8	32	
10:30:00	4	1	2	0	3	7	1	15	0	0	0	16	0	1	3	0	4	4	3	7	2	0	1	12	39	
10:45:00	2	1	3	0	2	6	1	8	0	0	0	9	0	2	0	0	1	2	1	4	2	0	1	7	24	127
11:00:00	4	0	3	0	2	7	0	9	1	0	1	10	0	1	1	0	0	2	2	3	4	0	3	9	28	123
11:15:00	1	1	1	0	1	3	0	13	1	0	0	14	1	3	4	0	1	8	3	3	3	0	0	9	34	125
11:30:00	1	1	3	0	1	5	3	13	0	0	0	16	1	2	2	0	1	5	1	5	3	0	2	9	35	121
11:45:00	0	1	2	0	0	3	1	15	1	0	0	17	0	0	3	0	1	3	1	12	0	0	2	13	36	133
12:00:00	0	1	4	0	2	5	1	14	0	0	1	15	0	1	1	0	1	2	2	10	6	0	1	18	40	145
12:15:00	1	1	4	0	0	6	4	9	0	0	0	13	0	2	3	0	0	5	3	12	4	0	0	19	43	154
12:30:00	6	0	2	0	0	8	1	10	0	0	1	11	0	1	1	1	0	3	0	8	5	0	4	13	35	154
12:45:00	1	1	5	0	4	7	4	11	1	0	1	16	1	2	2	0	2	5	1	7	1	0	2	9	37	155
13:00:00	1	1	3	0	1	5	0	15	0	0	0	15	0	1	1	0	4	2	2	5	6	0	4	13	35	150
13:15:00	3	2	4	0	1	9	2	8	1	0	0	11	0	0	1	0	5	1	2	7	6	0	2	15	36	143
13:30:00	1	1	4	0	8	6	2	14	0	0	2	16	0	0	5	0	2	5	2	10	7	0	1	19	46	154
13:45:00	4	1	3	0	2	8	1	6	0	0	0	7	0	1	5	0	0	6	2	11	2	0	1	15	36	153
14:00:00	1	0	4	0	1	5	0	13	0	0	0	13	1	1	1	0	7	3	1	7	3	0	2	11	32	150
14:15:00	3	1	2	0	2	6	2	7	0	0	0	9	0	0	2	0	1	2	1	14	4	0	0	19	36	150
14:30:00	2	2	4	0	2	8	0	12	1	0	2	13	0	0	2	0	5	2	1	10	5	1	4	17	40	144
14:45:00	3	2	0	0	2	5	0	16	0	0	1	16	0	0	1	0	0	1	0	7	2	0	0	9	31	139
15:00:00	3	0	2	0	2	5	3	12	0	0	1	15	0	1	0	0	3	1	1	10	6	0	2	17	38	145
15:15:00	4	2	1	0	3	7	3	11	1	0	0	15	0	0	1	0	3	1	2	10	4	1	0	17	40	149
15:30:00	1	1	3	0	5	5	3	10	0	0	1	13	0	1	3	0	5	4	2	11	4	0	4	17	39	148
15:45:00	5	1	4	0	5	10	3	10	0	0	0	13	0	2	1	0	1	3	0	9	4	0	0	13	39	156
Grand Total	58	23	72	1	52	154	40	270	8	0	13	318	4	24	45	1	50	74	35	191	89	2	37	317	863	-
Approach%	37.7%	14.9%	46.8%	0.6%	-	-	12.6%	84.9%	2.5%	0%	-	-	5.4%	32.4%	60.8%	1.4%	-	-	11%	60.3%	28.1%	0.6%	-	-	-	-
Totals	6.7%	2.7%	8.3%	0.1%	17.8%	-	4.6%	31.3%	0.9%	0%	36.8%	-	0.5%	2.8%	5.2%	0.1%	8.6%	-	4.1%	22.1%	10.3%	0.2%	36.7%	-	-	-
Heavy	3	0	0	0	-	-	0	11	0	0	-	-	0	0	0	0	-	-	0	0	0	0	-	-	-	-
Heavy %	5.2%	0%	0%	0%	-	-	0%	4.1%	0%	0%	-	-	0%	0%	0%	0%	-	-	0%	0%	0%	0%	-	-	-	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Peak Hour: 03:00 PM - 04:00 PM Weather: Light Rain (8.22 °C)

Start Time	N Approach HAWKINS DR						E Approach POPPY DR E						S Approach HAWKINS DR						W Approach POPPY DR E						Int. Total (15 min)	
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total		
15:00:00	3	0	2	0	2	5	3	12	0	0	1	15	0	1	0	0	3	1	1	10	6	0	2	17	38	
15:15:00	4	2	1	0	3	7	3	11	1	0	0	15	0	0	1	0	3	1	2	10	4	1	0	17	40	
15:30:00	1	1	3	0	5	5	3	10	0	0	1	13	0	1	3	0	5	4	2	11	4	0	4	17	39	
15:45:00	5	1	4	0	5	10	3	10	0	0	0	13	0	2	1	0	1	3	0	9	4	0	0	13	39	
Grand Total	13	4	10	0	15	27	12	43	1	0	2	56	0	4	5	0	12	9	5	40	18	1	6	64	156	
Approach%	48.1%	14.8%	37%	0%	-	-	21.4%	76.8%	1.8%	0%	-	-	0%	44.4%	55.6%	0%	-	-	7.8%	62.5%	28.1%	1.6%	-	-	-	
Totals %	8.3%	2.6%	6.4%	0%	17.3%	17.3%	7.7%	27.6%	0.6%	0%	35.9%	35.9%	0%	2.6%	3.2%	0%	5.8%	5.8%	3.2%	25.6%	11.5%	0.6%	41%	41%	-	
PHF	0.65	0.5	0.63	0	0.68	0.68	1	0.9	0.25	0	0.93	0.93	0	0.5	0.42	0	0.56	0.56	0.63	0.91	0.75	0.25	0.94	0.94	-	
Heavy	2	0	0	0	2	2	0	2	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Heavy %	15.4%	0%	0%	0%	7.4%	7.4%	0%	4.7%	0%	0%	3.6%	3.6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Lights	11	4	10	0	25	25	12	41	1	0	54	54	0	4	5	0	9	9	5	40	18	1	64	64	-	
Lights %	84.6%	100%	100%	0%	92.6%	92.6%	100%	95.3%	100%	0%	96.4%	96.4%	0%	100%	100%	0%	100%	100%	100%	100%	100%	100%	100%	100%	100%	-
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Buses	1	0	0	0	1	1	0	2	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Buses %	7.7%	0%	0%	0%	3.7%	3.7%	0%	4.7%	0%	0%	3.6%	3.6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Articulated Trucks	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Articulated Trucks %	7.7%	0%	0%	0%	3.7%	3.7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	15	-	-	-	-	2	-	-	-	-	-	-	12	-	-	-	-	-	6	-	-	-
Pedestrians%	-	-	-	-	42.9%	-	-	-	-	5.7%	-	-	-	-	-	34.3%	-	-	-	-	-	-	17.1%	-	-	-

Peak Hour: 03:00 PM - 04:00 PM Weather: Light Rain (8.22 °C)



**Appendix F:
Existing Queue Study**



Project No: 7036-41
Project: Pergola Commons
Study Location: Clair Rd E & Farley
Municipality: City of Guelph
Study Date: Wednesday September 20, 2023
Study Time: 7:00 - 10:00

Queue at Max Study

Left Lane				AM Period				Maximum Queue				End of Green			
Start of Green															
Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %
0	30	45%	45%	0	30	45%	45%	0	66	100%	100%	0	66	100%	100%
1	30	45%	91%	1	30	45%	91%	1	0	0%	100%	1	0	0%	100%
2	3	5%	95%	2	3	5%	95%	2	0	0%	100%	2	0	0%	100%
3	3	5%	100%	3	3	5%	100%	3	0	0%	100%	3	0	0%	100%
4	0	0%	100%	4	0	0%	100%	4	0	0%	100%	4	0	0%	100%
5	0	0%	100%	5	0	0%	100%	5	0	0%	100%	5	0	0%	100%
Total	66	100%		Total	66	100%		Total	66	100%		Total	66	100%	
Minimum	0			Minimum	0			Minimum	0			Minimum	0		
Average	1			Average	1			Average	0			Average	0		
85th Percentile	1			85th Percentile	1			85th Percentile	0			85th Percentile	0		
95th Percentile	2			95th Percentile	2			95th Percentile	0			95th Percentile	0		
Maximum	3			Maximum	3			Maximum	0			Maximum	0		

Curb Lane				AM Period				Maximum Queue				End of Green			
Start of Green															
Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %
0	56	85%	85%	0	56	85%	85%	0	66	100%	100%	0	66	100%	100%
1	7	11%	95%	1	7	11%	95%	1	0	0%	100%	1	0	0%	100%
2	3	5%	100%	2	3	5%	100%	2	0	0%	100%	2	0	0%	100%
3	0	0%	100%	3	0	0%	100%	3	0	0%	100%	3	0	0%	100%
4	0	0%	100%	4	0	0%	100%	4	0	0%	100%	4	0	0%	100%
5	0	0%	100%	5	0	0%	100%	5	0	0%	100%	5	0	0%	100%
Total	66	100%		Total	66	100%		Total	66	100%		Total	66	100%	
Minimum	0			Minimum	0			Minimum	0			Minimum	0		
Average	0			Average	0			Average	0			Average	0		
85th Percentile	0			85th Percentile	0			85th Percentile	0			85th Percentile	0		
95th Percentile	1			95th Percentile	1			95th Percentile	0			95th Percentile	0		
Maximum	2			Maximum	2			Maximum	0			Maximum	0		

Project No: 7036-41
Project: Pergola Commons
Study Location: Clair Rd E & Farley
Municipality: City of Guelph
Study Date: Wednesday September 20, 2023
Study Time: 10:00 - 15:00

Queue at Max Study

Left Lane				Mid Period				End of Green			
Start of Green				Maximum Queue				End of Green			
Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %
0	32	17%	17%	0	32	17%	17%	0	187	100%	100%
1	58	31%	48%	1	51	27%	44%	1	0	0%	100%
2	73	39%	87%	2	44	24%	68%	2	0	0%	100%
3	23	12%	99%	3	27	14%	82%	3	0	0%	100%
4	1	1%	100%	4	19	10%	93%	4	0	0%	100%
5	0	0%	100%	5	9	5%	97%	5	0	0%	100%
6	0	0%	100%	6	3	2%	99%	6	0	0%	100%
7	0	0%	100%	7	2	1%	100%	7	0	0%	100%
8	0	0%	100%	8	0	0%	100%	8	0	0%	100%
9	0	0%	100%	9	0	0%	100%	9	0	0%	100%
10	0	0%	100%	10	0	0%	100%	10	0	0%	100%
Total	187	100%		Total	187	100%		Total	187	100%	
Minimum	0			Minimum	0			Minimum	0		
Average	1			Average	2			Average	0		
85th Percentile	2			85th Percentile	4			85th Percentile	0		
95th Percentile	3			95th Percentile	5			95th Percentile	0		
Maximum	4			Maximum	7			Maximum	0		

Curb Lane				Mid Period				End of Green			
Start of Green				Maximum Queue				End of Green			
Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %
0	177	95%	95%	0	177	95%	95%	0	187	100%	100%
1	9	5%	99%	1	9	5%	99%	1	0	0%	100%
2	1	1%	100%	2	1	1%	100%	2	0	0%	100%
3	0	0%	100%	3	0	0%	100%	3	0	0%	100%
4	0	0%	100%	4	0	0%	100%	4	0	0%	100%
5	0	0%	100%	5	0	0%	100%	5	0	0%	100%
6	0	0%	100%	6	0	0%	100%	6	0	0%	100%
7	0	0%	100%	7	0	0%	100%	7	0	0%	100%
8	0	0%	100%	8	0	0%	100%	8	0	0%	100%
9	0	0%	100%	9	0	0%	100%	9	0	0%	100%
10	0	0%	100%	10	0	0%	100%	10	0	0%	100%
Total	187	100%		Total	187	100%		Total	187	100%	
Minimum	0			Minimum	0			Minimum	0		
Average	0			Average	0			Average	0		
85th Percentile	0			85th Percentile	0			85th Percentile	0		
95th Percentile	1			95th Percentile	1			95th Percentile	0		
Maximum	2			Maximum	2			Maximum	0		

Project No: 7036-41
Project: Pergola Commons
Study Location: Clair Rd E & Farley
Municipality: City of Guelph
Study Date: Wednesday September 20, 2023
Study Time: 15:00 - 19:00

Queue at Max Study

Left Lane

PM Period

Start of Green

Maximum Queue

End of Green

Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %
0	20	13%	13%	0	20	13%	13%	0	155	100%	100%
1	43	28%	41%	1	39	25%	38%	1	0	0%	100%
2	71	46%	86%	2	47	30%	68%	2	0	0%	100%
3	21	14%	100%	3	30	19%	88%	3	0	0%	100%
4	0	0%	100%	4	12	8%	95%	4	0	0%	100%
5	0	0%	100%	5	7	5%	100%	5	0	0%	100%
6	0	0%	100%	6	0	0%	100%	6	0	0%	100%
7	0	0%	100%	7	0	0%	100%	7	0	0%	100%
8	0	0%	100%	8	0	0%	100%	8	0	0%	100%
9	0	0%	100%	9	0	0%	100%	9	0	0%	100%
10	0	0%	100%	10	0	0%	100%	10	0	0%	100%
Total	155	100%		Total	155	100%		Total	155	100%	

Minimum	0	Minimum	0	Minimum	0
Average	2	Average	2	Average	0
85th Percentile	2	85th Percentile	3	85th Percentile	0
95th Percentile	3	95th Percentile	4	95th Percentile	0
Maximum	3	Maximum	5	Maximum	0

Curb Lane

PM Period

Start of Green

Maximum Queue

End of Green

Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %
0	141	91%	91%	0	141	91%	91%	0	155	100%	100%
1	12	8%	99%	1	12	8%	99%	1	0	0%	100%
2	2	1%	100%	2	2	1%	100%	2	0	0%	100%
3	0	0%	100%	3	0	0%	100%	3	0	0%	100%
4	0	0%	100%	4	0	0%	100%	4	0	0%	100%
5	0	0%	100%	5	0	0%	100%	5	0	0%	100%
6	0	0%	100%	6	0	0%	100%	6	0	0%	100%
7	0	0%	100%	7	0	0%	100%	7	0	0%	100%
8	0	0%	100%	8	0	0%	100%	8	0	0%	100%
9	0	0%	100%	9	0	0%	100%	9	0	0%	100%
10	0	0%	100%	10	0	0%	100%	10	0	0%	100%
Total	155	100%		Total	155	100%		Total	155	100%	

Minimum	0	Minimum	0	Minimum	0
Average	0	Average	0	Average	0
85th Percentile	0	85th Percentile	0	85th Percentile	0
95th Percentile	1	95th Percentile	1	95th Percentile	0
Maximum	2	Maximum	2	Maximum	0

Project No: 7036-41
Project: Pergola Commons
Study Location: Clair Rd E & Farley
Municipality: City of Guelph
Study Date: Saturday October 14, 2023
Study Time: 15:00 - 19:00

Queue at Max Study

Left Lane

PM Period

Start of Green

Maximum Queue

End of Green

Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %
0	14	7%	7%	0	13	6%	6%	0	208	100%	100%
1	34	16%	23%	1	33	16%	22%	1	0	0%	100%
2	104	50%	73%	2	57	27%	50%	2	0	0%	100%
3	55	26%	100%	3	49	24%	73%	3	0	0%	100%
4	1	0%	100%	4	24	12%	85%	4	0	0%	100%
5	0	0%	100%	5	22	11%	95%	5	0	0%	100%
6	0	0%	100%	6	8	4%	99%	6	0	0%	100%
7	0	0%	100%	7	2	1%	100%	7	0	0%	100%
8	0	0%	100%	8	0	0%	100%	8	0	0%	100%
9	0	0%	100%	9	0	0%	100%	9	0	0%	100%
10	0	0%	100%	10	0	0%	100%	10	0	0%	100%
Total	208	100%		Total	208	100%		Total	208	100%	

Minimum	0	Minimum	0	Minimum	0
Average	2	Average	3	Average	0
85th Percentile	3	85th Percentile	5	85th Percentile	0
95th Percentile	3	95th Percentile	5	95th Percentile	0
Maximum	4	Maximum	7	Maximum	0

Curb Lane

PM Period

Start of Green

Maximum Queue

End of Green

Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %	Queue Size	Frequency	Distribution %	Cumulative %
0	200	96%	96%	0	200	96%	96%	0	208	100%	100%
1	7	3%	100%	1	7	3%	100%	1	0	0%	100%
2	1	0%	100%	2	1	0%	100%	2	0	0%	100%
3	0	0%	100%	3	0	0%	100%	3	0	0%	100%
4	0	0%	100%	4	0	0%	100%	4	0	0%	100%
5	0	0%	100%	5	0	0%	100%	5	0	0%	100%
6	0	0%	100%	6	0	0%	100%	6	0	0%	100%
7	0	0%	100%	7	0	0%	100%	7	0	0%	100%
8	0	0%	100%	8	0	0%	100%	8	0	0%	100%
9	0	0%	100%	9	0	0%	100%	9	0	0%	100%
10	0	0%	100%	10	0	0%	100%	10	0	0%	100%
Total	208	100%		Total	208	100%		Total	208	100%	

Minimum	0	Minimum	0	Minimum	0
Average	0	Average	0	Average	0
85th Percentile	0	85th Percentile	0	85th Percentile	0
95th Percentile	0	95th Percentile	0	95th Percentile	0
Maximum	2	Maximum	2	Maximum	0

**Appendix G:
Site Distribution Mode Split Queries**



Project:	Pergola Commons
Project No:	7036-41
Location:	1 Clair Road East
Date:	2023-12-13
Peak Period:	AM Peak Hour
Direction:	Outbound

Planning District TTS Query

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest

Column: 2006 GTA zone of origin - gta06_orig

Filters:

Start time of trip - start_time In 700-1000

and

Primary travel mode of trip - mode_prime In d m p t u

and

Trip purpose of origin - purp_orig In h

and

2006 GTA zone of origin - gta06_orig In 8205 8070 8075 8072 8207 8076

2006 GTA Zone TTS Query

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest

Column: 2006 GTA zone of origin - gta06_orig

Filters:

Start time of trip - start_time In 700-1000

and

Primary travel mode of trip - mode_prime In d m p t u

and

Trip purpose of origin - purp_orig In h

and

2006 GTA zone of origin - gta06_orig In 8205 8070 8075 8072 8207 8076

and

Planning district of destination - pd_dest In 70

Traffic Volume Allocation

Zone	Trips	%	NORTH	SOUTH	EAST	WEST	TOTAL
			Gordon Street	Gordon Street	Clair Road East	Clair Road West	
PD 7 of Toronto	1	1%			100%		100.00%
PD 10 of Toronto	1	1%			100%		100.00%
Brampton	3	3%			100%		100.00%
Mississauga	4	3%			100%		100.00%
Oakville	1	1%			100%		100.00%
Burlington	3	3%			100%		100.00%
Stoney Creek	1	1%			100%		100.00%
Hamilton	1	1%			100%		100.00%
Waterloo	4	3%			25%	75%	100.00%
Kitchener	7	6%			25%	75%	100.00%
Cambridge	10	8%			25%	75%	100.00%
Guelph	76	64%					0.00%
8007	1	1%				100%	100.00%
8015	1	1%				100%	100.00%
8022	2	2%				100%	100.00%
8026	1	1%				100%	100.00%
8035	1	1%	50%			50%	100.00%
8039	1	1%	50%			50%	100.00%
8045	1	1%	25%			75%	100.00%
8048	1	1%	25%			75%	100.00%
8057	10	8%	100%				100.00%
8059	2	2%	100%				100.00%
8062	1	1%	100%				100.00%
8064	1	1%	100%				100.00%
8072	2	2%	50%			50%	100.00%
8073	1	1%				100%	100.00%
8074	1	1%	100%				100.00%
8080	1	1%	100%				100.00%
8082	2	2%	100%				100.00%
8083	2	2%	100%				100.00%

8084	1	1%	100%				100.00%
8086	1	1%				100%	100.00%
8095	1	1%	100%				100.00%
8101	2	2%	25%			75%	100.00%
8107	6	5%	50%			50%	100.00%
8111	2	2%	100%				100.00%
8114	2	2%	100%				100.00%
8115	2	2%	100%				100.00%
8117	2	2%	75%		25%		100.00%
8121	2	2%	75%			25%	100.00%
8135	1	1%	25%		75%		100.00%
8136	1	1%	25%		75%		100.00%
8142	2	2%				100%	100.00%
8149	2	2%	25%			75%	100.00%
8154	1	1%	25%			75%	100.00%
8168	1	1%				100%	100.00%
8172	2	2%				100%	100.00%
8175	1	1%				100%	100.00%
8191	1	1%				100%	100.00%
8193	1	1%				100%	100.00%
8194	1	1%				100%	100.00%
8196	3	3%		50%		50%	100.00%
8199	4	3%		50%		50%	100.00%
8204	1	1%			100%		100.00%
8205	1	1%	25%	25%	25%	25%	100.00%
Puslinch	2	2%		50%	50%		100.00%
Centre Wellington	1	1%			75%	25%	100.00%
Oxford	1	1%		100%			100.00%
Haldimand-Norfolk	1	1%		100%			100.00%
Brantford	1	1%		100%			100.00%
TOTAL TRIPS	118	100%					

Route Split Totals

Zone	NORTH	SOUTH	EAST	WEST	TOTAL
	Gordon Street	Gordon Street	Clair Road East	Clair Road West	
PD 7 of Toronto	0.00%	0.85%	0.00%	0.00%	0.8%
PD 10 of Toronto	0.00%	0.85%	0.00%	0.00%	0.8%
Brampton	0.00%	2.54%	0.00%	0.00%	2.5%
Mississauga	0.00%	3.39%	0.00%	0.00%	3.4%
Oakville	0.00%	0.85%	0.00%	0.00%	0.8%
Burlington	0.00%	2.54%	0.00%	0.00%	2.5%
Stoney Creek	0.00%	0.85%	0.00%	0.00%	0.8%
Hamilton	0.00%	0.85%	0.00%	0.00%	0.8%
Waterloo	0.00%	0.85%	0.00%	2.54%	3.4%
Kitchener	0.00%	1.48%	0.00%	4.45%	5.9%
Cambridge	0.00%	2.12%	0.00%	6.36%	8.5%
Guelph					0.0%
8007	0.00%	0.00%	0.85%	0.00%	0.8%
8015	0.00%	0.00%	0.85%	0.00%	0.8%
8022	0.00%	0.00%	1.69%	0.00%	1.7%
8026	0.00%	0.00%	0.85%	0.00%	0.8%
8035	0.42%	0.00%	0.42%	0.00%	0.8%
8039	0.42%	0.00%	0.42%	0.00%	0.8%
8045	0.21%	0.00%	0.64%	0.00%	0.8%
8048	0.21%	0.00%	0.64%	0.00%	0.8%
8057	8.47%	0.00%	0.00%	0.00%	8.5%
8059	1.69%	0.00%	0.00%	0.00%	1.7%
8062	0.85%	0.00%	0.00%	0.00%	0.8%
8064	0.85%	0.00%	0.00%	0.00%	0.8%
8072	0.85%	0.00%	0.85%	0.00%	1.7%
8073	0.00%	0.00%	0.85%	0.00%	0.8%
8074	0.85%	0.00%	0.00%	0.00%	0.8%
8080	0.85%	0.00%	0.00%	0.00%	0.8%
8082	1.69%	0.00%	0.00%	0.00%	1.7%
8083	1.69%	0.00%	0.00%	0.00%	1.7%

8084	0.85%	0.00%	0.00%	0.00%	0.8%
8086	0.00%	0.00%	0.00%	0.85%	0.8%
8095	0.85%	0.00%	0.00%	0.00%	0.8%
8101	0.42%	0.00%	0.00%	1.27%	1.7%
8107	2.54%	0.00%	0.00%	2.54%	5.1%
8111	1.69%	0.00%	0.00%	0.00%	1.7%
8114	1.69%	0.00%	0.00%	0.00%	1.7%
8115	1.69%	0.00%	0.00%	0.00%	1.7%
8117	1.27%	0.00%	0.42%	0.00%	1.7%
8121	1.27%	0.00%	0.00%	0.42%	1.7%
8135	0.21%	0.00%	0.64%	0.00%	0.8%
8136	0.21%	0.00%	0.64%	0.00%	0.8%
8142	0.00%	0.00%	0.00%	1.69%	1.7%
8149	0.42%	0.00%	0.00%	1.27%	1.7%
8154	0.21%	0.00%	0.00%	0.64%	0.8%
8168	0.00%	0.00%	0.00%	0.85%	0.8%
8172	0.00%	0.00%	0.00%	1.69%	1.7%
8175	0.00%	0.00%	0.00%	0.85%	0.8%
8191	0.00%	0.00%	0.00%	0.85%	0.8%
8193	0.00%	0.00%	0.00%	0.85%	0.8%
8194	0.00%	0.00%	0.00%	0.85%	0.8%
8196	0.00%	1.27%	0.00%	1.27%	2.5%
8199	0.00%	1.69%	0.00%	1.69%	3.4%
8204	0.00%	0.00%	0.85%	0.00%	0.8%
8205	0.21%	0.21%	0.21%	0.21%	0.8%
Puslinch	0.00%	0.85%	0.85%	0.00%	1.7%
Centre Wellington	0.00%	0.00%	0.64%	0.21%	0.8%
Oxford	0.00%	0.85%	0.00%	0.00%	0.8%
Haldimand-Norfolk	0.00%	0.85%	0.00%	0.00%	0.8%
Brantford	0.00%	0.85%	0.00%	0.00%	0.8%
TOTAL TRIPS	33%	24%	12%	31%	100.0%

Note: Distribution percentages rounded to the nearest 5% for analysis.

Project:	Pergola Commons
Project No:	7036-41
Location:	1 Clair Road East
Date:	2023-12-13
Peak Period:	PM Peak Hour
Direction:	Inbound

Planning District TTS Query

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig

Column: 2006 GTA zone of destination - gta06_dest

Filters:

Start time of trip - start_time In 1500-1900

and

Primary travel mode of trip - mode_prime In d m p t u

and

Trip purpose of destination - purp_dest In H

and

2006 GTA zone of destination - gta06_dest In 8205 8070 8075 8072 8207 8076

2006 GTA Zone TTS Query

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig

Column: 2006 GTA zone of destination - gta06_dest

Filters:

Start time of trip - start_time In 1500-1900

and

Primary travel mode of trip - mode_prime In d m p t u

and

Trip purpose of destination - purp_dest In H

and

2006 GTA zone of destination - gta06_dest In 8205 8070 8075 8072 8207 8076

and

Planning district of origin - pd_orig In 70

Traffic Volume Allocation

Zone	Trips	%	NORTH	SOUTH	EAST	WEST	TOTAL
			Gordon Street	Gordon Street	Clair Road East	Clair Road West	
PD 9 of Toronto	1	1%		100%			100.00%
PD 10 of Toronto	1	1%		100%			100.00%
PD 13 of Toronto	1	1%		100%			100.00%
Brampton	6	5%		100%			100.00%
Mississauga	10	8%		100%			100.00%
Oakville	2	2%		100%			100.00%
Burlington	1	1%		100%			100.00%
Flamborough	2	2%		100%			100.00%
Waterloo	6	5%		75%		25%	100.00%
Kitchener	4	3%		75%		25%	100.00%
Cambridge	8	6%		75%		25%	100.00%
Woolwich	1	1%				100%	100.00%
City of Guelph	81	62%					0.00%
8007	1	1%			100%		100.00%
8008	1	1%			100%		100.00%
8035	1	1%	50%		50%		100.00%
8045	2	2%			100%		100.00%
8047	1	1%	25%		75%		100.00%
8048	1	1%	25%		75%		100.00%
8057	12	9%	50%		50%		100.00%
8062	1	1%	100%				100.00%
8064	1	1%	100%				100.00%
8065	1	1%	75%		25%		100.00%
8066	2	2%	75%		25%		100.00%
8069	2	2%	50%		50%		100.00%
8072	3	2%			100%		100.00%
8073	1	1%			100%		100.00%
8075	2	2%	50%			50%	100.00%
8079	4	3%	100%				100.00%
8082	2	2%	100%				100.00%

8083	2	2%	75%	25%		100.00%
8084	1	1%	75%	25%		100.00%
8086	1	1%			100%	100.00%
8095	1	1%	50%	25%	25%	100.00%
8107	2	2%	75%		25%	100.00%
8109	2	2%	100%			100.00%
8114	1	1%	75%	25%		100.00%
8115	3	2%	50%	50%		100.00%
8121	2	2%	50%	50%		100.00%
8122	1	1%	50%		50%	100.00%
8140	2	2%	50%		50%	100.00%
8142	1	1%	50%		50%	100.00%
8143	1	1%	50%		50%	100.00%
8151	1	1%			100%	100.00%
8161	2	2%	75%		25%	100.00%
8165	1	1%	25%		75%	100.00%
8168	1	1%			100%	100.00%
8172	2	2%			100%	100.00%
8175	1	1%	25%		75%	100.00%
8186	1	1%	25%		75%	100.00%
8187	1	1%	25%		75%	100.00%
8191	2	2%	25%		75%	100.00%
8193	1	1%			100%	100.00%
8194	1	1%		25%	75%	100.00%
8199	6	5%			100%	100.00%
8204	1	1%		100%		100.00%
8205	2	2%		50%	50%	100.00%
Puslinch	2	2%		100%		100.00%
Centre Wellington	1	1%		100%		100.00%
Oxford	1	1%	75%		25%	100.00%
Collingwood	2	2%		100%		100.00%
TOTAL TRIPS	130	100%				

Route Split Totals

Zone	NORTH	SOUTH	EAST	WEST	TOTAL
	Gordon Street	Gordon Street	Clair Road East	Clair Road West	
PD 9 of Toronto	0.00%	0.77%	0.00%	0.00%	0.8%
PD 10 of Toronto	0.00%	0.77%	0.00%	0.00%	0.8%
PD 13 of Toronto	0.00%	0.77%	0.00%	0.00%	0.8%
Brampton	0.00%	4.62%	0.00%	0.00%	4.6%
Mississauga	0.00%	7.69%	0.00%	0.00%	7.7%
Oakville	0.00%	1.54%	0.00%	0.00%	1.5%
Burlington	0.00%	0.77%	0.00%	0.00%	0.8%
Flamborough	0.00%	1.54%	0.00%	0.00%	1.5%
Waterloo	0.00%	3.46%	0.00%	1.15%	4.6%
Kitchener	0.00%	2.31%	0.00%	0.77%	3.1%
Cambridge	0.00%	4.62%	0.00%	1.54%	6.2%
Woolwich	0.00%	0.00%	0.00%	0.77%	0.8%
City of Guelph	0.00%	0.00%	0.00%	0.00%	0.0%
8007	0.00%	0.00%	0.77%	0.00%	0.8%
8008	0.00%	0.00%	0.77%	0.00%	0.8%
8035	0.38%	0.00%	0.38%	0.00%	0.8%
8045	0.00%	0.00%	1.54%	0.00%	1.5%
8047	0.19%	0.00%	0.58%	0.00%	0.8%
8048	0.19%	0.00%	0.58%	0.00%	0.8%
8057	4.62%	0.00%	4.62%	0.00%	9.2%
8062	0.77%	0.00%	0.00%	0.00%	0.8%
8064	0.77%	0.00%	0.00%	0.00%	0.8%
8065	0.58%	0.00%	0.19%	0.00%	0.8%
8066	1.15%	0.00%	0.38%	0.00%	1.5%
8069	0.77%	0.00%	0.77%	0.00%	1.5%
8072	0.00%	0.00%	2.31%	0.00%	2.3%
8073	0.00%	0.00%	0.77%	0.00%	0.8%
8075	0.77%	0.00%	0.00%	0.77%	1.5%
8079	3.08%	0.00%	0.00%	0.00%	3.1%
8082	1.54%	0.00%	0.00%	0.00%	1.5%

8083	1.15%	0.00%	0.38%	0.00%	1.5%
8084	0.58%	0.00%	0.19%	0.00%	0.8%
8086	0.00%	0.00%	0.00%	0.77%	0.8%
8095	0.38%	0.00%	0.19%	0.19%	0.8%
8107	1.15%	0.00%	0.00%	0.38%	1.5%
8109	1.54%	0.00%	0.00%	0.00%	1.5%
8114	0.58%	0.00%	0.19%	0.00%	0.8%
8115	1.15%	0.00%	1.15%	0.00%	2.3%
8121	0.77%	0.00%	0.77%	0.00%	1.5%
8122	0.38%	0.00%	0.00%	0.38%	0.8%
8140	0.77%	0.00%	0.00%	0.77%	1.5%
8142	0.38%	0.00%	0.00%	0.38%	0.8%
8143	0.38%	0.00%	0.00%	0.38%	0.8%
8151	0.00%	0.00%	0.00%	0.77%	0.8%
8161	1.15%	0.00%	0.00%	0.38%	1.5%
8165	0.19%	0.00%	0.00%	0.58%	0.8%
8168	0.00%	0.00%	0.00%	0.77%	0.8%
8172	0.00%	0.00%	0.00%	1.54%	1.5%
8175	0.19%	0.00%	0.00%	0.58%	0.8%
8186	0.19%	0.00%	0.00%	0.58%	0.8%
8187	0.19%	0.00%	0.00%	0.58%	0.8%
8191	0.38%	0.00%	0.00%	1.15%	1.5%
8193	0.00%	0.00%	0.00%	0.77%	0.8%
8194	0.00%	0.19%	0.00%	0.58%	0.8%
8199	0.00%	0.00%	0.00%	4.62%	4.6%
8204	0.00%	0.00%	0.77%	0.00%	0.8%
8205	0.00%	0.77%	0.77%	0.00%	1.5%
Puslinch	0.00%	1.54%	0.00%	0.00%	1.5%
Centre Wellington	0.00%	0.00%	0.77%	0.00%	0.8%
Oxford	0.00%	0.58%	0.00%	0.19%	0.8%
Collingwood	0.00%	0.00%	1.54%	0.00%	1.5%
TOTAL TRIPS	26%	32%	20%	21%	100.0%

Note: Distribution percentages rounded to the nearest 5% for analysis.

Appendix H: Signal Timing Plans



CITY OF GUELPH

Traffic Signal Timing Parameters

Database Date				Prepared Date:		Friday, April 27, 2018				
Database Rev				Completed By:		I.T.				
Timing Card / Field rev		From Controller		Checked By:						
Location:		Gordon Street at Poppy Drive					TIME PERIOD (sec.) (Green+Amber+All Red)			
Phase #	Direction	Vehicle Minimum (sec.)	Pedestrian Minimum (sec.)		Amber (sec.)	All Red (sec.)	AM MAX	OFF MAX	PM MAX	
			WALK	FDWALK						
1	SBLT P+P	7.0			3.0		10.0	10.0	10.0	
2	NB Gordong St.	10.0	17.0	12.0	4.0	2.0	50.0	50.0	50.0	
3	Not in use									
4	WB Poppy Dr.	7.0	8.0	16.0	4.0	2.0	30.0	30.0	30.0	
5	NBLT P+P	7.0			3.0		10.0	10.0	10.0	
6	SB Gordon St.	10.0	17.0	12.0	4.0	2.0	50.0	50.0	50.0	
7	Not in use									
8	EB Poppy Dr.	7.0	8.0	16.0	4.0	2.0	30.0	30.0	30.0	
System Control		Yes								
Local Control		No								
Semi-Actuated Mode		Yes								
Note: P+P = Protected Permissive Phase										
Prot. = Fully Protected Phase										
				TIME (M-F)		PEAK		CYCLE LENGTH (sec.)		OFFSET (sec.)
				07:00-09:00		AM		90		84
				9:00 - 15:00		OFF		90		73
				15:00 - 21:00		PM		90		57

CITY OF GUELPH

Traffic Signal Timing Parameters

Database Date				Prepared Date:		November 7, 2023				
Database Rev				Completed By:		I.T.				
Timing Card / Field rev		From Controller		Checked By:						
Location:		Clair Road East at Fairley Drive					TIME PERIOD (sec.) (Green+Amber+All Red)			
Phase #	Direction	Vehicle Minimum (sec.)	Pedestrian Minimum (sec.)		Amber (sec.)	All Red (sec.)				
			WALK	FDWALK			AM MAX	OFF MAX	PM MAX	
1	EBLT - Clair Road East - P+P	7.0			3.0		10.0	10.0	10.0	
2	EB - Clair Road East	10.0	11.0	18.0	4.0	2.0	48.0	48.0	48.0	
3	Not in use									
4	NB - Farley Drive	7.0	8.0	18.0	4.0	2.0	32.0	32.0	32.0	
5	WBLT - Clair Road East - P+P	7.0			3.0		10.0	10.0	10.0	
6	WB - Clair Road East	10.0	11.0	18.0	4.0	2.0	48.0	48.0	48.0	
7	Not in use									
8	SB - Farley Drive	7.0	8.0	18.0	4.0	2.0	32.0	32.0	32.0	
System Control		Yes								
Local Control		No								
Semi-Actuated Mode		Yes								
Note: P+P = Protected Permissive Phase Prot. = Fully Protected Phase				TIME (M-F)		PEAK	CYCLE LENGTH (sec.)		OFFSET (sec.)	
				07:00-09:00		AM	90		45	
				9:00 - 15:00		OFF	90		32	
				15:00 - 21:00		PM	90		5	
21:00 - 07:00		Free	Varies		N/A					

CITY OF GUELPH

Traffic Signal Timing Parameters

Database Date				Prepared Date:		Friday, June 21, 2019				
Database Rev				Completed By:		I.T.				
Timing Card / Field rev		From Controller		Checked By:						
Location:		Gordon Street at Clair Road					TIME PERIOD (sec.) (Green+Amber+All Red)			
Phase #	Direction	Vehicle Minimum (sec.)	Pedestrian Minimum (sec.)		Amber (sec.)	All Red (sec.)	AM MAX	OFF MAX	PM MAX	
			WALK	FDWALK						
1	SBLT P+P	7.0			3.0		10.0	10.0	10.0	
2	NB Gordong St.	10.0	10.0	19.0	4.0	2.0	35.0	35.0	35.0	
3	EBLT P+P	7.0			3.0		10.0	10.0	10.0	
4	WB Clair Rd.	10.0	9.0	19.0	4.0	2.0	35.0	35.0	35.0	
5	NBLT P+P	7.0			3.0		10.0	10.0	10.0	
6	SB Gordon St.	10.0	10.0	19.0	4.0	2.0	35.0	35.0	35.0	
7	WBLT P+P	7.0			3.0		10.0	10.0	10.0	
8	EB Clair Rd.	10.0	9.0	19.0	4.0	2.0	35.0	35.0	35.0	
System Control		No								
Local Control		Yes								
Semi-Actuated Mode		Yes								
Note: P+P = Protected Permissive Phase				TIME (M-F)		PEAK		CYCLE LENGTH (sec.)		OFFSET (sec.)
				07:00-09:00		AM		90		80
				9:00 - 15:00		OFF		90		70
				15:00 - 21:00		PM		90		45
Prot. = Fully Protected Phase										

Appendix I: Left-Turn Lane Warrant



EX

AM

Left Turn Volume	25	Signal Warranted?	No
Opposing Volume	300	Storage Length	0 m

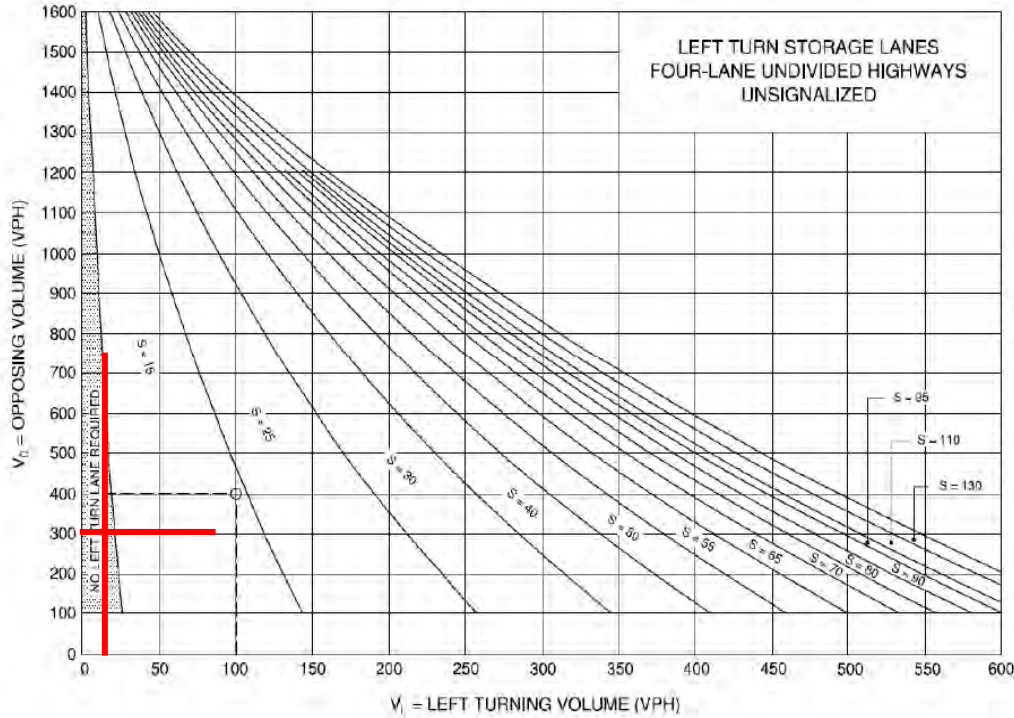
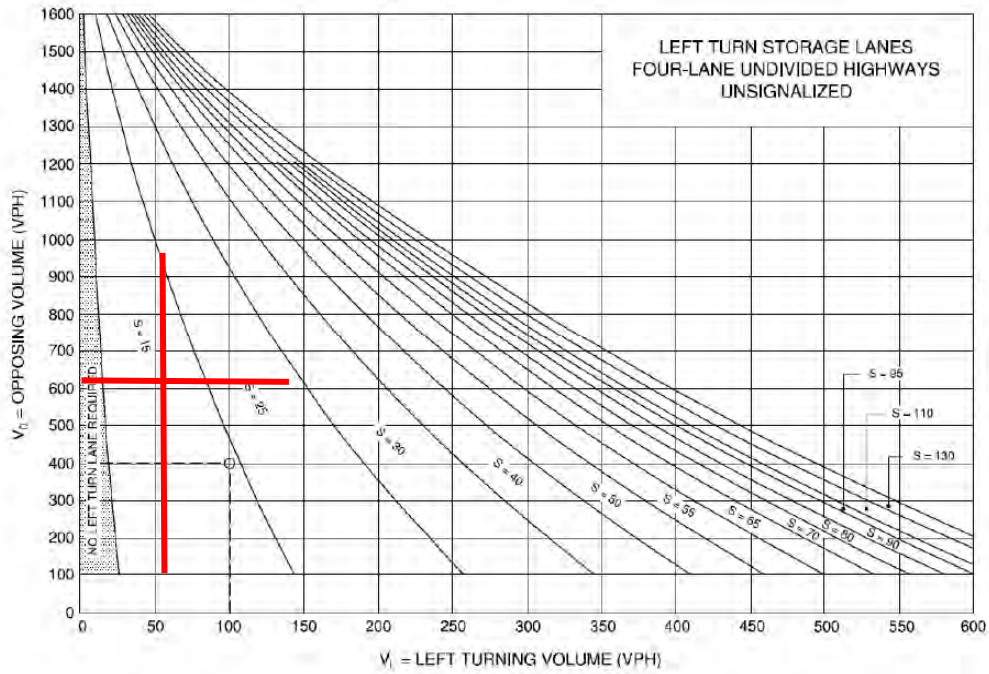


Exhibit-9A-31

EX

PM

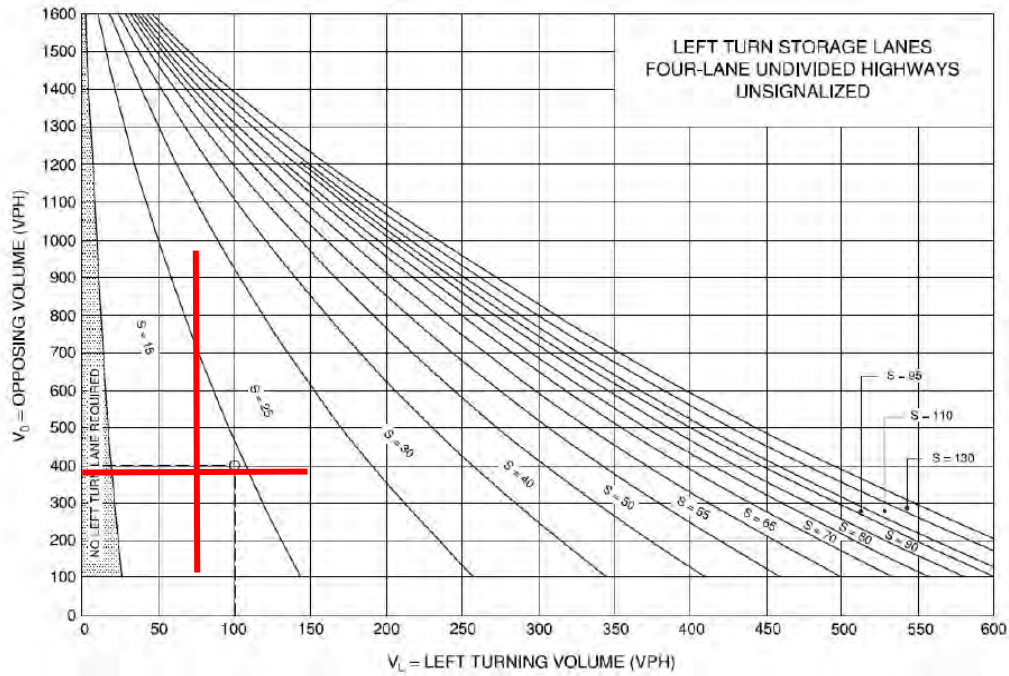
Left Turn Volume	55	Signal Warranted?	Yes
Opposing Volume	605	Storage Length	15 m



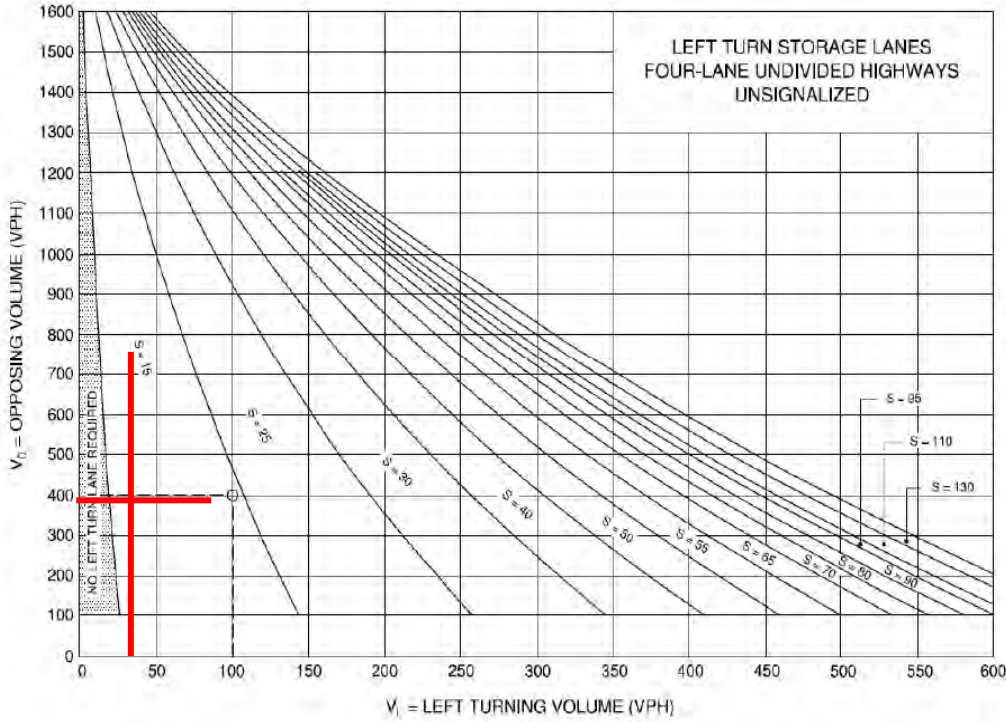
EX

SAT

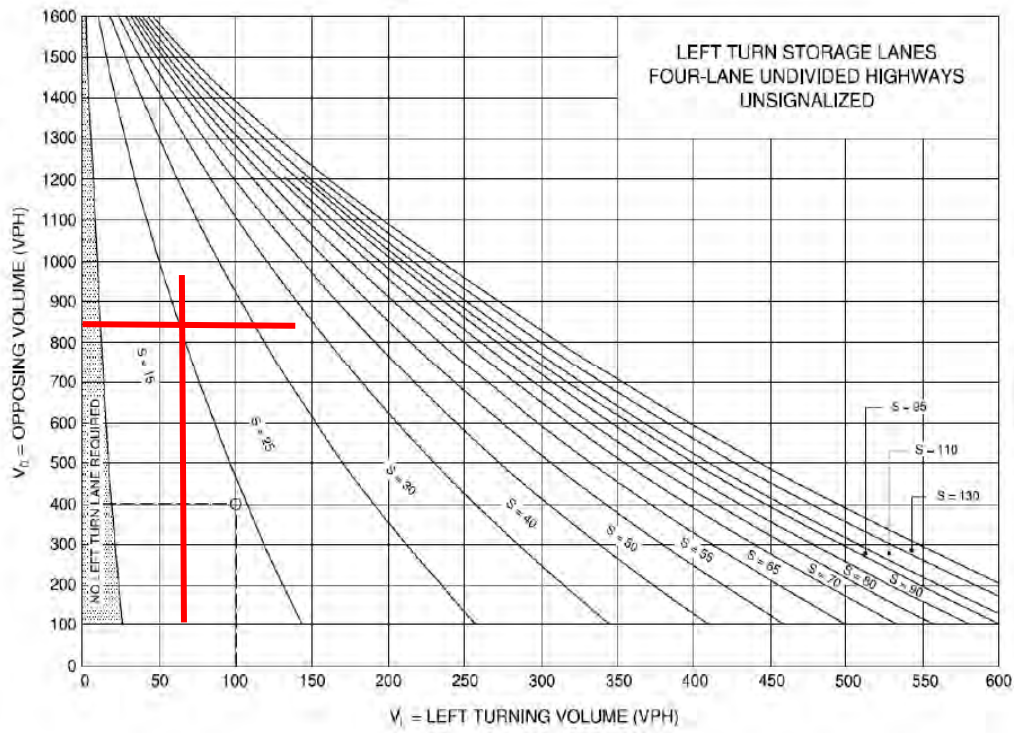
Left Turn Volume	75	Signal Warranted?	Yes
Opposing Volume	390	Storage Length	15 m



Left Turn Volume	30	Signal Warranted?	Yes
Opposing Volume	395	Storage Length	15 m



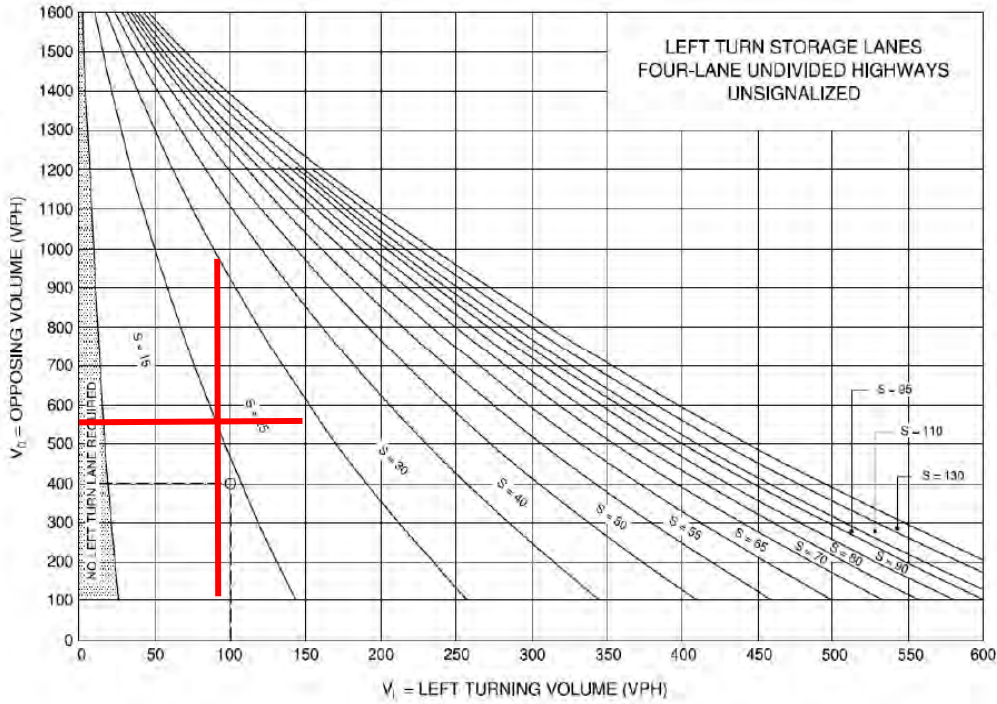
Left Turn Volume	65	Signal Warranted?	Yes
Opposing Volume	820	Storage Length	25 m



2028 FB

SAT

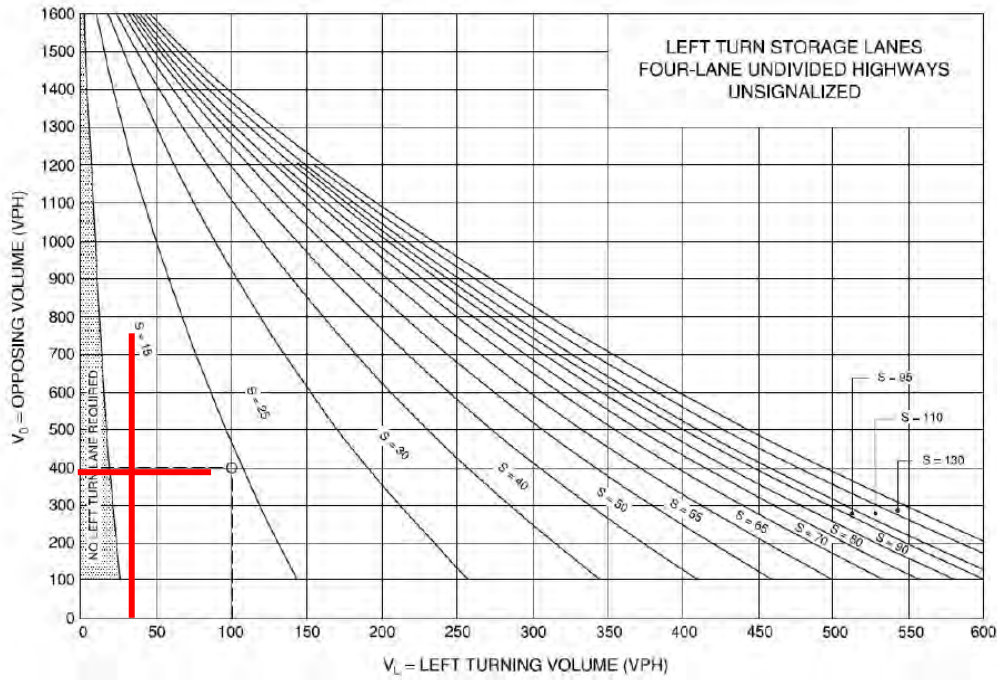
Left Turn Volume	90	Signal Warranted?	Yes
Opposing Volume	545	Storage Length	25 m



2028 FT

AM

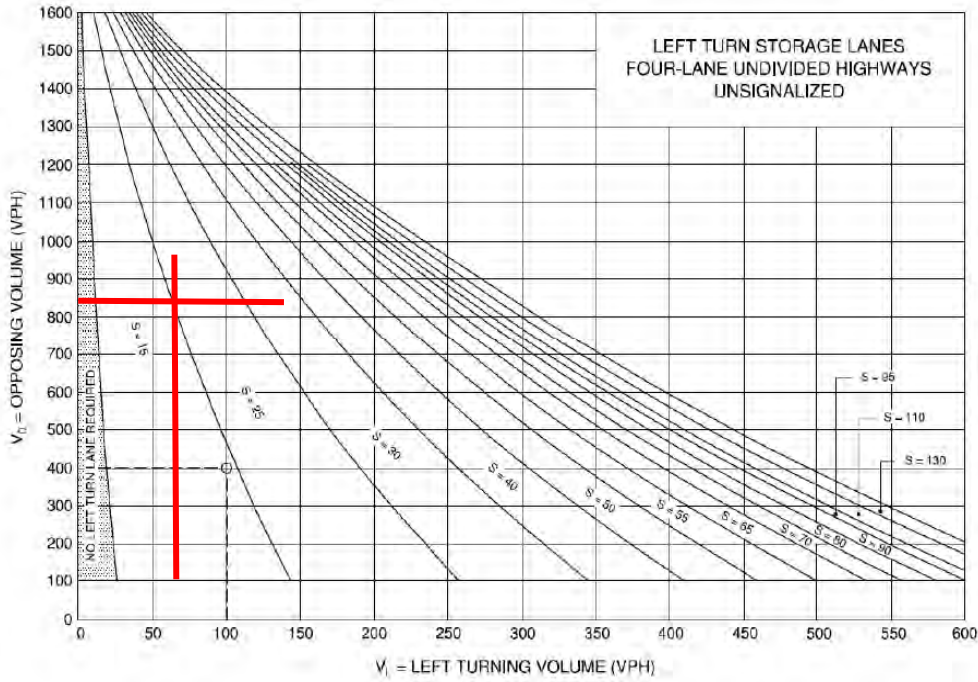
Left Turn Volume	35	Signal Warranted?	Yes
Opposing Volume	395	Storage Length	15 m



2028 FT

PM

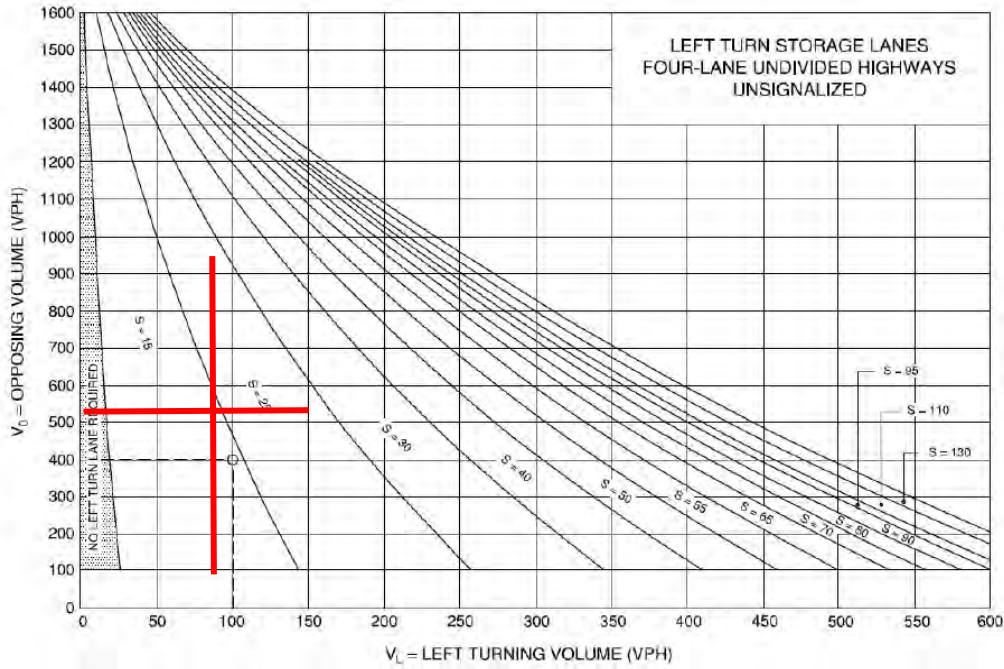
Left Turn Volume	65	Signal Warranted?	Yes
Opposing Volume	820	Storage Length	25 m



2028 FT

SAT

Left Turn Volume	80	Signal Warranted?	Yes
Opposing Volume	545	Storage Length	15 m



Appendix J: Signal Warrant



Input Data Sheet

Analysis Sheet Results Sheet Proposed Collision

GO TO Justification:

What are the intersecting roadways?

Clear Road East / Hawkins Drive
Clear Road East / Hawkins Drive

What is the direction of the Main Road street?

East-West

When was the data collected?

2023-09-20 2023-09-20

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

2 or more

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

3

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
9:00	0	430	10	25	0	70	55	890	0				0
13:00	0	420	24	40	0	78	56	427	0				0
14:00	0	465	37	23	0	74	48	483	0				0
15:00	0	569	20	20	0	68	64	520	0				0
16:00	0	751	39	40	0	69	56	578	0				0
17:00	0	899	35	28	0	122	76	635	0				0
18:00	0	846	26	18	0	137	103	597	0				0
19:00	0	634	35	31	0	117	77	509	0				0
Total	0	5,014	227	224	0	736	536	4,638	0	0	0	0	0

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	
13-24	
25-36	

* Include only collisions that are susceptible to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total	
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted		
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0		
Factored 8 hour pedestrian volume	0		0		0		0			
% Assigned to crossing rate	100%		50%		0%		0%			
Net 8 Hour Pedestrian Volume at Crossing										0
Net 8 Hour Vehicular Volume on Street Being Crossed										

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total	
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted		
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0		
Total 8 hour pedestrians delayed greater than 10 seconds										
Factored volume of total pedestrians	0		0		0		0			
Factored volume of delayed pedestrians	0		0		0		0			
% Assigned to Crossing Rate	100%		50%		0%		0%			
Net 8 Hour Volume of Total Pedestrians										0
Net 8 Hour Volume of Delayed Pedestrians										0

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	9:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00		
1A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
	480	720	600	900	1,480	1,046	1,129	1,261	1,534	1,793	1,728	1,403		
COMPLIANCE %					100	100	100	100	100	100	100	100	800	100
1B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
	180	255	180	255	95	118	96	88	109	149	156	148		
COMPLIANCE %					37	46	38	34	43	59	61	58	376	47
Restricted Flow					Both 1A and 1B 100% Fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Signal Justification 1:					Lesser of 1A or 1B at least 80% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	9:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00		
2A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
	480	720	600	900	1,385	928	1,033	1,173	1,425	1,644	1,573	1,255		
COMPLIANCE %					100	100	100	100	100	100	100	100	800	100
2B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
	50	75	50	75	25	40	23	20	40	28	18	31		
COMPLIANCE %					33	53	30	27	53	37	24	41	299	37
Restricted Flow					Both 2A and 2B 100% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Signal Justification 2:					Lesser of 2A or 2B at least 80% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Justification 2	Delay Cross Traffic	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	NOT JUSTIFIED	

Per Ontario Traffic Manual Book 12 Figure 21 - Minimum Hour Justification, Restricted Flow, the lower minimum threshold of 80 VPH has been adopted in place of the upper minimum threshold of 115 VPH to account for the 2-lane major street + 1-lane minor street configuration. It is noted that MTO's spreadsheet does not account for the reduced minimum threshold under these configuration conditions. Application of the 80 VPH threshold results in a signal warranted under 2033 FB conditions.

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	9:00	1,385	95	115	83 %	94 %
	16:00	1,425	109	115	95 %	
	17:00	1,644	149	115	100 %	
	18:00	1,573	156	115	100 %	

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	

Intersection: Clair Road East / Hawkins Drive

Count Date: 2023-09-20

25-36	0 %
-------	-----

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

	8 Hour Vehicular Volume V_8	Net 8 Hour Pedestrian Volume				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440	Not Justified				
	1440 - 2600					
	2601 - 7000					
	> 7000					

Pedestrian Delay Analysis

	Net Total 8 Hour Volume of Total Pedestrians	Net Total 8 Hour Volume of Delayed Pedestrians		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

[Input Sheet](#)

[Analysis Sheet](#)

[Proposed Collision](#)

GO TO Justification:

Intersection: Clair Road East / Hawkins Drive

Count Date: 2023-09-20

Summary Results

Justification		Compliance	Signal Justified?	
			YES	NO
1. Minimum Vehicular Volume	A Total Volume	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Crossing Volume	47 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Delay to Cross Traffic	A Main Road	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Crossing Road	37 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Combination	A Justificaton 1	47 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Justification 2	37 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. 4-Hr Volume		94 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5. Collision Experience	0 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------	-----	--------------------------	-------------------------------------

6. Pedestrians	A Volume	Justification not met	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Delay	Justification not met	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Input Data Sheet

Analysis Sheet

Results Sheet

Proposed Collision

GO TO Justification:

What are the intersecting roadways?

Clair Road East / Hawkins Drive
Clair Road East / Hawkins Drive

What is the direction of the Main Road street?

East-West

When was the data collected?

2023-09-20 2023-09-20

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

2 or more

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

3

d.- What is the operating environment?

Urban

Population >= 10,000

AND

Speed < 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
9:00	0	520	15	35	0	105	90	995	0				0
13:00	0	483	34	70	0	78	100	469	0				0
14:00	0	535	53	39	0	74	86	530	0				0
15:00	0	655	28	35	0	68	114	571	0				0
16:00	0	864	56	70	0	69	100	635	0				0
17:00	0	1,033	50	48	0	122	134	698	0				0
18:00	0	973	38	32	0	137	184	656	0				0
19:00	0	729	50	54	0	117	136	559	0				0
Total	0	5,792	324	383	0	771	944	5,114	0	0	0	0	0

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	
13-24	
25-36	

* Include only collisions that are susceptible to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	100%		50%		0%		0%		
Net 8 Hour Pedestrian Volume at Crossing	0								
Net 8 Hour Vehicular Volume on Street Being Crossed									

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds									
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	100%		50%		0%		0%		
Net 8 Hour Volume of Total Pedestrians	0								
Net 8 Hour Volume of Delayed Pedestrians	0								

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	9:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00		
1A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
	480	720	600	900	1,760	1,235	1,317	1,471	1,794	2,086	2,020	1,646		
COMPLIANCE %					100	100	100	100	100	100	100	100	800	100
1B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
	180	255	180	255	140	148	113	103	139	170	169	171		
COMPLIANCE %					55	58	44	40	55	67	66	67	453	57
Restricted Flow					Both 1A and 1B 100% Fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Signal Justification 1:					Lesser of 1A or 1B at least 80% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	9:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00		
2A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>										
	480	720	600	900	1,620	1,087	1,204	1,368	1,655	1,915	1,851	1,475		
COMPLIANCE %					100	100	100	100	100	100	100	100	800	100
2B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
	50	75	50	75	35	70	39	35	70	115	124	122		
COMPLIANCE %					47	93	53	47	93	100	100	100	633	79
Restricted Flow					Both 2A and 2B 100% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Signal Justification 2:					Lesser of 2A or 2B at least 80% fulfilled each of 8 hours								Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimum Vehicle Volume	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Justification 2	Delay Cross Traffic	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>	NOT JUSTIFIED	

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	9:00	1,620	140	115	100 %	100 %
	16:00	1,655	139	115	100 %	
	17:00	1,915	170	115	100 %	
	18:00	1,851	169	115	100 %	

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	

Intersection: Clair Road East / Hawkins Drive

Count Date: 2023-09-20

	25-36	0 %	
--	-------	-----	--

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8 Hour Vehicular Volume V_8		Net 8 Hour Pedestrian Volume				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440	Not Justified				
	1440 - 2600					
	2601 - 7000					
	> 7000					

Pedestrian Delay Analysis

Net Total 8 Hour Volume of Total Pedestrians		Net Total 8 Hour Volume of Delayed Pedestrians		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

[Input Sheet](#)

[Analysis Sheet](#)

[Proposed Collision](#)

GO TO Justification:

Intersection: Clair Road East / Hawkins Drive

Count Date: 2023-09-20

Summary Results

Justification		Compliance	Signal Justified?	
			YES	NO
1. Minimum Vehicular Volume	A Total Volume	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Crossing Volume	57 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Delay to Cross Traffic	A Main Road	100 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Crossing Road	79 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Combination	A Justificaton 1	57 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Justification 2	79 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. 4-Hr Volume		100 %	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5. Collision Experience		0 %	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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6. Pedestrians	A Volume	Justification not met	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B Delay	Justification not met	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Appendix K: Synchro Analysis Sheets



Lanes, Volumes, Timings

1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group						
Lane Configurations	↑↑			←←	↑↑	←←
Traffic Volume (vph)	300	5	25	610	10	35
Future Volume (vph)	300	5	25	610	10	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Satd. Flow (prot)	3371	0	0	3431	1740	0
Flt Permitted				0.998	0.989	
Satd. Flow (perm)	3371	0	0	3431	1740	0
Link Speed (k/h)	60			60	50	
Link Distance (m)	160.7			130.4	64.6	
Travel Time (s)	9.6			7.8	4.7	
Confl. Peds. (#/hr)		5				
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	14%	0%	4%	8%	6%
Bus Blockages (#/hr)	2	0	0	0	0	0
Adj. Flow (vph)	349	6	29	709	12	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	355	0	0	738	53	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	40.1%					
Analysis Period (min)	15					
	ICU Level of Service A					

HCM Unsignalized Intersection Capacity Analysis

1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement						
Lane Configurations	↑↑			←←	↑↑	←←
Traffic Volume (veh/h)	300	5	25	610	10	35
Future Volume (Veh/h)	300	5	25	610	10	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	349	6	29	709	12	41
Pedestrians					5	
Lane Width (m)					4.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	161					
pX, platoon unblocked						
vC, conflicting volume		360			770	182
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol		360			770	182
IC, single (s)		4.1			7.0	7.0
IC, 2 stage (s)		2.2			3.6	3.4
p0 queue free %		98			96	95
qM capacity (veh/h)		1204			316	812
Direction_Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	233	122	265	473	53	53
Volume Left	0	0	29	0	12	0
Volume Right	0	6	0	0	41	0
qSH	1700	1700	1204	1700	599	599
Volume to Capacity	0.14	0.07	0.02	0.28	0.09	0.09
Queue Length 95th (m)	0.0	0.0	0.6	0.0	2.3	0.0
Control Delay (s)	0.0	0.0	1.1	0.0	11.6	0.0
Lane LOS			A		B	
Approach Delay (s)	0.0		0.4		11.6	
Approach LOS			B		B	
Intersection Summary						
Average Delay	0.8					
Intersection Capacity Utilization	40.1%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

2: Hawkins Drive & Poppy Drive East

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	20	25	0	0	65	10	10	5	0	5	0	10
Traffic Volume (veh/h)	20	25	0	0	65	10	10	5	0	5	0	10
Future Volume (veh/h)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Lane Width (m)	0	1887	0	0	1804	0	0	2021	0	0	1643	0
Flt Permitted	0.979						0.967				0.984	
Satd. Flow (perm)	0	1887	0	0	1804	0	0	2021	0	0	1643	0
Link Speed (k/h)	40				40		40				40	
Link Distance (m)	63.5				196.8		136.5				121.9	
Travel Time (s)	5.7				17.7		12.3				11.0	
Confl. Peds. (#/hr)	24	15	15	15	24	15	15	17	17	17	15	15
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	9%	8%	0%	0%	4%	0%	0%	0%	0%	0%	0%	20%
Adj. Flow (vph)	25	32	0	0	82	13	13	6	0	6	0	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	95	0	0	19	0	0	19	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	25.1%
Analysis Period (min)	15
ICU Level of Service A	

HCM Unsignalized Intersection Capacity Analysis

2: Hawkins Drive & Poppy Drive East

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	20	25	0	0	65	10	10	5	0	5	0	10
Traffic Volume (veh/h)	20	25	0	0	65	10	10	5	0	5	0	10
Future Volume (veh/h)	20	25	0	0	65	10	10	5	0	5	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	25	32	0	0	82	13	13	6	0	6	0	13
Pedestrians	15				17		15				24	
Lane Width (m)	4.5				3.6		4.5				4.5	
Walking Speed (m/s)	1.2				1.2		1.2				1.2	
Percent Blockage	2				1		2				3	
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)	375											
pX platoon unblocked												
vC, conflicting volume	119				47		214		216		214	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	119				47		214		216		214	
iC, single (s)	4.2				4.1		7.1		6.5		7.1	
iC, 2 stage (s)												
IF (s)	2.3				2.2		3.5		4.0		3.5	
p0 queue free %	98				100		98		99		100	
p0 capacity (veh/h)	1391				1549		682		646		976	
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	57	95	19	19								
Volume Left	25	0	13	6								
Volume Right	0	13	0	13								
cSH	1391	1549	670	783								
Volume to Capacity	0.02	0.00	0.03	0.02								
Queue Length 95th (m)	0.4	0.0	0.7	0.6								
Control Delay (s)	3.4	0.0	10.5	9.7								
Lane LOS	A	B	B	A								
Approach Delay (s)	3.4	0.0	10.5	9.7								
Approach LOS	B	A	B	A								

Intersection Summary	
Average Delay	3.1
Intersection Capacity Utilization	25.1%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings
3: Poppy Drive East & Farley Drive

12-12-2023

	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group						
Lane Configurations						
Traffic Volume (vph)	10	30	100	10	10	10
Future Volume (vph)	10	30	100	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	1844	1988	0	1547	0
Flt Permitted	0	0.988			0.976	
Satd. Flow (perm)	0	1844	1988	0	1547	0
Link Speed (k/h)		40	40		30	
Link Distance (m)		220.5	90.5		55.2	
Travel Time (s)		19.8	8.1		6.6	
Confl. Peds. (#/hr)	8			8		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	30%	6%	6%	0%	9%	12%
Adj. Flow (vph)	11	33	110	11	11	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	44	121	0	22	0
Sign Control		Free	Free	Free	Stop	Stop
Intersection Summary	Other					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	18.8%					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
3: Poppy Drive East & Farley Drive

12-12-2023

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations						
Traffic Volume (veh/h)	10	30	100	10	10	10
Future Volume (Veh/h)	10	30	100	10	10	10
Sign Control		Free	Free	Free	Stop	Stop
Grade		0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	11	33	110	11	11	11
Pedestrians					8	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)			None	None		
Median type						
Median storage (veh)						
Upstream signal (m)		220				
pX, platoon unblocked						
vC, conflicting volume	129				178	124
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	129				178	124
iC, single (s)	4.4				6.5	6.3
iC, 2 stage (s)						
p0 queue free %	99				99	99
p0 capacity (veh/h)	1292				783	895
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	44	121	22			
Volume Left	11	0	11			
Volume Right	0	11	11			
vSH	1292	1700	836			
Volume to Capacity	0.01	0.07	0.03			
Queue Length 95th (m)	0.2	0.0	0.6			
Control Delay (s)	2.0	0.0	9.4			
Lane LOS	A	A	A			
Approach Delay (s)	2.0	0.0	9.4			
Approach LOS	A	A	A			
Intersection Summary	Other					
Average Delay	1.6					
Intersection Capacity Utilization	18.8%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

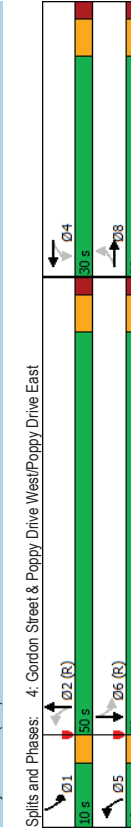
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	10	10	30	5	85	10	600	20	25	525	5
Future Volume (vph)	10	10	10	30	5	85	10	600	20	25	525	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5	0	0	7.5	0	7.5	0	1894	3307	0	1678	3391
Satd. Flow (prot)	0	1432	0	0	1734	0	0.906	0.446	0.383	0	0	0
Flt Permitted	0	0.885	0	0	0.906	0	0.446	0.383	0	0	0	0
Satd. Flow (perm)	0	1287	0	0	1589	0	0.887	0.3307	0	691	3391	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)	10	89	0	89	0	89	5	5	5	1	1	1
Link Speed (k/h)	40	40	40	40	40	40	60	60	60	60	60	60
Link Distance (m)	93.0	220.5	220.5	220.5	220.5	220.5	196.0	196.0	196.0	180.5	180.5	180.5
Travel Time (s)	8.4	19.8	19.8	19.8	19.8	19.8	11.8	11.8	11.8	10.8	10.8	10.8
Confl. Peds. (#/hr)	4	2	2	2	2	4	3	3	8	8	8	3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	75%	22%	0%	0%	50%	8%	7%	16%	4%	5%	20%	20%
Bus Blockages (#/hr)	0	0	0	2	2	0	0	0	0	0	0	0
Adj. Flow (vph)	10	10	10	31	5	89	10	625	21	26	547	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	0	0	125	0	10	646	0	26	552	0
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8	8	4	4	5	2	1	6	1	6	1	6
Permitted Phases	8	8	4	4	5	2	1	6	1	6	1	6
Detector Phase												
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	35.0	35.0	30.0	35.0	30.0	35.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	35.0	35.0	30.0	35.0	30.0	35.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	11.1%	11.1%	11.1%	11.1%	11.1%	11.1%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	7.0	7.0	7.0	7.0	7.0	7.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag							Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	17.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	12.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	1	1	1	1	1	1	3	3	3	3	3	3
Act Effct Green (s)	11.0	11.0	11.0	11.0	11.0	11.0	68.8	63.0	69.4	65.0	65.0	65.0
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.12	0.12	0.76	0.70	0.77	0.72	0.72	0.72
v/c Ratio	0.18	0.18	0.18	0.46	0.46	0.46	0.01	0.28	0.04	0.23	0.23	0.23
Control Delay	26.0	26.0	26.0	17.5	17.5	17.5	4.3	7.3	3.6	5.9	5.9	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	26.0	26.0	26.0	17.5	17.5	17.5	4.3	7.3	3.6	5.9	5.9	5.9
LOS	C	C	C	B	B	B	A	A	A	A	A	A
Approach Delay	26.0	26.0	26.0	17.5	17.5	17.5	7.2	7.2	5.8	5.8	5.8	5.8
Approach LOS	C	C	C	B	B	B	A	A	A	A	A	A
Intersection Summary	Other											
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2/NBTL and 6/SBTL, Start of Green											
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.46											
Intersection Signal Delay:	8.0											
Intersection Capacity Utilization:	44.5%											
Analysis Period (min):	15											



Phasings
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
8	8	4	4	5	2	1	6
Protected Phases							
Permitted Phases	8	4	4	2	2	6	6
Minimum Initial (s)	7.0	7.0	7.0	7.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	35.0	10.0	35.0
Total Split (s)	30.0	30.0	30.0	30.0	50.0	10.0	50.0
Total Split (%)	33.3%	33.3%	33.3%	11.1%	55.6%	11.1%	55.6%
Maximum Green (s)	24.0	24.0	24.0	24.0	44.0	7.0	44.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.0	2.0
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	1	1	1	1	3	3	3
90th %ile Green (s)	24.0	24.0	24.0	7.0	44.0	7.0	44.0
90th %ile Term Code	Ped	Ped	Ped	Min	Coord	Min	Coord
70th %ile Green (s)	9.6	9.6	9.6	0.0	58.4	7.0	68.4
70th %ile Term Code	Hold	Hold	Gap	Skip	Coord	Min	Coord
50th %ile Green (s)	7.5	7.5	7.5	0.0	70.5	0.0	70.5
50th %ile Term Code	Hold	Hold	Gap	Skip	Coord	Skip	Coord
30th %ile Green (s)	7.0	7.0	7.0	0.0	71.0	0.0	71.0
30th %ile Term Code	Hold	Hold	Min	Skip	Coord	Skip	Coord
10th %ile Green (s)	7.0	7.0	7.0	0.0	71.0	0.0	71.0
10th %ile Term Code	Hold	Hold	Min	Skip	Coord	Skip	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Control Type: Actuated-Coordinated

Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

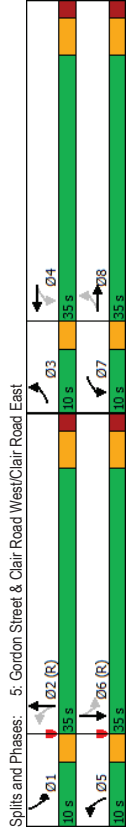
EBT	WBT	NBL	NBT	SBL	SBT
30	125	10	646	26	552
Lane Group Flow (vph)					
v/c Ratio	0.18	0.46	0.01	0.28	0.04
Control Delay	26.0	17.5	4.3	7.3	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	17.5	4.3	7.3	3.6
Queue Length 50th (m)	3.5	6.3	0.4	12.5	0.4
Queue Length 95th (m)	9.6	18.6	2.4	50.6	m3.2
Internal Link Dist (m)	69.0	196.5	91.0	172.0	156.5
Turn Bay Length (m)					
Base Capacity (vph)	350	489	756	2315	609
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.26	0.01	0.28	0.04

Intersection Summary
m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	25.4	24.2	44.9	15.5	19.2	14.6	20.7				
LOS	C	C	C	D	B	B	B	C				
Approach Delay	25.1			40.9			18.4					20.0
Approach LOS	C			D			B					B
Intersection Summary												
Area Type: Other												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection												
Natural Cycle: 90												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.77												
Intersection Signal Delay: 26.9												
Intersection Capacity Utilization 77.9%												
Analysis Period (min) 15												



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8	7	4	5	2	1	6				
Permitted Phases	8	3	4	7	4	5	2	1	6			
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (%)	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%
Maximum Green (s)	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	Min	None	Min	None	Min	None	Min
Walk Time (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	10			10			10			10		9
90th %ile Green (s)	7.0	28.9	7.0	28.9	7.1	29.0	7.1	29.0	7.1	29.0	7.1	29.0
90th %ile Term Code	Max	Hold	Max	Gap	Max	Coord	Max	Coord	Max	Coord	Max	Coord
70th %ile Green (s)	12.1	25.8	12.3	26.0	12.1	25.3	12.1	25.3	12.1	25.3	12.1	25.3
70th %ile Term Code	Gap	Hold	Gap	Gap	Max	Coord	Gap	Coord	Max	Coord	Gap	Coord
50th %ile Green (s)	11.0	23.0	11.1	23.1	10.7	30.4	10.7	30.4	10.7	30.4	10.7	30.4
50th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Coord	Gap	Coord	Gap	Coord	Gap	Coord
30th %ile Green (s)	9.7	20.7	9.8	20.8	8.9	34.5	8.9	34.5	8.9	34.5	8.9	34.5
30th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Coord	Gap	Coord	Gap	Coord	Gap	Coord
10th %ile Green (s)	7.5	17.3	7.7	17.5	7.0	50.0	7.0	50.0	7.0	50.0	7.0	50.0
10th %ile Term Code	Gap	Hold	Gap	Gap	Min	Coord	Gap	Coord	Min	Coord	Gap	Coord
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection												
Control Type: Actuated-Coordinated												

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	156	400	161	683	161	594	72	567
v/c Ratio	0.56	0.46	0.42	0.77	0.44	0.48	0.19	0.49
Control Delay	24.5	25.4	24.2	44.9	15.5	19.2	14.6	20.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	25.4	24.2	44.9	15.5	19.2	14.6	20.7
Queue Length 50th (m)	16.8	27.8	20.0	65.1	16.8	44.1	6.7	34.0
Queue Length 95th (m)	#23.8	37.9	43.4	86.4	13.0	55.8	14.7	49.1
Internal Link Dist (m)	244.6		193.7		156.5		209.4	
Turn Bay Length (m)	70.0		32.0		72.0		163.0	
Base Capacity (vph)	277	1068	382	1100	370	1254	389	1217
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.37	0.42	0.62	0.44	0.47	0.19	0.47

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	140	270	90	145	550	65	145	445	90	65	325	185
Future Volume (vph)	140	270	90	145	550	65	145	445	90	65	325	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost time (s)	3.0	6.0	3.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frbp. ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	0.96	1.00	0.98	1.00	0.95	1.00	0.97	1.00	0.95	1.00
Flt Protected	1628	3207	1564	3386	1584	3220	1673	3192	1673	3192	1673	3192
Flt Permitted	0.21	1.00	0.45	1.00	0.32	1.00	0.39	1.00	0.39	1.00	0.39	1.00
Satd. Flow (perm)	366	3207	743	3386	534	3220	684	3192	684	3192	684	3192
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	156	300	100	161	611	72	161	494	100	72	361	206
RTOR Reduction (vph)	0	39	0	0	11	0	18	0	0	0	88	0
Lane Group Flow (vph)	156	361	0	161	672	0	161	576	0	72	479	0
Confl. Bikes (#/hr)	31	22	22	31	12	31	12	21	21	31	21	12
Heavy Vehicles (%)	7%	6%	7%	11%	3%	6%	10%	4%	21%	4%	2%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Turn Type	pm+pt	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA
Protected Phases	3	8	NA	7	4	4	5	2	2	1	6	6
Permitted Phases	8	8	NA	4	4	4	2	2	2	6	6	6
Actuated Green, G (s)	32.7	23.2	32.9	23.3	42.2	33.2	42.2	33.2	36.0	36.0	30.0	30.0
Effective Green, g (s)	32.7	23.2	32.9	23.3	42.2	33.2	42.2	33.2	36.0	36.0	30.0	30.0
Actuated g/C Ratio	0.36	0.26	0.37	0.26	0.47	0.37	0.47	0.37	0.40	0.40	0.33	0.33
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	266	826	359	876	357	1187	339	1064	339	1064	339	1064
v/s Ratio Prot	c0.06	0.11	0.05	c0.20	0.05	c0.18	0.05	c0.18	0.01	0.15	0.01	0.15
v/c Ratio Perm	0.15	0.12	0.12	0.16	0.16	0.16	0.16	0.07	0.07	0.07	0.07	0.15
v/c Ratio	0.59	0.44	0.45	0.77	0.45	0.49	0.45	0.49	0.21	0.45	0.21	0.45
Uniform Delay, d1	21.0	27.9	20.3	30.8	14.7	21.8	17.0	23.5	17.0	23.5	17.0	23.5
Progression Factor	1.00	1.00	1.32	1.30	0.83	0.80	0.83	0.80	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	0.4	0.9	3.9	0.9	1.4	0.9	1.4	0.3	1.4	0.3	1.4
Delay (s)	24.3	28.3	27.5	44.0	13.0	18.8	17.3	24.9	17.3	24.9	17.3	24.9
Level of Service	C	C	C	D	B	B	B	C	B	B	C	C
Approach Delay (s)	27.2	40.8	17.5	40.8	17.5	40.8	17.5	40.8	17.5	40.8	17.5	40.8
Approach LOS	C	C	D	D	B	B	B	C	B	B	C	C

Intersection Summary	
HCM 2000 Control Delay	28.0
HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60
Actuated Cycle Length (s)	90.0
Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.9%
ICU Level of Service	D
Analysis Period (min)	15
c Critical Lane Group	

Lanes, Volumes, Timings
6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Traffic Volume (vph)	85	275	40	10	585	40	25	15	5	35	20	130
Future Volume (vph)	85	275	40	10	585	40	25	15	5	35	20	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Storage Length (m)	131.0	0.0	0.0	64.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	0	1	0	0	1	0	0	0	0	0
Taper Length (m)	7.5	3189	0	1785	3339	0	1639	1723	0	0	1829	0
Satd. Flow (prot)	0.348	0.540	0.403	0.403	0.403	0.403	0.403	0.403	0.403	0.403	0.403	0.403
Flt Permitted	626	3189	0	1007	3339	0	689	1723	0	0	1710	0
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	24	60	60	10	60	60	6	30	6	135	40	40
Link Speed (k/h)	217.7	160.7	160.7	63.9	63.9	63.9	196.5	196.5	196.5	196.5	196.5	196.5
Travel Time (s)	13.1	8	8	9.6	7.7	7.7	10	10	10	10	10	14
Confl. Peds. (#/hr)	9	8	8	9	14	14	2	2	2	2	2	2
Confl. Bikes (#/hr)	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Peak Hour Factor	4%	10%	5%	0%	6%	0%	4%	0%	16%	8%	0%	3%
Heavy Vehicles (%)	96	309	45	11	657	45	28	17	6	39	22	146
Adj. Flow (vph)	96	354	0	11	702	0	28	23	0	0	207	0
Shared Lane Traffic (%)	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA
Lane Group Flow (vph)	5	2	2	1	6	6	8	8	8	4	4	4
Protected Phases	5	2	2	1	6	6	8	8	8	4	4	4
Permitted Phases	5	2	2	1	6	6	8	8	8	4	4	4
Detector Phase	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Switch Phase	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Minimum Initial (s)	10.0	48.0	10.0	48.0	10.0	48.0	10.0	48.0	10.0	48.0	10.0	48.0
Minimum Split (s)	11.1%	53.3%	11.1%	53.3%	11.1%	53.3%	11.1%	53.3%	11.1%	53.3%	11.1%	53.3%
Total Split (s)	7.0	42.0	7.0	42.0	7.0	42.0	7.0	42.0	7.0	42.0	7.0	42.0
Total Split (%)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Maximum Green (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Yellow Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All-Red Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lost Time Adjust (s)	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Total Lost Time (s)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead/Lag	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead-Lag Optimize?	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Vehicle Extension (s)	11.0	18.0	11.0	18.0	11.0	18.0	11.0	18.0	11.0	18.0	11.0	18.0
Recall Mode	18.0	3	18.0	3	18.0	3	18.0	3	18.0	3	18.0	3
Flash Dont Walk (s)	68.6	63.7	68.6	63.7	68.6	63.7	68.6	63.7	68.6	63.7	68.6	63.7
Pedestrian Calls (#/hr)	0.76	0.71	0.76	0.71	0.76	0.71	0.76	0.71	0.76	0.71	0.76	0.71
Act Effect Green (s)	0.17	0.16	0.17	0.16	0.17	0.16	0.17	0.16	0.17	0.16	0.17	0.16
Actuated g/C Ratio	3.1	4.9	3.1	4.9	3.1	4.9	3.1	4.9	3.1	4.9	3.1	4.9
v/c Ratio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay	3.1	4.9	3.1	4.9	3.1	4.9	3.1	4.9	3.1	4.9	3.1	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	3.1	4.9	4.5	4.9	10.0	9.9	39.6	24.5	24.5	19.7	19.7	19.7
LOS	A	A	A	A	A	A	D	C	C	B	B	B
Approach Delay	4.5	A	A	9.9	A	A	32.8	C	C	19.7	B	B
Approach LOS	A	A	A	A	A	A	C	C	C	B	B	B

Intersection Summary
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%). Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 10.4
Intersection LOS: B
Intersection Capacity Utilization: 63.1%
ICU Level of Service: B
Analysis Period (min): 15



Phasings
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	5	2	1	6	8	8	4	4
Protected Phases	2	10.0	7.0	10.0	7.0	7.0	7.0	7.0
Permitted Phases	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0
Minimum Initial (s)	10.0	48.0	10.0	48.0	32.0	32.0	32.0	32.0
Minimum Split (s)	11.1%	53.3%	11.1%	53.3%	35.6%	35.6%	35.6%	35.6%
Total Split (%)	7.0	42.0	7.0	42.0	26.0	26.0	26.0	26.0
Maximum Green (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
Yellow Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
All-Red Time (s)	Lead	Lag	Lead	Lag				
Lead/Lag	Yes	Yes	Yes	Yes				
Lead-Lag Optimize?	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	None	C-Min	None	C-Min	None	None	None	None
Recall Mode	11.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Walk Time (s)	3	3	5	5	5	5	5	5
Flash Dont Walk (s)	9.4	42.0	7.0	39.6	26.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	7.2	65.9	0.0	65.7	12.1	12.1	12.1	12.1
90th %ile Green (s)	7.0	68.6	0.0	68.6	9.4	9.4	9.4	9.4
90th %ile Term Code	7.0	71.0	0.0	71.0	7.0	7.0	7.0	7.0
70th %ile Green (s)	Min	Coord	Skip	Coord	Hold	Hold	Gap	Gap
70th %ile Term Code	7.0	71.0	0.0	71.0	7.0	7.0	7.0	7.0
50th %ile Green (s)	Min	Coord	Skip	Coord	Hold	Hold	Min	Min
50th %ile Term Code	0.0	71.0	0.0	71.0	7.0	7.0	7.0	7.0
30th %ile Green (s)	Skip	Coord	Skip	Coord	Hold	Hold	Min	Min
30th %ile Term Code	0.0	71.0	0.0	71.0	7.0	7.0	7.0	7.0
10th %ile Green (s)	Skip	Coord	Skip	Coord	Hold	Hold	Min	Min
10th %ile Term Code								

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Control Type: Actuated-Coordinated

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	96	354	11	702	28	23	207
Lane Group Flow (vph)	0.17	0.16	0.01	0.33	0.30	0.10	0.59
v/c Ratio	3.1	4.9	4.9	10.0	39.6	24.5	19.7
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	3.1	4.9	4.9	10.0	39.6	24.5	19.7
Total Delay	1.2	2.5	0.3	25.9	4.8	2.9	12.5
Queue Length 50th (m)	10.4	32.0	2.7	60.3	10.7	7.9	26.9
Queue Length 95th (m)	131.0	193.7	64.0	136.7	39.9	172.5	
Internal Link Dist (m)	568	2264	796	2142	199	502	590
Turn Bay Length (m)	0	0	0	0	0	0	0
Base Capacity (vph)	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0.17	0.16	0.01	0.33	0.14	0.05	0.35
Reduced v/c Ratio	Intersection Summary						

6: Farley Drive & Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Traffic Volume (vph)	85	275	40	10	585	40	25	15	5	35	20	130
Future Volume (vph)	85	275	40	10	585	40	25	15	5	35	20	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Total Lost time (s)	3.0	6.0	3.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.99	1.00	0.98
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	0.98
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	0.98
Frt	1.00	0.98	1.00	1.00	0.99	1.00	0.95	1.00	0.96	1.00	0.99	0.99
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.96	1.00	0.99	0.99
Satd. Flow (prot)	1714	3189	1718	3340	1718	3340	1624	1723	1778	1825	1825	1825
Flt Permitted	0.35	1.00	0.54	1.00	0.54	1.00	0.40	1.00	0.93	0.93	0.93	0.93
Satd. Flow (perm)	628	3189	1010	3340	669	1723	669	1723	1710	1710	1710	1710
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	96	309	45	11	657	45	28	17	6	39	22	146
RTOR Reduction (vph)	0	8	0	0	4	0	0	5	0	0	117	0
Lane Group Flow (vph)	96	346	0	11	698	0	28	18	0	0	90	0
Confl. Peds. (#/hr)	9	8	8	8	9	14	10	10	10	10	10	14
Confl. Bikes (#/hr)							2					
Heavy Vehicles (%)	4%	10%	5%	0%	6%	0%	4%	0%	16%	8%	0%	3%
Turn Type	pm+pt	NA	pm+pt	NA	NA	NA	NA	NA	NA	NA	NA	NA
Protected Phases	5	2		1	6				8			4
Permitted Phases	2		6			8				4		
Actuated Green, G (s)	65.7	61.3	58.0	56.6	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
Effective Green, g (s)	65.7	61.3	58.0	56.6	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
Actuated g/C Ratio	0.73	0.68	0.64	0.63	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	532	2172	662	2100	94	235	94	235	233	233	233	233
v/s Ratio Prot	c0.01	0.11	0.00	c0.21					0.01			
v/s Ratio Perm	0.12	0.01	0.01	0.01	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
v/c Ratio	0.18	0.16	0.02	0.33	0.30	0.08	0.30	0.08	0.30	0.08	0.30	0.39
Uniform Delay, d1	3.7	5.1	5.7	7.8	35.0	33.9	35.0	33.9	35.4	35.4	35.4	35.4
Progression Factor	0.61	0.79	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.1	0.0	0.4	1.8	0.1	1.8	0.1	1.1	1.1	1.1	1.1
Delay (s)	2.4	4.2	5.7	8.3	36.7	34.0	36.7	34.0	36.5	36.5	36.5	36.5
Level of Service	A	A	A	A	D	C	D	C	D	D	D	D
Approach Delay (s)	3.8	8.2	8.2	8.2	35.5	35.5	35.5	35.5	36.5	36.5	36.5	36.5
Approach LOS	A	A	A	A	D	D	D	D	D	D	D	D
Intersection Summary	Intersection Summary											
HCM 2000 Control Delay	11.9 HCM 2000 Level of Service											
HCM 2000 Volume to Capacity ratio	0.33 B											
Actuated Cycle Length (s)	90.0 Sum of lost time (s)											
Intersection Capacity Utilization	63.1% ICU Level of Service											
Analysis Period (min)	15											
c Critical Lane Group												

7: Farley Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Traffic Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Future Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1760	0	0	1794	0	0	1773	0	0	1913	0
Flt Permitted	0.960										0.996	
Satd. Flow (perm)	0	1760	0	0	1794	0	0	1773	0	0	1913	0
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		57.2			91.1			54.0			63.9	
Travel Time (s)		6.9			10.9			6.5			7.7	
Confl. Peds. (#/hr)	1	2	2	2	1	16	5	5	5	5	16	16
Confl. Bikes (#/hr)		1			1							
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	3%	0%	0%	0%	0%	0%	0%	6%	0%	20%	4%	0%
Adj. Flow (vph)	34	7	0	0	14	7	0	21	0	7	27	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	21	0	0	21	0	0	89	0
Sign Control	Stop											
Intersection Summary	Intersection Summary											
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	26.1%											
ICU Level of Service	A											
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Stop											
Sign Control	Stop											
Traffic Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Future Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Ideal Flow (vphpl)	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Peak Hour Factor	34	7	0	0	14	7	0	21	0	7	27	55
Hourly flow rate (vph)	EB 1	WB 1	NB 1	SB 1								
Direction, Lane #	41	21	21	89								
Volume Total (vph)	34	0	0	7								
Volume Left (vph)	0	7	0	55								
Volume Right (vph)	0.21	-0.20	0.10	-0.31								
Head (s)	4.4	4.0	4.2	3.8								
Departure Headway (s)	0.05	0.02	0.02	0.09								
Degree Utilization, x	802	877	826	939								
Capacity (veh/h)	7.6	7.1	7.3	7.1								
Control Delay (s)	7.6	7.1	7.3	7.1								
Approach Delay (s)	A	A	A	A								
Approach LOS	Intersection Summary											
Delay	7.3											
Level of Service	A											
Intersection Capacity Utilization	26.1%											A
Analysis Period (min)	15											
	ICU Level of Service											A

Lanes, Volumes, Timings
8. Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)											
5	0	5	0	0	0	5	10	5	5	15	0
Future Volume (vph)	5	0	5	0	0	5	10	5	5	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1709	0	0	1625	0	0	1541	0	0	1776
Flt Permitted	0.976										
Satd. Flow (perm)	0	1709	0	0	1625	0	0	1541	0	0	1776
Link Speed (k/h)	30										
Link Distance (m)	31.6										
Travel Time (s)	3.8										
Confl. Peds. (#/hr)	3	18	18	3	36	6	6	6	6	36	36
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	12%	40%	0%	6%	0%
Adj. Flow (vph)	7	0	7	0	0	7	13	7	7	20	0
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	14	0	0	7	0	0	27	0	0	27
Sign Control	Stop										
Intersection Summary											
Area Type: Other											
Control Type: Unsignalized											
Intersection Capacity Utilization 26.3%											ICU Level of Service A
Analysis Period (min) 15											

HCM Unsignalized Intersection Capacity Analysis
 8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control		Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	5	0	5	0	0	5	5	10	5	5	15	0
Future Volume (vph)	5	0	5	0	0	5	5	10	5	5	15	0
Ideal Flow (vphpl)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Peak Hour Factor	7	0	7	0	0	7	7	13	7	7	20	0
Hourly flow rate (vph)												
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	14	7	27	27								
Volume Left (vph)	7	0	7	7								
Volume Right (vph)	7	7	7	0								
Head (s)	-0.20	-0.60	0.17	0.13								
Departure Headway (s)	3.8	3.4	4.1	4.1								
Degree Utilization, x	0.01	0.01	0.03	0.03								
Capacity (veh/h)	922	1027	882	869								
Control Delay (s)	6.9	6.5	7.3	7.2								
Approach Delay (s)	6.9	6.5	7.3	7.2								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	7.1											
Level of Service	A											
Intersection Capacity Utilization	26.3%											
Analysis Period (min)	15											
	ICU Level of Service A											

Lanes, Volumes, Timings
 9: Hawkins Drive & Internal E-W Street

12-12-2023

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W					
Traffic Volume (vph)	5	0	0	40	15	15
Future Volume (vph)	5	0	0	40	15	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1642	0	0	1990	1948	0
Flt Permitted	0.950					
Satd. Flow (perm)	1642	0	0	1990	1948	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Confl. Peds. (#/hr)			12			12
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	16%	100%	0%	5%	0%	0%
Adj. Flow (vph)	6	0	0	51	19	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	51	38	0
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.6%					
Analysis Period (min)	15					
	ICU Level of Service A					

9: Hawkins Drive & Internal E-W Street

12-12-2023

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Volume (veh/h)	5	0	0	40	15	15
Future Volume (Veh/h)	5	0	0	40	15	15
Sign Control	0%	Free	Free	0%	0%	0%
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	6	0	0	51	19	19
Pedestrians	12					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	None
Median type						
Median storage (veh)						
Upstream signal (m)						
pX platoon unblocked						
VC, conflicting volume	92	40	50			
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCU, unblocked vol	92	40	50			
IC, single (s)	6.6	7.2	4.1			
IC, 2 stage (s)	3.6	4.2	2.2			
p0 queue free %	99	100	100			
CM capacity (veh/h)	866	800	1552			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	6	51	38			
Volume Left	6	0	0			
Volume Right	0	0	19			
cSH	866	1552	1700			
Volume to Capacity	0.01	0.00	0.02			
Queue Length 95th (m)	0.2	0.0	0.0			
Control Delay (s)	9.2	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.2	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.6					
Intersection Capacity Utilization	16.6%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	W			4	4	
Traffic Volume (vph)	25	5	5	95	40	15
Future Volume (vph)	25	5	5	95	40	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	1829	0	0	1972	1721	0
Flt Permitted				0.997	0.965	
Satd. Flow (perm)	1829	0	0	1972	1721	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	90.5			63.5	67.2	
Travel Time (s)	8.1			5.7	8.1	
Confl. Peds. (#/hr)						6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	14%	0%	0%	6%	2%	0%
Adj. Flow (vph)	28	6	6	107	45	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	0	0	113	62	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	20.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

12-12-2023
 HCM Unsignalized Intersection Capacity Analysis
 10 : 1888 Gordon Street Access & Poppy Drive East

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Traffic Volume (veh/h)	25	5	5	95	40	15
Future Volume (Veh/h)	25	5	5	95	40	15
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	28	6	6	107	45	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (m)	311					
pX platoon unblocked						
vC, conflicting volume		34			150	37
vC1, stage 1 conf vol						
vC2, stage 2 conf vol		34			150	37
IC, single (s)		4.1			6.4	6.2
IC, 2 stage (s)		2.2			3.5	3.3
p0 queue free %		100			95	98
CM capacity (veh/h)		1591			839	1035
Direction_Lane #	EB 1	WB 1	NB 1			
Volume Total	34	113	62			
Volume Left	0	6	45			
Volume Right	6	0	17			
cSH	1700	1591	885			
Volume to Capacity	0.02	0.00	0.07			
Queue Length 95th (m)	0.0	0.1	1.8			
Control Delay (s)	0.0	0.4	9.4			
Lane LOS	A	A	A			
Approach Delay (s)	0.0	0.4	9.4			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay			3.0			
Intersection Capacity Utilization			20.9%		ICU Level of Service	A
Analysis Period (min)			15			

12-12-2023
 Lanes, Volumes, Timings
 1 : Hawkins Drive & Clair Road East

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Traffic Volume (vph)	605	15	55	425	10	85
Future Volume (vph)	605	15	55	425	10	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Satd. Flow (prot)	3474	0	0	3517	1828	0
Flt Permitted				0.994	0.995	
Satd. Flow (perm)	3474	0	0	3517	1828	0
Link Speed (k/h)	60			60	50	
Link Distance (m)	160.7			130.4	64.6	
Travel Time (s)	9.6			7.8	4.7	
Confl. Peds. (#/hr)		13	13		1	
Confl. Bikes (#/hr)	1					
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Adj. Flow (vph)	617	15	56	434	10	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	632	0	0	490	97	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	46.4%					
Analysis Period (min)	15					
ICU Level of Service	A					

12-12-2023
 HCM Unsignalized Intersection Capacity Analysis
 1: Hawkins Drive & Clair Road East

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	605	15	55	425	10	85
Future Volume (Veh/h)	605	15	55	425	10	85
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	617	15	56	434	10	87
Pedestrians	1				13	
Lane Width (m)	3.5				4.5	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	0				1	
Right turn flare (veh)	None				None	
Median type	None				None	
Median storage (veh)						
Upstream signal (m)	161					
pX platoon unblocked					0.93	0.93
vC, conflicting volume		645			968	329
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vO, unblocked vol		478			823	140
IC, single (s)		4.1			6.8	6.9
IC, 2 stage (s)						
p0 queue free %		2.2			3.5	3.3
CI capacity (veh/h)		94			96	89
CI capacity (veh/h)		1008			274	819
Direction_Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	411	221	201	289	97	97
Volume Left	0	0	96	0	10	0
Volume Right	0	15	0	0	87	0
cSH	1700	1700	1008	1700	680	680
Volume to Capacity	0.24	0.13	0.06	0.17	0.14	0.14
Queue Length 95th (m)	0.0	0.0	1.4	0.0	4.0	4.0
Control Delay (s)	0.0	0.0	2.8	0.0	11.2	11.2
Lane LOS	A	A	A	A	B	B
Approach Delay (s)	0.0	1.2	11.2			
Approach LOS			B			
Intersection Summary						
Average Delay	1.4					
Intersection Capacity Utilization	46.4%					
ICU Level of Service	A					
Analysis Period (min)	15					

12-12-2023
 Lanes, Volumes, Timings
 2: Hawkins Drive & Poppy Drive East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	35	85	10	0	40	5	10	5	0	15	0	15
Future Volume (vph)	35	85	10	0	40	5	10	5	0	15	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	2042	0	0	1839	0	0	2023	0	0	1846	0
Flt Permitted	0.987						0.968				0.976	
Satd. Flow (perm)	0	2042	0	0	1839	0	0	2023	0	0	1846	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		63.5			196.8			136.5			121.9	
Travel Time (s)		5.7			17.7			12.3			11.0	
Confl. Peds. (#/hr)	33		13		13		33		8		4	
Confl. Bikes (#/hr)		1							4		4	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	42	101	12	0	48	6	12	6	0	18	0	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	155	0	0	54	0	0	18	0	0	36	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	26.1%											
ICU Level of Service	A											
Analysis Period (min)	15											

2: Hawkins Drive & Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	85	10	0	40	5	10	5	0	15	0	15
Future Volume (Veh/h)	35	85	10	0	40	5	10	5	0	15	0	15
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	42	101	12	0	48	6	12	6	0	18	0	18
Pedestrians	8			4			13			33		
Lane Width (m)	4.5			3.6			4.5			4.5		
Walking Speed (m/s)	1.2			1.2			1.2			1.2		
Percent Blockage	1			0			1			3		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	375											
pX platoon unblocked												
VC, conflicting volume	87			126			281		291	124	282	294
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCU, unblocked vol	87			126			281		291	124	282	294
IC, single (s)	4.1			4.1			7.1		6.5	6.2	7.1	6.5
IC, 2 stage (s)	2.2			2.2			3.5		4.0	3.3	3.5	4.0
p0 queue free %	97			100			98		99	100	97	100
CM capacity (veh/h)	1469			1453			611		576	916	607	574
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	155	54	18	36								
Volume Left	42	0	12	18								
Volume Right	12	6	0	18								
cSH	1469	1453	599	730								
Volume to Capacity	0.03	0.00	0.03	0.05								
Queue Length 95th (m)	0.7	0.0	0.7	1.2								
Control Delay (s)	2.2	0.0	11.2	10.2								
Lane LOS	A	B	B	B								
Approach Delay (s)	2.2	0.0	11.2	10.2								
Approach LOS	B	B	B	B								
Intersection Summary												
Average Delay	3.5											
Intersection Capacity Utilization	26.1%											
ICU Level of Service	A											
Analysis Period (min)	15											

3: Poppy Drive East & Fanley Drive

12-12-2023

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	130	60	15	20	30
Future Volume (vph)	20	130	60	15	20	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	2075	1971	0	1692	0
Flt Permitted	0.993				0.980	
Satd. Flow (perm)	0	2075	1971	0	1692	0
Link Speed (k/h)	40	40	40	40	30	30
Link Distance (m)	220.5	90.5	55.2	55.2	55.2	55.2
Travel Time (s)	19.8	8.1	6.6	6.6	6.6	6.6
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	4%	0%	0%	0%
Adj. Flow (vph)	23	148	68	17	23	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	171	85	0	57	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	24.6%					
ICU Level of Service	A					
Analysis Period (min)	15					

3: Poppy Drive East & Farley Drive

12-12-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	130	60	15	20	30
Future Volume (Veh/h)	20	130	60	15	20	30
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	23	148	68	17	23	34
Pedestrians					15	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)			None	None		
Median type						
Median storage (veh)						
Upstream signal (m)		220				
pX platoon unblocked						
vC, conflicting volume		100			286	92
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCv, unblocked vol		100			286	92
IC, single (s)		4.1			6.4	6.2
IC, 2 stage (s)						
p0 queue free %		2.2			3.5	3.3
IF (s)		98			97	96
cM capacity (veh/h)		1487			690	960
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	171	85	57			
Volume Left	23	0	23			
Volume Right	0	17	34			
cSH	1487	1700	829			
Volume to Capacity	0.02	0.05	0.07			
Queue Length 95th (m)	0.4	0.0	1.8			
Control Delay (s)	1.1	0.0	9.7			
Lane LOS	A	A	A			
Approach Delay (s)	1.1	0.0	9.7			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay		2.4				
Intersection Capacity Utilization		24.6%				
Analysis Period (min)		15				
					ICU Level of Service	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	20	20	50	20	60	45	67.0	85	80	540	10
Future Volume (vph)	15	20	20	50	20	60	45	67.0	85	80	540	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	0	1803	0	0	1847	0	2006	3426	0	1728	3489	0
Flt Permitted		0.888			0.849		0.442			0.327		
Satd. Flow (perm)	0	1633	0	0	1597	0	929	3426	0	590	3489	0
Right Turn on Red		Yes		Yes		Yes	Yes	Yes	Yes		Yes	Yes
Satd. Flow (RTOR)	20			47			21			3		
Link Speed (k/h)	40			40			60			60		
Link Distance (m)	93.0			220.5			196.0			180.5		
Travel Time (s)	8.4			19.8			11.8			10.8		
Conf. Peds. (#/hr)	18		3	3		18	6		17	17		6
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	18%	0%	0%	1%	0%	3%	2%	2%	1%	1%	2%	0%
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0
Adj. Flow (vph)	15	20	20	51	20	61	46	684	87	82	551	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	0	0	132	0	46	771	0	82	561	0
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8	8	8	4	4	5	2	1	6	6	6	6
Permitted Phases	8	8	8	4	4	2	2	1	6	6	6	6
Detector Phase												
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	7.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	35.0	30.0	35.0	30.0	35.0	35.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	30.0	50.0	30.0	50.0	50.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	55.6%	33.3%	55.6%	33.3%	55.6%	55.6%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	7.0	44.0	7.0	44.0	7.0	44.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	None	C-Min	None
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	8.0	17.0	8.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	16.0	12.0	16.0	12.0	12.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6	6
Act Efect Green (s)	12.3	12.3	12.3	12.3	12.3	12.3	66.0	57.3	67.2	59.6	67.2	59.6
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.14	0.14	0.73	0.64	0.75	0.66	0.75	0.66
v/c Ratio	0.23	0.23	0.23	0.23	0.23	0.23	0.06	0.35	0.15	0.24	0.15	0.24
Control Delay	24.3	24.3	24.3	28.7	24.3	28.7	4.2	9.6	3.9	7.3	4.2	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	24.3			28.7			4.2	9.6		3.9	7.3	
LOS	C			C			A	A		A	A	A
Approach Delay	24.3			28.7			9.3			6.9		
Approach LOS	C			C			A			A		A

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

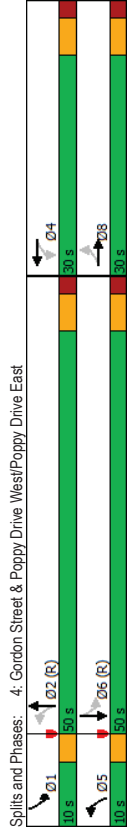
Maximum v/c Ratio: 0.51

Intersection Signal Delay: 10.4

Intersection LOS: B

Intersection Capacity Utilization 59.1%

Analysis Period (min) 15



Phasings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases												
Permitted Phases	8			4			2			1		6
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	7.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	35.0	35.0	30.0	35.0	30.0	35.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0	30.0	50.0	30.0	50.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	11.1%	11.1%	33.3%	11.1%	33.3%	11.1%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	44.0	44.0	24.0	44.0	24.0	44.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0
Lead/Lag							Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	8.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	16.0	12.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6	6
90th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	42.3	42.3	24.0	42.3	24.0	43.8
90th %ile Term Code	Ped	Ped	Ped	Ped	Ped	Ped	Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	12.3	12.3	12.3	12.3	12.3	12.3	7.0	7.0	12.3	7.0	12.3	7.0
70th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	10.2	10.2	10.2	10.2	10.2	10.2	57.8	57.8	10.2	57.8	10.2	57.8
50th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	8.1	8.1	8.1	8.1	8.1	8.1	59.9	59.9	8.1	59.9	8.1	69.9
30th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Skip	Skip	Skip	Skip	Skip	Skip
10th %ile Green (s)	7.0	7.0	7.0	7.0	7.0	7.0	71.0	71.0	7.0	71.0	7.0	71.0
10th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Skip	Skip	Skip	Skip	Skip	Skip

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	55	132	46	771	82	561
Lane Group Flow (vph)	0.23	0.51	0.06	0.35	0.15	0.24
v/c Ratio	24.3	28.7	4.2	9.6	3.9	7.3
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	24.3	28.7	4.2	9.6	3.9	7.3
Total Delay	5.9	14.7	1.4	29.4	1.3	13.6
Queue Length 50th (m)	14.1	27.2	6.7	62.9	m6.7	29.6
Queue Length 95th (m)	69.0	196.5	172.0	70.0	156.5	
Internal Link Dist (m)						
Turn Bay Length (m)	450	460	765	2203	533	2314
Base Capacity (vph)	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.29	0.06	0.35	0.15	0.24
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

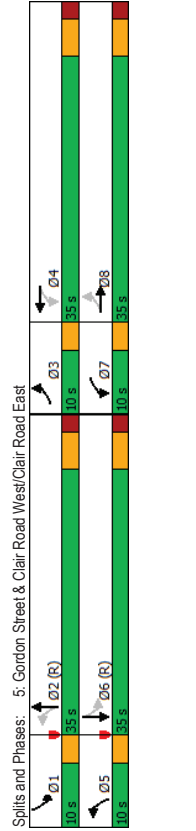
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	15	20	20	50	20	60	45	670	85	80	540	10	
Future Volume (vph)	15	20	20	50	20	60	45	670	85	80	540	10	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	
Frbp. ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	1.00	0.99	1.00	1.00	1.00	1.00	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.95	0.95	0.95	0.94	0.94	0.94	1.00	0.98	1.00	0.95	1.00	1.00	
Flt Protected	0.99	0.99	0.99	0.98	0.98	0.98	0.95	1.00	0.95	1.00	1.00	1.00	
Satd. Flow (prot)	1795	1844	1844	2002	2002	2002	3427	3427	1723	3490	3490	3490	
Flt Permitted	0.90	0.90	0.90	0.85	0.85	0.85	0.44	1.00	0.33	1.00	1.00	1.00	
Satd. Flow (perm)	1633	1633	1633	1597	1597	1597	931	3427	592	3490	3490	3490	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	15	20	20	51	20	61	46	684	87	82	551	10	
RTOR Reduction (vph)	0	17	0	0	41	0	0	8	0	0	1	0	
Lane Group Flow (vph)	0	38	0	0	91	0	46	763	0	82	560	0	
Conf. Peds. (#/hr)	18	3	3	3	3	18	6	17	17	17	6	6	
Heavy Vehicles (%)	18%	0%	0%	1%	0%	3%	2%	2%	1%	1%	2%	0%	
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0	
Turn Type	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA	
Protected Phases	8	8	8	4	4	4	5	2	2	1	6	6	
Permitted Phases	8	8	8	4	4	4	5	2	2	1	6	6	
Actuated Green, G (s)	12.3	12.3	12.3	12.3	12.3	12.3	61.0	56.8	64.4	58.5	58.5	58.5	
Effective Green, g (s)	12.3	12.3	12.3	12.3	12.3	12.3	61.0	56.8	64.4	58.5	58.5	58.5	
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.14	0.14	0.68	0.63	0.72	0.65	0.65	0.65	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	223	223	223	218	218	218	680	2162	497	2268	2268	2268	
v/s Ratio Prot	0.02	0.02	0.02	0.06	0.06	0.06	0.00	0.22	0.11	0.16	0.16	0.16	
v/s Ratio Perm	0.17	0.17	0.17	0.42	0.42	0.42	0.07	0.35	0.16	0.25	0.25	0.25	
v/c Ratio	34.3	34.3	34.3	35.6	35.6	35.6	4.8	7.9	4.0	6.6	6.6	6.6	
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.90	0.90	0.90	
Progression Factor	0.4	0.4	0.4	1.3	1.3	1.3	0.0	0.5	0.1	0.2	0.2	0.2	
Incremental Delay, d2	34.7	34.7	34.7	36.9	36.9	36.9	4.8	8.3	3.5	6.1	6.1	6.1	
Delay (s)	C	C	C	D	D	D	A	A	A	A	A	A	
Level of Service	C	C	C	D	D	D	A	A	A	A	A	A	
Approach Delay (s)	34.7	34.7	34.7	36.9	36.9	36.9	8.1	8.1	5.8	5.8	5.8	5.8	
Approach LOS	C	C	C	D	D	D	A	A	A	A	A	A	
Intersection Summary													
HCM 2000 Control Delay	10.4											HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35												
Actuated Cycle Length (s)	90.0											Sum of lost time (s)	15.0
Intersection Capacity Utilization	59.1%											ICU Level of Service	B
Analysis Period (min)	15												
c Critical Lane Group													

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	35.7	25.3	30.7	10.9	18.9				17.9	24.9	
LOS	C	D	C	C	C	B	B	B	B	C	C	C
Approach Delay			32.9		29.4				17.6			23.4
Approach LOS			C		C				B			C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	240	615	95	130	350	90	120	485	130	155	455	115
Future Volume (vph)	240	615	95	130	350	90	120	485	130	155	455	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.3	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	0.0	32.0	0.0	0.0	72.0	0.0	0.0	163.0	0.0	0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5	3444	0	7.5	3401	0	1646	3321	0	1728	3303	0
Satd. Flow (prot)	1745	0.358	0.206									
Flt Permitted	647	3444	0	369	3401	0	597	3321	0	552	3303	0
Satd. Flow (perm)			Yes		Yes		Yes		Yes		Yes	
Right Turn on Red												
Satd. Flow (RTOR)	20			38			40				37	
Link Speed (k/h)	60			60			60				60	
Link Distance (m)	268.6			217.7			180.5				233.4	
Travel Time (s)	16.1			13.1			10.8				14.0	
Confl. Peds. (#/hr)	34			21			21				26	
Confl. Bikes (#/hr)	1											
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	2%	2%	1%	0%	6%	2%	5%	1%	2%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	3	0
Adj. Flow (vph)	247	634	98	134	361	93	124	500	134	160	469	119



Area Type	Value
Area Type	Other
Cycle Length	90
Actuated Cycle Length	90
Offset: 0 (0%)	Referenced to phase 2/NBTL and 6/SBTL, Start of Green, Master Intersection
Natural Cycle	90
Control Type	Actuated-Coordinated
Maximum v/c Ratio	0.78
Intersection Signal Delay	26.1
Intersection LOS	C
Intersection Capacity Utilization	82.8%
Analysis Period (min)	15

Shared Lane Traffic (%)	Value
Shared Lane Traffic (%)	0
Lane Group Flow (vph)	247
Turn Type	pm+pt
Protected Phases	3
Permitted Phases	8
Detector Phase	8
Switch Phase	3
Minimum Initial (s)	7.0
Minimum Split (s)	10.0
Total Split (s)	11.1%
Maximum Green (s)	7.0
Yellow Time (s)	3.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	3.0
Lead/Lag	Lead
Lead/Lag Optimize?	Yes
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	9.0
Flash Dont Walk (s)	19.0
Pedestrian Calls (#/hr)	11
Act Effect Green (s)	37.9
Actuated g/C Ratio	0.42
v/c Ratio	0.61
Control Delay	24.5

Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	7	4	2	6			
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (%)	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%
Maximum Green (s)	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	11		11		9		9	
90th %ile Green (s)	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0
90th %ile Term Code	Max	Max	Hold	Max	Coord	Max	Coord	Max
70th %ile Green (s)	12.0	26.8	11.6	26.4	9.6	24.0	9.6	24.0
70th %ile Term Code	Max	Gap	Gap	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	14.0	24.7	10.1	20.8	9.3	27.0	10.2	27.9
50th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord
30th %ile Green (s)	12.4	21.7	8.9	18.2	7.8	32.8	8.6	33.6
30th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord
10th %ile Green (s)	9.8	18.3	7.0	15.5	7.0	39.7	7.0	39.7
10th %ile Term Code	Gap	Gap	Min	Hold	Min	Coord	Min	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	247	732	134	454	124	634	160	588
v/c Ratio	0.61	0.78	0.49	0.53	0.33	0.55	0.43	0.51
Control Delay	24.5	35.7	25.3	30.7	10.9	18.9	17.9	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	35.7	25.3	30.7	10.9	18.9	17.9	24.9
Queue Length 50th (m)	27.6	62.5	15.4	43.0	11.1	49.8	16.0	43.6
Queue Length 95th (m)	#44.8	77.8	26.3	37.7	7.6	15.2	29.0	59.6
Internal Link Dist (m)	244.6		193.7		156.5		209.4	
Turn Bay Length (m)	70.0	32.0	72.0	72.0	163.0			
Base Capacity (vph)	406	1123	272	1121	371	1203	370	1200
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.65	0.49	0.40	0.33	0.53	0.43	0.49

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

5. Gordon Street & Clair Road West/Clair Road East

12-12-2023

6. Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	240	615	95	130	350	90	120	485	130	155	455	115
Future Volume (vph)	240	615	95	130	350	90	120	485	130	155	455	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	1.00	0.95	3.0	6.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Frbp. ped/bikes	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99
Frbp. ped/bikes	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.97	1.00
Frbp. ped/bikes	1.00	0.98	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1736	3444	1709	3402	1643	3323	1724	3301	1736	3444	1709	3402
Flt Permitted	0.36	1.00	0.21	1.00	0.35	1.00	0.31	1.00	0.36	1.00	0.21	1.00
Satd. Flow (perm)	654	3444	371	3402	601	3323	554	3301	654	3444	371	3402
Peak-Hour Factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	247	634	88	134	361	93	124	500	134	160	469	119
RTOR Reduction (vph)	0	15	0	0	29	0	26	0	24	0	24	0
Lane Group Flow (vph)	247	717	0	134	425	0	124	608	0	160	564	0
Confl. Peds. (#/hr)	34	21	21	34	18	26	26	26	26	26	26	18
Confl. Bikes (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Heavy Vehicles (%)	0%	1%	2%	2%	1%	0%	6%	2%	5%	1%	2%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	8	7	4	5	2	2	1	6	6	6
Permitted Phases	8	8	8	4	4	2	2	2	2	6	6	6
Actuated Green, G (s)	35.1	24.1	30.9	22.0	38.6	30.5	38.6	30.5	38.6	30.5	38.6	30.9
Effective Green, g (s)	35.1	24.1	30.9	22.0	38.6	30.5	38.6	30.5	38.6	30.5	38.6	30.9
Actuated g/C Ratio	0.39	0.27	0.34	0.24	0.43	0.34	0.43	0.34	0.43	0.34	0.43	0.34
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	387	922	259	831	351	1126	353	1133	387	922	259	831
v/s Ratio Prot	0.08	0.21	0.05	0.13	0.12	0.03	0.18	0.04	0.17	0.16	0.04	0.17
v/s Ratio Perm	0.17	0.78	0.52	0.51	0.35	0.54	0.45	0.50	0.50	0.45	0.50	0.50
Uniform Delay, d1	19.8	30.5	21.7	29.4	16.1	24.1	16.1	23.4	16.1	23.4	16.1	23.4
Progression Factor	1.00	1.00	1.27	1.09	0.62	0.71	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.4	4.2	1.7	0.5	0.6	1.8	0.9	1.6	0.9	1.6	0.9	1.6
Delay (s)	23.3	34.7	29.3	32.5	10.6	19.0	17.1	25.0	17.1	25.0	17.1	25.0
Level of Service	C	C	C	C	B	B	B	B	B	B	B	C
Approach Delay (s)	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8
Approach LOS	C	C	C	C	C	C	C	C	C	C	C	C
Intersection Summary												
HCM 2000 Control Delay	26.2											
HCM 2000 Volume to Capacity ratio	0.64											
Actuated Cycle Length (s)	90.0											
Intersection Capacity Utilization	82.8%											
Analysis Period (min)	15											
c Critical Lane Group	C											

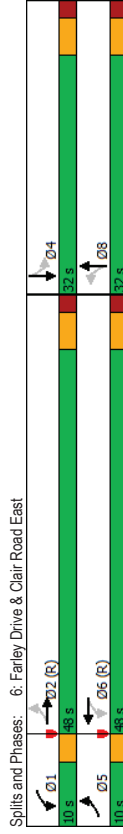
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	190	520	140	45	335	65	85	55	30	70	65	130
Future Volume (vph)	190	520	140	45	335	65	85	55	30	70	65	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Total Lost Time (s)	131.0	0.0	64.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Lane Util. Factor	1	0	1	0	1	0	1	0	0	0	0	0
Frbp. ped/bikes	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Frbp. ped/bikes	1785	3346	0	1785	3393	0	1705	1753	0	0	1923	0
Flt Permitted	0.478	0.390	0.422	0.478	0.390	0.422	0.478	0.390	0.422	0.478	0.390	0.422
Satd. Flow (perm)	883	3346	0	728	3393	0	741	1753	0	0	1704	0
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	51	34	34	51	34	34	51	34	34	51	34	34
Link Speed (k/h)	60	60	60	60	60	60	60	60	60	60	60	60
Link Distance (m)	217.7	160.7	160.7	217.7	160.7	160.7	217.7	160.7	160.7	217.7	160.7	160.7
Travel Time (s)	13.1	13	13	13	13	13	13	13	13	13	13	13
Confl. Peds. (#/hr)	20	13	13	20	13	13	20	13	13	20	13	13
Confl. Bikes (#/hr)	2	2	2	2	2	2	2	2	2	2	2	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	0%	0%	2%	1%	0%
Adj. Flow (vph)	198	542	146	47	349	68	89	57	31	73	68	135
Shared Lane Traffic (%)	198	688	0	47	417	0	89	88	0	0	276	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	2	1	6	6	8	8	4	4	4	4
Permitted Phases	5	2	2	1	6	6	8	8	4	4	4	4
Switch Phase	5	2	2	1	6	6	8	8	4	4	4	4
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	48.0	10.0	48.0	10.0	48.0	10.0	48.0	10.0	48.0	10.0	48.0
Total Split (%)	11.1%	53.3%	11.1%	53.3%	11.1%	53.3%	11.1%	53.3%	11.1%	53.3%	11.1%	53.3%
Maximum Green (s)	7.0	42.0	7.0	42.0	7.0	42.0	7.0	42.0	7.0	42.0	7.0	42.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	7	7	7	7	7	7	7	7	7	7	7	7
Act Effct. Green (s)	63.2	54.3	58.3	48.2	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
Actuated g/C Ratio	0.70	0.60	0.65	0.54	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
v/c Ratio	0.28	0.34	0.08	0.23	0.62	0.24	0.62	0.24	0.62	0.24	0.62	0.24
Control Delay	3.1	6.2	6.1	12.0	49.9	20.5	38.1	20.5	38.1	20.5	38.1	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	3.1	6.2	6.1	12.0	49.9	20.5						38.1
LOS	A	A	A	B	D	C						D
Approach Delay	5.5			11.4		35.3						38.1
Approach LOS	A			B		D						D
Intersection Summary												
Area Type: Other												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 80												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.73												
Intersection Signal Delay: 15.0												
Intersection LOS: B												
Intersection Capacity Utilization 71.5%												
ICU Level of Service C												
Analysis Period (min) 15												



Phasings

6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	2	1	6	8	8	8	8	4	4	4
Permitted Phases	2	1	1	6	8	8	8	8	8	4	4	4
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	10.0	48.0	10.0	48.0	48.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	11.1%	53.3%	11.1%	53.3%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%
Maximum Green (s)	7.0	42.0	7.0	42.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0	11.0	11.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	7	7	7	12	12	12	12	12	12	12	12	12
90th %ile Green (s)	12.9	41.4	7.6	36.1	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
90th %ile Term Code	Gap	Coord	Gap	Coord	Coord	Ped	Ped	Ped	Ped	Ped	Ped	Ped
70th %ile Green (s)	10.1	47.8	7.0	44.7	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2
70th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	8.7	50.7	7.0	49.0	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
50th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Hold	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	7.6	63.7	0.0	53.1	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
30th %ile Term Code	Gap	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Hold	Gap	Gap	Gap
10th %ile Green (s)	7.0	67.9	0.0	57.9	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
10th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Hold	Gap	Gap	Gap
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Control Type: Actuated-Coordinated												

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	198	688	47	417	89	88	276
Lane Group Flow (vph)	0.28	0.34	0.08	0.23	0.62	0.24	0.73
v/c Ratio	3.1	6.2	6.1	12.0	49.9	20.5	38.1
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	3.1	6.2	6.1	12.0	49.9	20.5	38.1
Total Delay	2.7	5.2	2.2	17.6	15.0	8.7	38.5
Queue Length 50th (m)	m14.0	65.5	7.3	35.4	28.0	19.0	58.3
Queue Length 95th (m)	131.0	193.7	136.7	136.7	39.9	172.5	172.5
Internal Link Dist (m)	131.0	64.0	20.0	20.0	20.0	20.0	20.0
Turn Bay Length (m)	712	2043	555	1875	214	528	530
Base Capacity (vph)	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.34	0.08	0.22	0.42	0.17	0.52
Intersection Summary							
m	Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-12-2023

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↖	↖	↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	190	520	140	45	335	65	85	55	30
Future Volume (vph)	190	520	140	45	335	65	85	55	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.1	3.5	4.8	4.8
Total Lost time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frbp. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	0.98
Frbp. ped/bikes	0.99	1.00	1.00	1.00	0.98	1.00	0.98	1.00	0.99
Frt	0.95	1.00	0.97	1.00	0.98	1.00	0.95	1.00	0.99
Flt Protected	1.00	0.97	1.00	0.98	1.00	0.95	1.00	0.99	0.99
Satd. Flow (prot)	1772	3347	1780	3392	1671	1754	1609	1909	1704
Flt Permitted	0.48	1.00	0.39	1.00	0.42	1.00	0.88	1.00	0.88
Satd. Flow (perm)	892	3347	731	3392	742	1754	1704	1704	1704
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	188	542	146	47	349	68	89	57	31
RTOR Reduction (vph)	0	21	0	0	16	0	25	0	43
Lane Group Flow (vph)	198	667	0	47	401	0	89	63	0
Conf. Peds. (#/hr)	20	13	13	13	20	36	29	29	36
Conf. Bikes (#/hr)	2	2	2	2	2	2	2	2	2
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	0%	2%
Turn Type	pm+pt	NA	NA	pm+pt	NA	NA	NA	NA	NA
Protected Phases	5	2	1	6	8	8	4	4	4
Permitted Phases	2	6	6	6	8	8	4	4	4
Actuated Green, G (s)	60.4	53.1	52.4	48.1	17.6	17.6	17.6	17.6	17.6
Effective Green, g (s)	60.4	53.1	52.4	48.1	17.6	17.6	17.6	17.6	17.6
Actuated g/C Ratio	0.67	0.59	0.58	0.53	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	689	1974	475	1812	145	343	333	333	333
v/s Ratio Prot	c0.03	c0.20	0.00	0.12	0.04	0.04	0.04	0.04	0.04
v/s Ratio Perm	0.16	0.34	0.05	0.22	0.12	0.18	0.14	0.14	0.14
v/c Ratio	0.29	0.34	0.10	0.22	0.61	0.18	0.70	0.70	0.70
Uniform Delay, d1	5.5	9.4	8.1	11.1	33.1	30.2	33.7	33.7	33.7
Progression Factor	0.42	0.58	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.4	0.1	0.3	7.5	0.3	6.3	6.3	6.3
Delay (s)	2.5	5.8	8.2	11.3	40.6	30.5	40.0	40.0	40.0
Level of Service	A	A	A	B	D	C	D	D	D
Approach Delay (s)	5.1	11.0	11.0	11.0	35.6	40.0	40.0	40.0	40.0
Approach LOS	A	A	B	B	D	D	D	D	D
Intersection Summary									
HCM 2000 Control Delay	15.0				HCM 2000 Level of Service				B
HCM 2000 Volume to Capacity ratio	0.43								
Actuated Cycle Length (s)	90.0				Sum of lost time (s)				15.0
Intersection Capacity Utilization	71.5%				ICU Level of Service				C
Analysis Period (min)	15								
c Critical Lane Group									

Lanes, Volumes, Timings
7: Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Future Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1797	0	0	1722	0	0	1834	0	0	1956	0
Flt Permitted	0.963			0.993			0.996				0.990	
Satd. Flow (perm)	0	1797	0	0	1722	0	0	1834	0	0	1956	0
Link Speed (k/h)		30		30			30				30	
Link Distance (m)		57.2		91.1			54.0				63.9	
Travel Time (s)		6.9		10.9			6.5				7.7	
Confl. Peds. (#/hr)	5		5	5	5	5	26	22	22			26
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%
Adj. Flow (vph)	94	22	6	11	22	44	6	56	11	56	61	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	122	0	0	77	0	0	73	0	0	273	0
Sign Control		Stop		Stop			Stop		Stop		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	41.8%
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
7: Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop		Stop			Stop		Stop		Stop	
Traffic Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Future Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	94	22	6	11	22	44	6	56	11	56	61	156
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	122	77	73	273								
Volume Left (vph)	94	11	6	56								
Volume Right (vph)	6	44	11	156								
Head (s)	0.12	-0.31	-0.07	-0.29								
Departure Headway (s)	4.9	4.5	4.6	4.2								
Degree Utilization, x	0.17	0.10	0.09	0.32								
Capacity (veh/h)	680	725	728	816								
Control Delay (s)	8.9	8.0	8.1	9.1								
Approach Delay (s)	8.9	8.0	8.1	9.1								
Approach LOS	A	A	A	A								

Intersection Summary	
Delay	8.8
Level of Service	A
Intersection Capacity Utilization	41.8%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	30	5	10	10	5	15	10	20	10	30	30	10
Traffic Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lane Width (m)	0	1766	0	0	1723	0	0	1795	0	0	1804	0
Satd. Flow (prot)	0.968			0.984			0.988				0.979	
Flt Permitted	0	1766	0	0	1723	0	0	1795	0	0	1804	0
Satd. Flow (perm)	30			30			30				30	
Link Speed (k/h)	31.6			39.2			55.2				54.0	
Link Distance (m)	3.8			4.7			6.6				6.5	
Travel Time (s)	13			45			45			15	15	
Confl. Peds. (#/hr)	0.88			0.88			0.88			0.88	0.88	
Confl. Bikes (#/hr)	0			0			0			0	0	
Peak Hour Factor	0.88			0.88			0.88			0.88	0.88	
Heavy Vehicles (%)	0%			0%			0%			0%	0%	
Adj. Flow (vph)	34			6			17			23	34	
Shared Lane Traffic (%)	0			0			0			0	0	
Lane Group Flow (vph)	0	51	0	0	34	0	0	45	0	0	79	0
Sign Control	Stop			Stop			Stop			Stop	Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	30.2%
Analysis Period (min)	15
ICU Level of Service A	

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	30	5	10	10	5	15	10	20	10	30	30	10
Sign Control	Stop			Stop			Stop			Stop	Stop	
Traffic Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Future Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Ideal Flow (vphpl)	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Peak Hour Factor	0.88			0.88			0.88			0.88	0.88	
Hourly flow rate (vph)	34			6			17			23	34	
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	51	34	45	79								
Volume Left (vph)	34	11	11	34								
Volume Right (vph)	11	17	11	11								
Head (s)	0.00	-0.24	-0.10	0.00								
Departure Headway (s)	4.2	4.0	4.1	4.1								
Degree Utilization, x	0.06	0.04	0.05	0.09								
Capacity (veh/ht)	827	870	854	849								
Control Delay (s)	7.5	7.1	7.3	7.5								
Approach Delay (s)	7.5	7.1	7.3	7.5								
Approach LOS	A	A	A	A								

Intersection Summary	
Delay	7.4
Level of Service	A
Intersection Capacity Utilization	30.2%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings
9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	55	5	0	40	25	45
Traffic Volume (vph)	55	5	0	40	25	45
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.1	4.1	4.5	4.5	4.5	4.5
Lane Width (m)	1851	0	0	2090	1908	0
Flt Permitted	0.956					
Satd. Flow (perm)	1851	0	0	2090	1908	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Confl. Peds. (#/hr)			8			8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	16%	0%	0%	0%	0%
Adj. Flow (vph)	62	6	0	45	28	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	45	79	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.7%					
ICU Level of Service	A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations	55	5	0	40	25	45
Traffic Volume (veh/h)	55	5	0	40	25	45
Future Volume (Veh/h)	55	5	0	40	25	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	62	6	0	45	28	51
Pedestrians	8					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	
Median type						
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	106	62	87			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	106	62	87			
iC, single (s)	6.4	6.4	4.1			
iC, 2 stage (s)						
IF (s)	3.5	3.4	2.2			
p0 queue free %	93	99	100			
qM capacity (veh/h)	887	958	1510			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	68	45	79			
Volume Left	62	0	0			
Volume Right	6	0	51			
vSH	883	1510	1700			
Volume to Capacity	0.08	0.00	0.05			
Queue Length 95th (m)	2.0	0.0	0.0			
Control Delay (s)	9.4	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.4	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	3.3					
Intersection Capacity Utilization	16.7%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	105	30	10	70	30	10
Traffic Volume (vph)	105	30	10	70	30	10
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.5	4.5	4.5	4.5	3.5	3.5
Lane Width (m)	2027	0	0	2042	1750	0
Satd. Flow (prot)	0.994	0.964				
Flt Permitted	2027	0	0	2042	1750	0
Satd. Flow (perm)	40			40	30	
Link Speed (k/h)	90.5			63.5	67.2	
Link Distance (m)	8.1			5.7	8.1	
Travel Time (s)						
Confl. Peds. (#/hr)	1	1	1	2	2	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%
Adj. Flow (vph)	114	33	11	76	33	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	147	0	0	87	44	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary	Other					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	26.4%					
ICU Level of Service	A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	105	30	10	70	30	10
Traffic Volume (veh/h)	105	30	10	70	30	10
Future Volume (Veh/h)	105	30	10	70	30	10
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	114	33	11	76	33	11
Pedestrians	2			17	1	
Lane Width (m)	4.5			4.5	3.5	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			2	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	311					
pX, platoon unblocked						
VC, conflicting volume		148			232	148
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCU, unblocked vol		148			232	148
IC, single (s)		4.1			6.4	6.2
IC, 2 stage (s)						
p0 queue free %		2.2			3.5	3.3
IF (s)		99			96	99
pM capacity (veh/h)		1445			753	887
Direction_Lane #	EB 1	WB 1	NB 1			
Volume Total	147	87	44			
Volume Left	0	11	33			
Volume Right	33	0	11			
cSH	1700	1445	783			
Volume to Capacity	0.09	0.01	0.06			
Queue Length 95th (m)	0.0	0.2	1.4			
Control Delay (s)	0.0	1.0	9.9			
Lane LOS	A	A	A			
Approach Delay (s)	0.0	1.0	9.9			
Approach LOS	A	A	A			
Intersection Summary	Other					
Average Delay	1.9					
Intersection Capacity Utilization	26.4%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-12-2023

Area Type:	EBT	EBR	WBL	WBT	NBL	NBR
Other						
Control Type: Unsignalized						
Intersection Capacity Utilization	38.8%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis
1: Hawkins Drive & Clair Road East

12-12-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			←←	←←	←←
Traffic Volume (veh/h)	390	15	75	355	15	70
Future Volume (Veh/h)	390	15	75	355	15	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Satd. Flow (prot)	3501	0	0	3446	1841	0
Flt Permitted				0.991	0.991	
Satd. Flow (perm)	3501	0	0	3446	1841	0
Link Speed (k/h)	60			60	50	
Link Distance (m)	160.7			130.4	64.6	
Travel Time (s)	9.6			7.8	4.7	
Confl. Peds. (#/hr)		6	6			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	1%	3%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Adj. Flow (vph)	406	16	78	370	16	73
Shared Lane Traffic (%)						
Lane Group Flow (vph)	422	0	0	448	89	0
Sign Control	Free	Stop	Free	Stop	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization	38.8%					
Analysis Period (min)	15					
ICU Level of Service A						

Lanes, Volumes, Timings

2: Hawkins Drive & Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	40	5	0	50	10	5	0	0	5	5	10
Future Volume (vph)	15	40	5	0	50	10	5	0	0	5	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	2042	0	0	1797	0	0	1986	0	0	1832	0
Flt Permitted	0.988						0.950				0.988	
Satd. Flow (perm)	0	2042	0	0	1797	0	0	1986	0	0	1832	0
Link Speed (k/h)	40				40		40				40	
Link Distance (m)	63.5				196.8		136.5				121.9	
Travel Time (s)	5.7				17.7		12.3				11.0	
Confl. Peds. (#/hr)	12		11		11		12		6		3	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	9%
Adj. Flow (vph)	16	43	5	0	54	11	5	0	0	5	5	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	0	0	65	0	0	5	0	0	21	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	22.8%
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

2: Hawkins Drive & Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	40	5	0	50	10	5	0	0	5	5	10
Future Volume (Veh/h)	15	40	5	0	50	10	5	0	0	5	5	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	16	43	5	0	54	11	5	0	0	5	5	11
Pedestrians	6				3		11				12	
Lane Width (m)	4.5				3.6		4.5				4.5	
Walking Speed (m/s)	1.2				1.2		1.2				1.2	
Percent Blockage	1				0		1				1	
Right turn flare (veh)												
Median type	None				None		None					
Median storage (veh)												
Upstream signal (m)	375											
pX, platoon unblocked												
vC, conflicting volume	77				59		168		166		162	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	77				59		168		166		162	
IC, single (s)	4.1				4.1		7.1		6.5		7.1	
IC, 2 stage (s)	2.2				2.2		3.5		4.0		3.5	
p0 queue free %	99				100		99		100		99	
p0 capacity (veh/h)	1515				1540		753		706		787	

Direction	Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total		64	65	5	21
Volume Left		16	0	5	5
Volume Right		5	11	0	11
cSH		1515	1540	753	839
Volume to Capacity		0.01	0.00	0.01	0.03
Queue Length 95th (m)		0.3	0.0	0.2	0.6
Control Delay (s)		1.9	0.0	9.8	9.4
Lane LOS		A	A	A	A
Approach Delay (s)		1.9	0.0	9.8	9.4
Approach LOS		A	A	A	A

Intersection Summary	
Average Delay	2.4
Intersection Capacity Utilization	22.8%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings
3: Poppy Drive East & Farley Drive

12-12-2023

	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group						
Lane Configurations						
Traffic Volume (vph)	25	65	60	15	15	35
Future Volume (vph)	25	65	60	15	15	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	2061	1957	0	1675	0
Flt Permitted	0.986				0.985	
Satd. Flow (perm)	0	2061	1957	0	1675	0
Link Speed (k/h)	40	40	40		30	
Link Distance (m)	220.5	90.5			55.2	
Travel Time (s)	19.8	8.1			6.6	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	5%	0%	0%	0%
Adj. Flow (vph)	27	71	66	16	16	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	98	82	0	54	0
Sign Control	Free	Free	Free	Stop	Stop	
Intersection Summary	Other					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	21.5%					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
3: Poppy Drive East & Farley Drive

12-12-2023

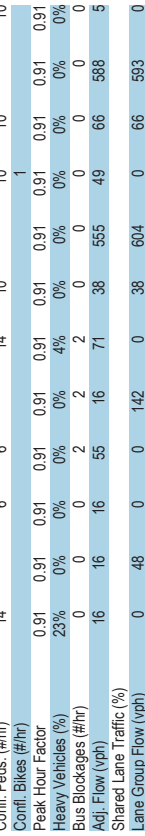
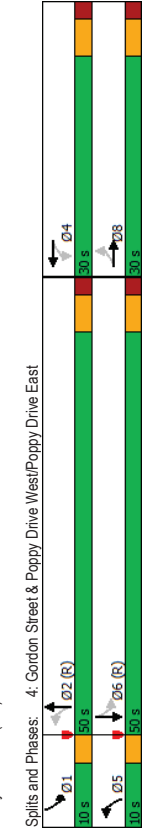
	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations						
Traffic Volume (veh/h)	25	65	60	15	15	35
Future Volume (Veh/h)	25	65	60	15	15	35
Sign Control	Free	Free	Free	Stop	Stop	
Grade	0%	0%	0%	0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	71	66	16	16	38
Pedestrians					15	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)			None	None		
Median type			None	None		
Median storage (veh)						
Upstream signal (m)		220				
pX platoon unblocked						
vC, conflicting volume	97				214	89
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	97				214	89
iC, single (s)	4.1				6.4	6.2
iC, 2 stage (s)	2.2				3.5	3.3
p0 queue free %	98				98	96
qM capacity (veh/h)	1491				755	963
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	98	82	54			
Volume Left	27	0	16			
Volume Right	0	16	38			
vSH	1491	1700	890			
Volume to Capacity	0.02	0.05	0.06			
Queue Length 95th (m)	0.4	0.0	1.5			
Control Delay (s)	2.2	0.0	9.3			
Lane LOS	A	A	A			
Approach Delay (s)	2.2	0.0	9.3			
Approach LOS	A	A	A			
Intersection Summary	Intersection Summary					
Average Delay	3.1					
Intersection Capacity Utilization	21.5%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
4: Gordon Street & Poppy Drive West/Poppy Drive East

Lanes, Volumes, Timings
4: Gordon Street & Poppy Drive West/Poppy Drive East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.9	24.9	24.9	28.2	28.2	28.2	4.3	8.9	2.9	5.4	5.4	5.4
LOS	C	C	C	C	C	C	A	A	A	A	A	A
Approach Delay	24.9	24.9	24.9	28.2	28.2	28.2	8.7	8.7	5.1	5.1	5.1	5.1
Approach LOS	C	C	C	C	C	C	A	A	A	A	A	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	15	15	15	15	15	15	65	35	505	45	60	535
Traffic Volume (vph)	15	15	15	15	15	15	65	35	505	45	60	535
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Satd. Flow (prot)	0	1758	0	0	1833	0	2046	3517	0	1745	3565	0
Flt Permitted	0.864	0.864	0.864	0.852	0.852	0.428	0.404	0.404	0.404	0.404	0.404	0.404
Satd. Flow (perm)	0	1537	0	0	1588	0	916	3517	0	737	3565	0
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	16	55	16	55	55	14	14	14	14	10	10	10
Link Speed (k/h)	40	40	40	40	40	60	60	60	60	60	60	60
Link Distance (m)	93.0	93.0	93.0	220.5	220.5	196.0	196.0	196.0	196.0	180.5	180.5	180.5
Travel Time (s)	8.4	6	6	6	6	14	10	10	10	10.8	10.8	10.8
Confl. Peds. (#/hr)	14	6	6	6	6	14	10	10	10	10	10	10
Confl. Bikes (#/hr)	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Peak Hour Factor	23%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	0	0	0	2	2	2	0	0	0	0	0	0
Bus Blockages (#/hr)	16	16	16	55	16	71	38	555	49	66	588	5
Adj. Flow (vph)	0	48	0	0	142	0	38	604	0	66	593	0
Shared Lane Traffic (%)	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA
Lane Group Flow (vph)	8	8	8	4	4	4	5	2	1	6	6	6
Turn Type	8	8	8	4	4	4	5	2	1	6	6	6
Protected Phases	8	8	8	4	4	4	5	2	1	6	6	6
Permitted Phases	8	8	8	4	4	4	5	2	1	6	6	6
Detector Phase	8	8	8	4	4	4	5	2	1	6	6	6
Switch Phase	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	10.0	10.0
Minimum Initial (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	35.0	30.0	35.0	35.0	35.0
Vehicle Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	35.0	30.0	35.0	35.0	35.0
Total Split (s)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	11.1%	55.6%	11.1%	55.6%	55.6%	55.6%
Total Split (%)	24.0	24.0	24.0	24.0	24.0	24.0	7.0	44.0	7.0	44.0	44.0	44.0
Maximum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0
Yellow Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0
Total Lost Time (s)	Lead/Lag	Lead/Lag	Lead/Lag	Lead/Lag	Lead/Lag	Lead/Lag	Lead/Lag	Lead/Lag	Lead/Lag	Lead/Lag	Lead/Lag	Lead/Lag
Lead/Lag	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	None	None	None	None	None	None	None	None	None	None	None	None
Recall Mode	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	17.0	17.0	17.0	17.0
Walk Time (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	12.0	12.0	12.0	12.0
Flash Don't Walk (s)	5	5	5	5	5	5	3	3	3	3	3	3
Pedestrian Calls (#/hr)	12.4	12.4	12.4	12.4	12.4	12.4	66.0	57.4	67.0	59.6	59.6	59.6
Act Effect Green (s)	0.14	0.14	0.14	0.14	0.14	0.14	0.73	0.64	0.74	0.66	0.66	0.66
Actuated g/C Ratio	0.21	0.21	0.21	0.53	0.53	0.53	0.05	0.27	0.10	0.25	0.25	0.25
v/C Ratio	24.9	24.9	24.9	28.2	28.2	28.2	4.3	8.9	2.9	5.4	5.4	5.4
Control Delay												



Phasings
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
8	8	4	4	5	2	1	6
Protected Phases							
Permitted Phases	8	4	2	2	6	6	6
Minimum Initial (s)	7.0	7.0	7.0	7.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	35.0	10.0	35.0
Total Split (s)	30.0	30.0	30.0	30.0	50.0	10.0	50.0
Total Split (%)	33.3%	33.3%	33.3%	11.1%	55.6%	11.1%	55.6%
Maximum Green (s)	24.0	24.0	24.0	7.0	44.0	7.0	44.0
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	5	5	5	5	3	3	3
90th %ile Green (s)	24.0	24.0	24.0	7.0	42.8	8.2	44.0
90th %ile Term Code	Ped	Ped	Ped	Min	Coord	Gap	Coord
70th %ile Green (s)	12.6	12.6	12.6	7.0	55.4	7.0	55.4
70th %ile Term Code	Hold	Hold	Gap	Min	Coord	Min	Coord
50th %ile Green (s)	10.3	10.3	10.3	7.0	57.7	7.0	57.7
50th %ile Term Code	Hold	Hold	Gap	Min	Coord	Min	Coord
30th %ile Green (s)	8.1	8.1	8.1	0.0	59.9	7.0	69.9
30th %ile Term Code	Hold	Hold	Gap	Skip	Coord	Min	Coord
10th %ile Green (s)	7.0	7.0	7.0	0.0	71.0	0.0	71.0
10th %ile Term Code	Hold	Hold	Min	Skip	Coord	Skip	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Control Type: Actuated-Coordinated

Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

EBT	WBT	NBL	NBT	SBL	SBT
48	142	38	604	66	593
Lane Group Flow (vph)					
v/c Ratio	0.21	0.53	0.05	0.27	0.10
Control Delay	24.9	28.2	4.3	8.9	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.9	28.2	4.3	8.9	2.9
Queue Length 50th (m)	5.4	15.1	1.2	21.8	0.9
Queue Length 95th (m)	13.1	28.0	5.8	46.7	6.1
Internal Link Dist (m)	69.0	196.5	91.0	172.0	156.5
Turn Bay Length (m)				70.0	
Base Capacity (vph)	421	463	759	2255	629
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.31	0.05	0.27	0.10

Intersection Summary

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	15	50	15	65	35	50.5	45	60	53.5	5
Future Volume (vph)	15	15	15	50	15	65	35	50.5	45	60	53.5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	6.0	6.0	6.0	3.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00	1.00	0.95
Fpb, ped/bikes	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.95	0.95	0.95	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.98	0.98	0.98	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Sat'd Flow (prot)	1750	1829	1829	2040	3516	1741	3564					
Flt Permitted	0.86	0.85	0.85	1.00	0.43	1.00	0.40	1.00				
Sat'd Flow (perm)	1538	1589	1589	919	3516	740	3564					
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	16	16	16	55	16	71	38	55.5	49	66	58.8	5
RTOR Reduction (vph)	0	14	0	0	47	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	34	0	0	95	0	38	599	0	66	593	0
Conf. Bikes (#/hr)	14	6	6	6	14	10	10	10	10	10	10	10
Conf. Bikes (#/hr)	23%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	0	0	0	2	2	2	0	0	0	0	0	0
Bus Blockages (#/hr)	Permi	NA	Permi	NA	NA	NA	NA	NA	NA	pm+pt	NA	NA
Turn Type	8	8	8	4	4	4	5	2	1	6	6	6
Protected Phases												
Permitted Phases												
Actuated Green, G (s)	12.4	12.4	12.4	61.0	56.8	64.2	58.4					
Effective Green, g (s)	12.4	12.4	12.4	61.0	56.8	64.2	58.4					
Actuated g/C Ratio	0.14	0.14	0.14	0.68	0.63	0.71	0.65					
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0	3.0	6.0					
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0					
Vehicle Extension (s)	211	218	218	675	2218	592	2312					
v/s Ratio Prot	0.02	0.06	0.06	0.00	0.00	0.00	0.00					
v/s Ratio Perm	0.16	0.43	0.43	0.04	0.04	0.04	0.07					
Uniform Delay, d1	34.2	35.6	35.6	4.8	7.4	3.9	6.7					
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.64					
Incremental Delay, d2	0.4	1.4	1.4	0.0	0.3	0.1	0.3					
Delay (s)	34.6	37.0	37.0	4.8	7.7	2.6	4.5					
Level of Service	C	D	D	A	A	A	A					
Approach Delay (s)	34.6	37.0	37.0	4.8	7.7	2.6	4.5					
Approach LOS	C	D	D	A	A	A	A					
Intersection Summary												
HCM 2000 Control Delay	9.8 HCM 2000 Level of Service A											
HCM 2000 Volume to Capacity ratio	0.28											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0											
Intersection Capacity Utilization	57.8% ICU Level of Service B											
Analysis Period (min)	15											
c Critical Lane Group												

EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	165	370	60	155	295	95	90	380	75	155	430
Future Volume (vph)	165	370	60	155	295	95	90	380	75	155	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	163.0	0.0
Storage Lanes	1	0	0	1	0	1	0	1	0	1	0
Taper Length (m)	7.5	3477	0	7.5	3374	0	1646	3451	0	1728	3466
Sat'd Flow (prot)	1745	3477	0	1711	3374	0	1646	3451	0	1728	3466
Flt Permitted	0.404	0.367	0.367	0.454			0.420				
Sat'd Flow (perm)	728	3477	0	652	3374	0	780	3451	0	757	3466
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sat'd Flow (RTOR)	21	51	51	27	27	27	27	27	27	27	27
Link Speed (k/h)	60	60	60	60	60	60	60	60	60	60	60
Link Distance (m)	288.6	217.7	217.7	180.5	180.5	180.5	180.5	180.5	180.5	180.5	180.5
Travel Time (s)	36	16.1	16.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1
Conf. Peds. (#/hr)	26	26	26	36	21	36	21	36	21	36	21
Conf. Bikes (#/hr)	3	3	3	3	3	3	3	3	3	3	3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%	0%	6%	0%	2%	1%
Adj. Flow (vph)	170	381	62	160	304	98	93	392	77	160	443
Shared Lane Traffic (%)	170	443	0	160	402	0	93	469	0	160	510
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA
Protected Phases	3	8	8	7	4	5	2	1	6	6	6
Permitted Phases	3	8	8	7	4	5	2	1	6	6	6
Switch Phase	3	8	8	7	4	5	2	1	6	6	6
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0
Total Split (s)	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0
Total Split (%)	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%
Maximum Green (s)	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0	7.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	Min	None	Min	None	Min	None	Min	None
Walk Time (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	12	12	12	7	7	7	7	7	7	7	7
Act Effct Green (s)	30.8	17.8	30.2	17.5	46.5	35.7	49.1	38.7	49.1	38.7	49.1
Actuated g/C Ratio	0.34	0.20	0.34	0.19	0.52	0.40	0.55	0.43	0.55	0.43	0.55
v/s Ratio	0.47	0.63	0.48	0.58	0.19	0.34	0.32	0.34	0.32	0.34	0.34
Control Delay	23.2	34.9	19.7	23.6	7.2	14.2	12.9	19.3	12.9	19.3	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	23.2	34.9		19.7	23.6		7.2	14.2		12.9	19.3	
LOS	C	C		B	C		A	B		B	B	
Approach Delay	31.6			22.5			13.0			17.7		
Approach LOS	C			C			B			B		

Intersection Summary
Area Type: Other

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green, Master Intersection

Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 21.3
Intersection Capacity Utilization 78.5%
Analysis Period (min) 15



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Protected Phases	3	8		4	7		4	5	2	1
Permitted Phases	8			7			2		6	
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0		10.0	34.0		10.0	35.0	10.0	35.0
Total Split (s)	10.0	35.0		10.0	35.0		10.0	35.0	10.0	35.0
Total Split (%)	11.1%	38.9%		11.1%	38.9%		11.1%	38.9%	11.1%	38.9%
Maximum Green (s)	7.0	29.0		7.0	29.0		7.0	29.0	7.0	29.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0
Minimum Gap (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0
Recall Mode	None	Min		None	Min		None	C-Min	None	C-Min
Walk Time (s)	9.0			9.0			9.0		10.0	
Flash Dont Walk (s)	19.0			19.0			19.0		19.0	
Pedestrian Calls (#/hr)	12			12			12		7	
90th %ile Green (s)	7.0	28.0		7.0	28.0		8.0	29.0	8.0	29.0
90th %ile Term Code	Max	Ped		Max	Ped		Max	Coord	Max	Coord
70th %ile Green (s)	13.2	18.1		12.7	17.6		9.0	30.1	11.1	32.2
70th %ile Term Code	Gap	Gap		Gap	Hold		Gap	Coord	Gap	Coord
50th %ile Green (s)	11.8	16.3		11.4	15.9		7.8	34.8	9.5	36.5
50th %ile Term Code	Gap	Gap		Gap	Hold		Gap	Coord	Gap	Coord
30th %ile Green (s)	10.3	14.5		10.0	14.2		7.0	39.4	8.1	40.5
30th %ile Term Code	Gap	Gap		Gap	Hold		Min	Coord	Gap	Coord
10th %ile Green (s)	7.9	11.9		7.7	11.7		0.0	45.4	7.0	55.4
10th %ile Term Code	Gap	Gap		Gap	Hold		Skip	Coord	Min	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	170	443	160	402	93	469	160	510
Lane Group Flow (vph)	0.47	0.63	0.48	0.58	0.19	0.34	0.32	0.34
v/c Ratio	23.2	34.9	19.7	23.6	7.2	14.2	12.9	19.3
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	23.2	34.9	19.7	23.6	7.2	14.2	12.9	19.3
Total Delay	21.1	38.1	15.5	25.0	3.2	30.9	13.2	31.7
Queue Length 50th (m)	31.2	45.2	m25.1	28.2	7.0	17.7	28.3	51.8
Queue Length 95th (m)	244.6			193.7		156.5		209.4
Internal Link Dist (m)	70.0		32.0		72.0		163.0	
Turn Bay Length (m)	362	1134	333	1121	477	1386	506	1502
Base Capacity (vph)	0	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.39	0.48	0.36	0.19	0.34	0.32	0.34
Intersection Summary								
m Volume for 95th percentile queue is metered by upstream signal.								

HCM Signalized Intersection Capacity Analysis
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←	
Traffic Volume (vph)	165	370	60	155	295	95	90	380	75	155	430	65	
Future Volume (vph)	165	370	60	155	295	95	90	380	75	155	430	65	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	
Total Lost time (s)	3.0	6.0	3.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	
Frbp. ped/bikes	1.00	0.99	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00	1.00	1.00	
Frbp. ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98	1.00	1.00	0.96	1.00	0.98	1.00	0.98	1.00	0.98	1.00	
Frt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1733	3477	1704	3375	1639	3463	1722	3467	1722	3467	1722	3467	
Flt Permitted	0.40	1.00	0.37	1.00	0.45	1.00	0.42	1.00	0.42	1.00	0.42	1.00	
Satd. Flow (perm)	737	3477	659	3375	783	3453	762	3467	762	3467	762	3467	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	170	381	62	160	304	98	93	392	77	160	443	67	
RTOR Reduction (vph)	0	17	0	0	41	0	16	0	0	12	0	0	
Lane Group Flow (vph)	170	426	0	160	361	0	93	453	0	160	498	0	
Conf. Peds. (#/hr)	36	26	26	26	36	21	19	19	19	19	19	21	
Conf. Bikes (#/hr)													
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	0%	4%	
Turn Type	pm+pt	NA	NA	pm+pt	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1		6	
Permitted Phases	8			4			2			6			
Actuated Green, G (s)	27.8	17.8	27.4	17.6	42.1	35.7	46.7	38.0		46.7		38.0	
Effective Green, g (s)	27.8	17.8	27.4	17.6	42.1	35.7	46.7	38.0		46.7		38.0	
Actuated g/C Ratio	0.31	0.20	0.30	0.20	0.47	0.40	0.52	0.42		0.52		0.42	
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0		3.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0		3.0	
Lane Grp Cap (vph)	338	687	314	660	427	1369	488	1463		488		1463	
v/s Ratio Prot	c0.06	c0.12	0.06	0.11	0.02	0.13	c0.03	c0.14		0.14		c0.14	
v/s Ratio Perm	0.10	0.10	0.10	0.10	0.09	0.10	0.14	0.14		0.14		0.14	
v/c Ratio	0.50	0.62	0.51	0.55	0.22	0.33	0.33	0.34		0.33		0.34	
Uniform Delay, d1	23.9	33.0	24.2	32.6	13.5	19.9	11.6	17.5		11.6		17.5	
Progression Factor	1.00	1.00	0.81	0.74	0.57	0.70	1.00	1.00		1.00		1.00	
Incremental Delay, d2	1.2	1.7	1.2	0.9	0.3	0.6	0.4	0.6		0.4		0.6	
Delay (s)	25.1	34.8	20.7	24.9	7.9	13.8	12.0	18.2		12.0		18.2	
Level of Service	C	C	C	C	A	B	B	B		B		B	
Approach Delay (s)	32.1		23.7		12.8		16.7			16.7		16.7	
Approach LOS	C		C		B		B			B		B	
Intersection Summary													
HCM 2000 Control Delay	21.4											HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44												
Actuated Cycle Length (s)	90.0											Sum of lost time (s)	18.0
Intersection Capacity Utilization	78.5%											ICU Level of Service	D
Analysis Period (min)	15												
c Critical Lane Group													

Lanes, Volumes, Timings
6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	115	295	150	35	275	65	125	70	35	80	65	140
Traffic Volume (vph)	115	295	150	35	275	65	125	70	35	80	65	140
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Lane Width (m)	131.0	0.0	64.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	0	0	0	0
Taper Length (m)	1767	3327	0	1785	3328	0	1705	1765	0	0	1949	0
Satd. Flow (prot)	0.500	0.476	0.423								0.866	
Flt Permitted	915	3327	0	888	3328	0	750	1765	0	0	1703	0
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	133	43	43	28	28	28	28	28	28	54	54	54
Link Speed (k/h)	60	60	60	30	30	30	30	30	30	40	40	40
Link Distance (m)	217.7	160.7	160.7	63.9	63.9	63.9	63.9	63.9	63.9	196.5	196.5	196.5
Travel Time (s)	13.1	9.6	9.6	7.7	7.7	7.7	7.7	7.7	7.7	17.7	17.7	17.7
Confl. Peds. (#/hr)	17	9	9	23	23	23	21	21	21	21	21	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	125	321	163	38	299	71	136	76	38	87	71	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	125	484	0	38	370	0	136	114	0	0	310	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6	6	8	8	8	8	4	4	4
Permitted Phases	2	6	6	6	6	8	8	8	8	4	4	4
Detector Phase	5	2	1	6	6	8	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	10.0	48.0	10.0	48.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	11.1%	53.3%	11.1%	53.3%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%
Maximum Green (s)	7.0	42.0	7.0	42.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0	11.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6	6
Act Effct Green (s)	60.4	52.0	57.0	46.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9
Actuated g/C Ratio	0.67	0.58	0.63	0.52	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
v/c Ratio	0.18	0.24	0.06	0.21	0.82	0.28	0.74	0.74	0.74	0.74	0.74	0.74
Control Delay	3.8	4.5	6.9	12.1	67.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.8	4.5	6.9	12.1	67.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5

Lanes, Volumes, Timings
6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A	A	B	B	B	C	C	C	D	D	D
Approach Delay	4.3	4.3	4.3	11.6	11.6	11.6	46.5	46.5	46.5	37.0	37.0	37.0
Approach LOS	A	A	A	B	B	B	D	D	D	D	D	D
Intersection Summary	Other											
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%). Referenced to phase 2:EBTL and 6:WBTL, Start of Green											
Natural Cycle:	80											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.82											
Intersection Signal Delay:	19.3											
Intersection LOS:	B											
Intersection Capacity Utilization:	68.0%											
Analysis Period (min):	15											

Splits and Phases: 6: Farley Drive & Clair Road East



Phasings
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	5	2	1	6	8	8	4	4
Protected Phases	2	5	6	1	8	8	4	4
Permitted Phases	2	5	6	1	8	8	4	4
Minimum Initial (s)	7.0	10.0	7.0	10.0	32.0	32.0	32.0	32.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0
Total Split (s)	10.0	48.0	10.0	48.0	32.0	32.0	32.0	32.0
Total Split (%)	11.1%	53.3%	11.1%	53.3%	35.6%	35.6%	35.6%	35.6%
Maximum Green (s)	7.0	42.0	7.0	42.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)	11.0	11.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	6	6	8	8	8	8	8	8
90th %ile Green (s)	10.7	38.9	7.4	35.6	28.7	28.7	28.7	28.7
90th %ile Term Code	Gap	Coord	Gap	Coord	Gap	Gap	Hold	Hold
70th %ile Green (s)	8.7	44.5	7.0	42.8	23.5	23.5	23.5	23.5
70th %ile Term Code	Gap	Coord	Min	Coord	Gap	Gap	Hold	Hold
50th %ile Green (s)	7.6	48.4	7.0	47.8	19.6	19.6	19.6	19.6
50th %ile Term Code	Gap	Coord	Min	Coord	Gap	Gap	Hold	Hold
30th %ile Green (s)	7.0	61.9	0.0	51.9	16.1	16.1	16.1	16.1
30th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Gap	Gap
10th %ile Green (s)	7.0	66.5	0.0	56.5	11.5	11.5	11.5	11.5
10th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Gap	Gap

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Control Type: Actuated-Coordinated

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	125	484	38	370	136	114	310
Lane Group Flow (vph)	0.18	0.24	0.06	0.21	0.82	0.28	0.74
v/c Ratio	3.8	4.5	6.9	12.1	67.5	21.5	37.0
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	3.8	4.5	6.9	12.1	67.5	21.5	37.0
Total Delay	3.8	4.5	6.9	12.1	67.5	21.5	37.0
Queue Length 50th (m)	1.9	1.0	2.0	15.3	23.8	12.9	44.0
Queue Length 95th (m)	21.0	36.4	6.8	31.1	41.1	23.9	63.8
Internal Link Dist (m)	131.0	193.7	64.0	136.7	20.0	39.9	172.5
Turn Bay Length (m)	691	2001	632	1802	221	539	540
Base Capacity (vph)	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.24	0.06	0.21	0.62	0.21	0.57

Intersection Summary

6: Farley Drive & Clair Road East

12-12-2023

7: Farley Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	115	295	150	35	275	65	125	70	35	80	65	140
Traffic Volume (vph)	115	295	150	35	275	65	125	70	35	80	65	140
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	3.5	4.8	4.8
Lane Width (m)	3.0	6.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.99	0.98	0.98
Lane Util. Factor	1.00	0.99	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	0.99
Frbp. ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.99	0.99
Frbp. ped/bikes	1.00	0.95	1.00	1.00	0.97	1.00	0.95	1.00	0.95	1.00	0.99	0.99
Frbp. protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.99	0.99
Satd. Flow (prot)	1765	3329	1779	3329	1684	1765	1684	1765	1684	1765	1838	1838
Frbp. permitted	0.50	1.00	0.48	1.00	0.48	1.00	0.42	1.00	0.42	1.00	0.87	0.87
Satd. Flow (perm)	923	3329	891	3329	749	1765	749	1765	749	1765	1702	1702
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	321	163	38	299	71	136	76	38	87	71	152
RTOR Reduction (vph)	0	58	0	0	21	0	0	22	0	0	42	0
Lane Group Flow (vph)	125	426	0	38	349	0	136	92	0	0	268	0
Conf. Peds. (#/hr)	17	9	9	9	17	23	21	21	21	21	23	23
Heavy Vehicles (%)	1%	1%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Turn Types	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA
Protected Phases	5	2	1	6	1	6	8	8	8	4	4	4
Permitted Phases	2	6	6	6	6	6	8	8	8	4	4	4
Actuated Green, G (s)	58.1	50.8	51.2	46.9	51.2	46.9	19.9	19.9	19.9	19.9	19.9	19.9
Effective Green, g (s)	58.1	50.8	51.2	46.9	51.2	46.9	19.9	19.9	19.9	19.9	19.9	19.9
Actuated G/C Ratio	0.65	0.56	0.57	0.52	0.57	0.52	0.22	0.22	0.22	0.22	0.22	0.22
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap. (vph)	671	1879	549	1734	549	1734	165	390	165	390	376	376
v/s Ratio Prot	c0.02	c0.13	0.00	0.10	0.00	0.10	0.05	0.05	0.05	0.05	0.16	0.16
v/s Ratio Perm	0.10	0.04	0.04	c0.18	0.04	c0.18	0.18	0.18	0.18	0.18	0.16	0.16
v/c Ratio	0.19	0.23	0.07	0.20	0.07	0.20	0.82	0.24	0.82	0.24	0.71	0.71
Uniform Delay, d1	6.1	9.8	8.5	11.5	8.5	11.5	33.4	25.8	33.4	25.8	32.4	32.4
Progression Factor	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.3	0.1	0.3	0.1	0.3	27.1	0.3	27.1	0.3	6.3	6.3
Delay (s)	3.2	5.1	8.6	11.8	8.6	11.8	60.5	29.1	60.5	29.1	38.7	38.7
Level of Service	A	A	A	B	A	B	E	C	E	C	D	D
Approach Delay (s)	4.7	11.5	11.5	11.5	11.5	11.5	46.2	11.5	46.2	11.5	38.7	38.7
Approach LOS	A	A	A	B	A	B	D	D	D	D	D	D
Intersection Summary	Other											
HCM 2000 Control Delay	19.7 HCM 2000 Level of Service											
HCM 2000 Volume to Capacity ratio	0.39 B											
Actuated Cycle Length (s)	90.0 Sum of lost time (s)											
Intersection Capacity Utilization	68.0% ICU Level of Service											
Analysis Period (min)	15 C											
c Critical Lane Group	15 C											

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	105	20	10	20	25	55	0	80	10	70	55	125
Traffic Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8
Satd. Flow (prot)	0	1789	0	1722	0	1722	0	1853	0	0	1979	0
Frbp. permitted	0.962	0.990	0.962	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.986	0.986
Satd. Flow (perm)	0	1789	0	1722	0	1722	0	1853	0	0	1979	0
Link Speed (k/h)	30	30	30	30	30	30	30	30	30	30	30	30
Link Distance (m)	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2
Travel Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Conf. Peds. (#/hr)	6	6	6	6	6	6	6	6	6	6	6	6
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	121	23	11	23	29	63	0	92	11	80	63	144
Shared Lane Traffic (%)	0	155	0	0	115	0	0	103	0	0	287	0
Lane Group Flow (vph)	0	155	0	0	115	0	0	103	0	0	287	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary	Other											
Area Type:	Unsignalized											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization	43.2%											
Analysis Period (min)	15											

7. Farley Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop											
Traffic Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Future Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	121	23	11	23	29	63	0	92	11	80	63	144
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	155	115	103	287								
Volume Left (vph)	121	23	0	80								
Volume Right (vph)	11	63	11	144								
Head (s)	0.11	-0.29	-0.06	-0.25								
Departure Headway (s)	5.1	4.8	4.9	4.5								
Degree Utilization, x	0.22	0.15	0.14	0.36								
Capacity (veh/h)	649	683	678	757								
Control Delay (s)	9.5	8.6	8.7	10.0								
Approach Delay (s)	A	A	A	A								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	9.4											
Level of Service	A											
Intersection Capacity Utilization	43.2%											
Analysis Period (min)	15											
	ICU Level of Service A											

8. Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	10	15	10	5	35	5	20	20	35	25	25
Future Volume (vph)	40	10	15	10	5	35	5	20	20	35	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1766	0	0	1683	0	0	1756	0	0	1769	0
Flt Permitted	0.970											
Satd. Flow (perm)	0	1766	0	0	1683	0	0	1756	0	0	1769	0
Link Speed (k/h)	30											
Link Distance (m)	31.6											
Travel Time (s)	3.8											
Confl. Peds. (#/hr)	5	49	49	5	43	5	43	8	8	8	43	43
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	49	12	18	12	6	43	6	24	24	43	30	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	79	0	0	61	0	0	54	0	0	103	0
Sign Control	Stop											
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	32.5%											
Analysis Period (min)	15											
	ICU Level of Service A											

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	40	10	15	10	5	35	5	20	20	20	35	25
Future Volume (vph)	40	10	15	10	5	35	5	20	20	20	35	25
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	49	12	18	12	6	43	6	24	24	24	43	30
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	79	61	54	103								
Volume Left (vph)	49	12	6	43								
Volume Right (vph)	18	43	24	30								
Head (s)	-0.01	-0.38	-0.24	-0.09								
Departure Headway (s)	4.3	3.9	4.1	4.2								
Degree Utilization, x	0.09	0.07	0.06	0.12								
Capacity (veh/h)	804	871	842	833								
Control Delay (s)	7.7	7.2	7.3	7.7								
Approach Delay (s)	7.7	7.2	7.3	7.7								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	7.5											
Level of Service	A											
Intersection Capacity Utilization	32.5%											
Analysis Period (min)	15											
	ICU Level of Service A											

9: Hawkins Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	65	0	5	25	20	70
Future Volume (vph)	65	0	5	25	20	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1905	0	0	2073	1871	0
Flt Permitted	0.950			0.992		
Satd. Flow (perm)	1905	0	0	2073	1871	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	80	0	6	31	25	86
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	0	37	111	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	15.9%					
Analysis Period (min)	15					
	ICU Level of Service A					

9: Hawkins Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Volume (veh/h)	65	0	5	25	20	70
Future Volume (Veh/h)	65	0	5	25	20	70
Sign Control	Stop	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	80	0	6	31	25	86
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)				None	None	None
Median type						
Median storage (veh)						
Upstream signal (m)						
pX platoon unblocked						
VC, conflicting volume	111	68	111			
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCU, unblocked vol	111	68	111			
IC, single (s)	6.4	6.2	4.1			
IC, 2 stage (s)						
p0 queue free %	3.5	3.3	2.2			
IF (s)	91	100	100			
CM capacity (veh/h)	887	1001	1492			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	80	37	111			
Volume Left	80	6	0			
Volume Right	0	0	86			
cSH	887	1492	1700			
Volume to Capacity	0.09	0.00	0.07			
Queue Length 95th (m)	2.4	0.1	0.0			
Control Delay (s)	9.5	1.2	0.0			
Lane LOS	A	A	A			
Approach Delay (s)	9.5	1.2	0.0			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay	3.5					
Intersection Capacity Utilization	15.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	W			4	4	W
Traffic Volume (vph)	60	20	5	65	20	15
Future Volume (vph)	60	20	5	65	20	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	2004	0	0	2025	1683	0
Flt Permitted				0.996	0.972	
Satd. Flow (perm)	2004	0	0	2025	1683	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	90.5			63.5	67.2	
Travel Time (s)	8.1			5.7	8.1	
Confl. Peds. (#/hr)		1	1		3	6
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	1%	0%	0%	3%	4%	0%
Adj. Flow (vph)	69	23	6	75	23	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	92	0	0	81	40	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	19.4%					
ICU Level of Service	A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←	←	←	←	←	←
Traffic Volume (veh/h)	60	20	5	65	20	15
Future Volume (Veh/h)	60	20	5	65	20	15
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	69	23	6	75	23	17
Pedestrians	3			6	1	
Lane Width (m)	4.5			4.5	3.5	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	311					
pX platoon unblocked				93	172	88
VC, conflicting volume						
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol				93	172	88
IC, single (s)				4.1	6.4	6.2
IC, 2 stage (s)				2.2	3.5	3.3
p0 queue free %				100	97	98
ICM capacity (veh/h)				1513	808	970
Direction_Lane #	EB 1	WB 1	NB 1			
Volume Total	92	81	40			
Volume Left	0	6	23			
Volume Right	23	0	17			
cSH	1700	1513	869			
Volume to Capacity	0.05	0.00	0.05			
Queue Length 95th (m)	0.0	0.1	1.2			
Control Delay (s)	0.0	0.6	9.3			
Lane LOS	A	A	A			
Approach Delay (s)	0.0	0.6	9.3			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay				2.0		
Intersection Capacity Utilization				19.4%		ICU Level of Service
Analysis Period (min)				15		A

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Volume (vph)	395	5	30	820	10	60
Future Volume (vph)	395	5	30	820	10	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)		7.5		34.33	7.5	
Satd. Flow (prot)	3376	0	1785	3433	1728	0
Flt Permitted			0.950		0.993	
Satd. Flow (perm)	3376	0	1785	3433	1728	0
Link Speed (k/h)	60		60		60	50
Link Distance (m)	160.7		130.4		64.6	
Travel Time (s)	9.6		7.8		4.7	
Adj. Flow (vph)	459	6	35	953	12	70
Lane Group Flow (vph)	465	0	35	953	82	0
Sign Control	Free		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	33.6%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Volume (veh/h)	395	5	30	820	10	60
Future Volume (Veh/h)	395	5	30	820	10	60
Sign Control	Free		Free		Stop	
Grade	0%		0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	459	6	35	953	12	70
Pedestrians					5	
Lane Width (m)					4.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)	None		None			
Median type					None	
Median storage (veh)						
Upstream signal (m)	161					
pX, platoon unblocked			0.98		0.98	0.98
vC, conflicting volume			470		1014	238
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			415		971	178
IC, single (s)			4.1		7.0	7.0
IC, 2 stage (s)						
p0 queue free %			2.2		3.6	3.4
gM capacity (veh/h)			1124		227	801
Direction, Lane #						
	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	306	159	35	476	476	82
Volume Left	0	0	35	0	0	12
Volume Right	0	6	0	0	0	70
cSH	1700	1700	1124	1700	1700	584
Volume to Capacity	0.18	0.09	0.03	0.28	0.28	0.14
Queue Length 95th (m)	0.0	0.0	0.8	0.0	0.0	3.9
Control Delay (s)	0.0	0.0	8.3	0.0	0.0	12.2
Lane LOS			A			B
Approach Delay (s)	0.0		0.3			12.2
Approach LOS			B			B
Intersection Summary						
Average Delay	0.8					
Intersection Capacity Utilization	33.6%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

2: Hawkins Drive & Poppy Drive East

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations												
Traffic Volume (vph)	45	25	0	0	65	10	10	10	5	0	5	15
Future Volume (vph)	45	25	0	0	65	10	10	10	5	0	5	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	1864	0	0	1804	0	0	2021	0	0	1608	0
Flt Permitted	0.969							0.967			0.988	
Satd. Flow (perm)	0	1864	0	0	1804	0	0	2021	0	0	1608	0
Link Speed (kph)		40			40			40			40	
Link Distance (m)		63.5			196.8			136.5			121.9	
Travel Time (s)		5.7			17.7			12.3			11.0	
Adj. Flow (vph)	57	32	0	0	82	13	13	6	0	6	0	19
Lane Group Flow (vph)	0	89	0	0	95	0	0	19	0	0	25	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary	Other											
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	25.9%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis

2: Hawkins Drive & Poppy Drive East

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations												
Traffic Volume (veh/h)	45	25	0	0	65	10	10	10	5	0	5	15
Future Volume (Veh/h)	45	25	0	0	65	10	10	10	5	0	5	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	57	32	0	0	82	13	13	6	0	6	0	19
Pedestrians		15			17			15			24	
Lane Width (m)		4.5			3.6			4.5			4.5	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		2			1			2			3	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)		37.5										
pX, platoon unblocked												
vC, conflicting volume		119			47			284		280	64	278
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol		119			47			284		280	64	278
iC, single (s)		4.2			4.1			7.1		6.5	6.2	7.1
iC, 2 stage (s)												
IF (s)		2.3			2.2			3.5		4.0	3.3	3.5
p0 queue free %		96			100			98		99	100	99
qM capacity (veh/h)		1391			1549			598		581	976	586
841												
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	89	95	19	25								
Volume Left	57	0	13	6								
Volume Right	0	13	0	19								
vSH	1391	1549	593	770								
Volume to Capacity	0.04	0.00	0.03	0.03								
Queue Length 95th (m)	1.0	0.0	0.8	0.8								
Control Delay (s)	5.0	0.0	11.3	9.8								
Lane LOS	A	B	B	A								
Approach Delay (s)	5.0	0.0	11.3	9.8								
Approach LOS	B	A	B	A								
Intersection Summary	Intersection Summary											
Average Delay	4.0											
Intersection Capacity Utilization	25.9%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings
3: Poppy Drive East & Farley Drive

12-12-2023

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	55	105	10	10	10
Future Volume (vph)	10	55	105	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	1890	1968	0	1547	0
Flt Permitted		0.992			0.976	
Satd. Flow (perm)	0	1890	1968	0	1547	0
Link Speed (kmh)		40	40		30	
Link Distance (m)		220.5	90.5		55.2	
Travel Time (s)		19.8	8.1		6.6	
Adj. Flow (vph)	11	60	115	11	11	11
Lane Group Flow (vph)	0	71	126	0	22	0
Sign Control		Free	Free		Stop	
Intersection Summary	Other					
Area Type:	Unsignalized					
Control Type:	Unsignalized					
Intersection Capacity Utilization	20.1%					
ICU Level of Service	A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
3: Poppy Drive East & Farley Drive

12-12-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	55	105	10	10	10
Future Volume (Veh/h)	10	55	105	10	10	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	11	60	115	11	11	11
Pedestrians					8	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		220				
pX platoon unblocked						
vC, conflicting volume	134				210	128
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	134				210	128
iC, single (s)	4.4				6.5	6.3
iC, 2 stage (s)						
p0 queue free %	2.5				3.6	3.4
IF (s)	99				99	99
pM capacity (veh/h)	1287				751	890
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	71	126	22			
Volume Left	11	0	11			
Volume Right	0	11	11			
vSH	1287	1700	814			
Volume to Capacity	0.01	0.07	0.03			
Queue Length 95th (m)	0.2	0.0	0.7			
Control Delay (s)	1.3	0.0	9.5			
Lane LOS	A		A			
Approach Delay (s)	1.3	0.0	9.5			
Approach LOS			A			
Intersection Summary	Other					
Average Delay	1.4					
Intersection Capacity Utilization	20.1%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
4: Gordon Street & Poppy Drive West/Poppy Drive East

Lanes, Volumes, Timings
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

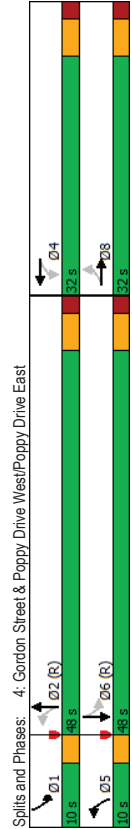
12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	20	10	15	35	5	85	20	810	45	25	630	25
Traffic Volume (vph)	20	10	15	35	5	85	20	810	45	25	630	25
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0
Storage Length	0	0	0	0	0	0	0	1	0	0	1	0
Taper Length (m)	7.5	0	0	7.5	0	0	7.5	0	0	7.5	0	0
Satd. Flow (prot)	0	1362	0	0	1742	0	1894	3289	0	1678	3358	0
Flt Permitted	0	0.779	0	0.890	0	0.384	0	0.297	0	0.297	0	0
Satd. Flow (perm)	0	1083	0	0	1572	0	764	3289	0	523	3358	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)	16	89		89		89		8		6		6
Link Speed (k/h)	40	40		40		40		60		60		60
Link Distance (m)	93.0	220.5		220.5		196.0		180.5		180.5		180.5
Travel Time (s)	8.4	19.8		19.8		11.8		10.8		10.8		10.8
Adj. Flow (vph)	21	10	16	36	5	89	21	844	47	26	656	26
Lane Group Flow (vph)	0	47	0	130	0	21	891	0	26	682	0	0
Turn Type	Perm	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA
Protected Phases	8	8	4	4	5	2	1	6				
Permitted Phases	8	8	4	4	5	2	1	6				
Detector Phase	8	8	4	4	5	2	1	6				
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	35.0	30.0	35.0	30.0	35.0	30.0	35.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	48.0	32.0	48.0	32.0	48.0	32.0	48.0
Total Split (%)	35.6%	35.6%	35.6%	35.6%	35.6%	53.3%	35.6%	53.3%	35.6%	53.3%	35.6%	53.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	42.0	26.0	42.0	26.0	42.0	26.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	17.0	8.0	17.0	8.0	17.0	8.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	12.0	16.0	12.0	16.0	12.0	16.0	12.0
Pedestrian Calls (#/hr)	1	1	1	1	1	3	1	3	1	3	1	3
Act Effct Green (s)	11.2	11.2	11.2	11.2	11.2	68.6	11.2	68.6	11.2	68.6	11.2	68.6
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.12	0.76	0.12	0.76	0.12	0.76	0.12	0.76
v/c Ratio	0.32	0.48	0.48	0.48	0.48	0.03	0.39	0.05	0.29	0.05	0.29	0.05
Control Delay	29.4	18.5	18.5	18.5	18.5	4.0	8.2	3.6	7.6	3.6	7.6	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	18.5	18.5	18.5	18.5	4.0	8.2	3.6	7.6	3.6	7.6	3.6
LOS	C	B	B	B	B	A	A	A	A	A	A	A
Approach Delay	29.4	18.5	18.5	18.5	18.5	8.1	8.1	7.5	7.5	7.5	7.5	7.5
Approach LOS	C	B	B	B	B	A	A	A	A	A	A	A

2028 FB AM
HBR - BA Group
Synchro 11 Report
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Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.48
Intersection Signal Delay:	9.2
Intersection Capacity Utilization:	44.2%
Intersection LOS:	A
Analysis Period (min):	15
ICU Level of Service:	A



2028 FB AM
HBR - BA Group
Synchro 11 Report
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Phasings
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
8	8	4	4	5	2	1	6
Protected Phases							
Permitted Phases	8	4	2	2	6	6	6
Minimum Initial (s)	7.0	7.0	7.0	7.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	35.0	10.0	35.0
Total Split (s)	32.0	32.0	32.0	32.0	48.0	10.0	48.0
Total Split (%)	35.6%	35.6%	35.6%	11.1%	53.3%	11.1%	53.3%
Maximum Green (s)	26.0	26.0	26.0	7.0	42.0	7.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	1	1	1	1	3	3	3
90th %ile Green (s)	24.0	24.0	24.0	7.0	44.0	7.0	44.0
90th %ile Term Code	Ped	Ped	Ped	Min	Coord	Min	Coord
70th %ile Green (s)	10.0	10.0	10.0	7.0	58.0	7.0	58.0
70th %ile Term Code	Hold	Hold	Gap	Min	Coord	Min	Coord
50th %ile Green (s)	7.8	7.8	7.8	0.0	70.2	0.0	70.2
50th %ile Term Code	Hold	Hold	Gap	Skip	Coord	Skip	Coord
30th %ile Green (s)	7.0	7.0	7.0	0.0	71.0	0.0	71.0
30th %ile Term Code	Hold	Hold	Min	Skip	Coord	Skip	Coord
10th %ile Green (s)	7.0	7.0	7.0	0.0	71.0	0.0	71.0
10th %ile Term Code	Hold	Hold	Min	Skip	Coord	Skip	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Control Type: Actuated-Coordinated

Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

EBT	WBT	NBL	NBT	SBL	SBT
47	130	21	891	26	682
Lane Group					
Lane Group Flow (vph)	0.32	0.48	0.03	0.39	0.05
v/c Ratio	23.4	18.5	4.0	8.2	3.6
Control Delay	0.0	0.0	0.0	0.0	0.0
Queue Delay	29.4	18.5	4.0	8.2	3.6
Total Delay	5.4	7.1	0.5	19.4	1.3
Queue Length 50th (m)	13.1	19.7	3.9	74.7	m2.3
Queue Length 95th (m)	69.0	196.5	172.0	488	156.5
Internal Link Dist (m)					
Turn Bay Length (m)	324	517	670	2299	488
Base Capacity (vph)	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.25	0.03	0.39	0.05

Intersection Summary
m Volume for 95th percentile queue is metered by upstream signal.

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

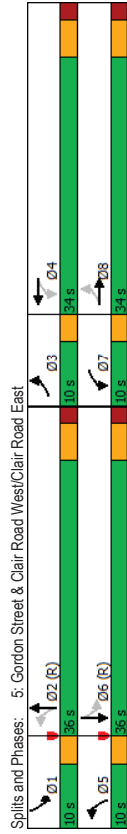
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	10	15	35	5	85	20	810	45	25	630	25
Future Volume (vph)	20	10	15	35	5	85	20	810	45	25	630	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	0.95
Frb. ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	0.95	0.91	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00
Flt Protected	0.98	0.98	0.99	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1360	1741	1741	1883	3290	1676	3359					
Flt Permitted	0.78	0.89	0.89	1.00	0.96	1.00	0.96	1.00	0.96	1.00	0.96	1.00
Satd. Flow (perm)	1083	1571	1571	1766	3290	524	3359					
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	14	16	36	5	88	21	844	47	26	656	26
RTOR Reduction (vph)	0	14	0	0	78	0	0	3	0	0	2	0
Lane Group Flow (vph)	0	33	0	0	52	0	21	888	0	26	680	0
Conf. Peds. (#/hr)	4	2	2	2	4	3	8	8	8	8	8	3
Heavy Vehicles (%)	75%	22%	0%	0%	50%	5%	8%	7%	16%	4%	5%	20%
Bus Blockages (#/hr)	0	0	0	2	2	0	0	0	0	0	0	0
Turn Type	Perm	NA	NA	Perm	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA
Protected Phases	8	NA	NA	4	4	5	2	5	2	1	6	6
Permitted Phases	8	NA	NA	4	4	5	2	5	2	1	6	6
Actuated Green, G (s)	11.2	11.2	11.2	11.2	63.8	61.0	63.8	61.0	63.8	61.0	61.0	61.0
Effective Green, g (s)	11.2	11.2	11.2	11.2	63.8	61.0	63.8	61.0	63.8	61.0	61.0	61.0
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.71	0.68	0.71	0.68	0.71	0.68	0.71	0.68
Clearance Time (s)	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	134			195		578	2229	407	2276			
v/s Ratio Prot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
v/s Ratio Perm	0.03	0.27	0.04	0.04	0.40	0.06	0.30	0.06	0.30	0.06	0.30	0.30
v/c Ratio	0.25	35.6	1.00	1.00	1.00	1.00	1.00	0.88	1.04	1.00	0.88	1.04
Uniform Delay, d1	1.0	0.7	0.7	0.7	0.0	0.5	0.1	0.3	0.3	0.3	0.3	0.3
Incremental Delay, d2	36.5	36.4	36.4	36.4	3.9	6.9	3.6	6.3	6.3	6.3	6.3	6.3
Level of Service	D	D	D	D	A	A	A	A	A	A	A	A
Approach Delay (s)	36.5	36.4	36.4	36.4	6.9	6.9	6.2	6.2	6.2	6.2	6.2	6.2
Approach LOS	D	D	D	D	A	A	A	A	A	A	A	A
Intersection Summary												
HCM 2000 Control Delay	9.5 HCM 2000 Level of Service											
HCM 2000 Volume to Capacity ratio	0.37											
Actuated Cycle Length (s)	90.0 Sum of lost time (s)											
Intersection Capacity Utilization	44.2% ICU Level of Service											
Analysis Period (min)	15											
c Critical Lane Group												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	340	105	185	700	90	180	595	125	70	395	200
Future Volume (vph)	145	340	105	185	700	90	180	595	125	70	395	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	163.0	0.0	0.0
Storage Lanes	1	0	0	1	0	1	0	1	0	1	0	0
Taper Length (m)	7.5	3218	0	1572	3379	0	1586	3214	0	1678	3215	0
Satd. Flow (prot)	1631	0.152	0.382	0.261								
Flt Permitted	259	3218	0	626	3379	0	434	3214	0	415	3215	0
Satd. Flow (perm)	47	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	Yes											
Satd. Flow (RTOR)	60	60	60	60	60	60	60	60	60	60	60	60
Link Speed (k/h)	268.6	217.7	180.5	233.4								
Link Distance (m)	16.1	13.1	10.8	14.0								
Travel Time (s)	161	378	117	206	778	100	200	661	139	78	439	222
Adj. Flow (vph)	161	495	0	206	878	0	200	800	0	78	661	0
Lane Group Flow (vph)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Turn Type	3	8	7	4	4	5	2	1	6	6	6	6
Protected Phases	8	8	7	4	4	5	2	1	6	6	6	6
Permitted Phases	3	8	7	4	4	5	2	1	6	6	6	6
Detector Phase	3	8	7	4	4	5	2	1	6	6	6	6
Switch Phase	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Initial (s)	10.0	34.0	10.0	34.0	10.0	34.0	10.0	34.0	10.0	34.0	10.0	34.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	34.0	10.0	34.0	10.0	34.0	10.0	34.0
Total Split (s)	11.1%	37.8%	11.1%	37.8%	11.1%	37.8%	11.1%	37.8%	11.1%	37.8%	11.1%	37.8%
Total Split (%)	7.0	28.0	7.0	28.0	7.0	28.0	7.0	28.0	7.0	28.0	7.0	28.0
Maximum Green (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Yellow Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Total Lost Time (s)	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead-Lag Optimize?	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	None	Min	None	Min	None	Min	None	Min	None	Min	None	Min
Recall Mode	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Walk Time (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Flash Dont Walk (s)	10	10	10	10	10	10	10	10	10	10	10	10
Pedestrian Calls (#/hr)	37.8	26.3	38.2	26.5	41.2	32.0	39.0	29.0	32.0	29.0	32.0	29.0
Act Effct Green (s)	0.42	0.29	0.42	0.29	0.46	0.36	0.43	0.32	0.43	0.32	0.43	0.32
Actuated g/C Ratio	0.68	0.51	0.58	0.87	0.66	0.69	0.68	0.60	0.68	0.60	0.68	0.60
v/c Ratio	32.5	25.5	27.1	44.4	28.7	23.3	28.7	23.3	28.7	23.3	28.7	23.3
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	32.5	25.5	27.1	44.4	28.7	23.3	28.7	23.3	28.7	23.3	28.7	23.3
Total Delay	C	C	C	D	C	D	C	C	C	B	C	C
LOS	27.2	41.1	24.4	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1	23.1
Approach Delay	C	C	C	D	C	D	C	C	C	B	C	C
Approach LOS	C	C	D	D	C	D	C	C	C	B	C	C

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.87
Intersection Signal Delay:	29.9
Intersection Capacity Utilization:	81.9%
Intersection LOS:	C
Analysis Period (min):	15
ICU Level of Service:	D



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Protected Phases	3	8	7	4	5	2	1
Permitted Phases	8	4	4	2	5	6	6
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	36.0	10.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	10	10	10	10	9	9	9
90th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0
90th %ile Term Code	Max	Ped	Max	Max	Max	Coord	Max
70th %ile Green (s)	7.2	28.0	7.2	28.0	7.0	29.8	7.0
70th %ile Term Code	Max	Hold	Max	Max	Max	Coord	Max
50th %ile Green (s)	9.5	28.0	9.5	28.0	7.0	27.5	7.0
50th %ile Term Code	Max	Hold	Max	Max	Max	Coord	Max
30th %ile Green (s)	10.2	26.0	10.7	26.5	10.9	28.3	7.0
30th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Coord	Min
10th %ile Green (s)	8.2	21.7	8.7	22.2	8.1	44.6	0.0
10th %ile Term Code	Gap	Hold	Gap	Gap	Gap	Coord	Skip

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	161	495	206	878	200	800	78	661
Lane Group Flow (vph)	0.68	0.51	0.58	0.87	0.66	0.69	0.28	0.60
v/c Ratio	32.5	25.5	27.1	44.4	28.7	23.3	16.1	23.9
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	32.5	25.5	27.1	44.4	28.7	23.3	16.1	23.9
Total Delay	16.1	34.3	19.8	62.7	25.1	20.5	7.9	45.2
Queue Length 50th (m)	#42.2	49.4	52.1	#111.0	#36.3	37.9	15.4	61.1
Queue Length 95th (m)		244.6		193.7		156.5		209.4
Internal Link Dist (m)	70.0		32.0		72.0		163.0	
Turn Bay Length (m)	237	1033	356	1062	301	1194	278	1166
Base Capacity (vph)	0	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.48	0.58	0.83	0.66	0.67	0.28	0.57

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	145	340	105	185	700	90	180	595	125
Traffic Volume (vph)	145	340	105	185	700	90	180	595	125
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.3	3.5	3.5	3.3	3.5	3.3	3.5	3.3	3.5
Lane Width	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0
Total Lost time (s)	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Lane Util. Factor	1.00	0.99	1.00	1.00	1.00	0.99	1.00	0.99	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Flt Protected	1630	3216	1567	3379	1685	3214	1676	3213	
Satd. Flow (prot)	0.15	1.00	0.38	1.00	0.26	1.00	0.24	1.00	
Flt Permitted	281	3216	631	3379	435	3214	416	3213	
Satd. Flow (perm)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Peak-hour factor, PHF	161	378	117	206	778	100	200	661	139
Adj. Flow (vph)	0	33	0	0	11	0	0	0	0
RTOR Reduction (vph)	161	462	0	206	867	0	200	781	0
Lane Group Flow (vph)	31	22	22	31	12	21	21	21	12
Confl. Bikes (#/hr)	7%	6%	7%	11%	3%	6%	10%	4%	21%
Heavy Vehicles (%)	0	0	0	0	0	0	0	0	3
Bus Blackages (#/hr)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt
Turn Type	3	8	7	4	5	2	1	6	6
Protected Phases	8		4		2				
Permitted Phases	34.7	26.3	35.1	26.5	39.5	31.5	34.7	29.1	29.1
Actuated Green, G (s)	34.7	26.3	35.1	26.5	39.5	31.5	34.7	29.1	29.1
Effective Green, g (s)	0.39	0.29	0.39	0.29	0.44	0.35	0.39	0.32	0.32
Actuated g/C Ratio	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	6.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	228	939	335	994	293	1124	238	1038	
Lane Grp Cap (vph)	c0.07	0.14	0.06	c0.26	c0.06	c0.24	0.02	0.18	
v/s Ratio Prot	0.21		0.18		0.24		0.11		
v/c Ratio Perm	0.71	0.49	0.61	0.87	0.68	0.69	0.33	0.57	
Uniform Delay, d1	20.7	26.3	19.5	30.1	17.2	25.1	18.4	25.2	
Progression Factor	1.00	1.00	1.24	1.17	1.05	0.80	1.00	1.00	
Incremental Delay, d2	9.6	0.4	3.1	7.9	6.1	3.4	0.8	2.3	
Delay (s)	30.2	26.7	27.1	43.3	24.1	23.5	19.2	27.5	
Level of Service	C	C	C	D	C	C	B	C	
Approach Delay (s)	27.6	C	40.2	D	23.6	C	26.6	C	
Approach LOS	C	C	D	D	C	C	C	C	

Intersection Summary	
HCM 2000 Control Delay	30.2 HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.78
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 18.0
Intersection Capacity Utilization	81.9% ICU Level of Service D
Analysis Period (min)	15
c Critical Lane Group	

Lanes, Volumes, Timings
6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	105	365	40	10	790	45	25	15	5	40	20	140
Future Volume (vph)	105	365	40	10	790	45	25	15	5	40	20	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Storage Length (m)	131.0	0.0	64.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	0	0	0	0
Taper Length (m)	7.5	3201	0	1785	3345	0	1639	1723	0	7.5	0	1826
Satd. Flow (prot)	1716	3201	0	1785	3345	0	1639	1723	0	7.5	0	1826
Flt Permitted	0.249	0.490	0.490	0.490	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
Satd. Flow (perm)	449	3201	0	915	3345	0	658	1723	0	0	1701	0
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	17	60	60	8	60	60	6	30	30	40	40	134
Link Speed (k/h)	217.7	160.7	160.7	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	196.5
Travel Time (s)	13.1	9.6	9.6	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	17.7
Adj. Flow (vph)	118	410	45	11	888	51	28	17	6	45	22	157
Lane Group Flow (vph)	118	455	0	11	939	0	28	23	0	224	0	224
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	5	2	1	6	8	8	8	8	8	4	4	4
Permitted Phases	2	6	6	8	8	8	8	8	8	4	4	4
Detector Phase	5	2	1	6	8	8	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	10.0	47.0	10.0	47.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Total Split (%)	11.1%	52.2%	11.1%	52.2%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Maximum Green (s)	7.0	41.0	7.0	41.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	3	3	3	3	3	3	3	3	3	3	3	3
Act Effect Green (s)	68.1	63.1	64.4	54.4	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
Actuated g/C Ratio	0.76	0.70	0.72	0.60	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
v/c Ratio	0.26	0.20	0.02	0.46	0.30	0.09	0.63	0.63	0.63	0.63	0.63	0.63
Control Delay	5.2	6.4	5.1	12.3	39.2	24.1	21.9	21.9	21.9	21.9	21.9	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.2	6.4	5.1	12.3	39.2	24.1	21.9	21.9	21.9	21.9	21.9	21.9
LOS	A	A	A	B	D	C	C	C	C	C	C	C
Approach Delay	6.1	12.2	6.1	12.2	32.4	32.4	32.4	32.4	32.4	32.4	32.4	32.4
Approach LOS	A	B	A	B	C	C	C	C	C	C	C	C

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

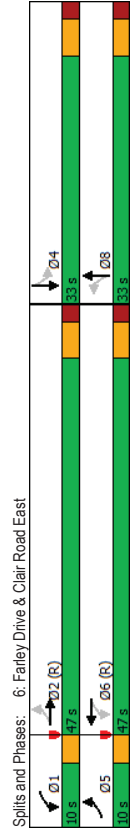
Maximum v/c Ratio: 0.63

Intersection Signal Delay: 12.1

Intersection LOS: B

ICU Level of Service B

Analysis Period (min) 15



Phasings
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	5	2	1	6	8	8	4	4
Protected Phases	2	1	6	8	8	8	4	4
Permitted Phases	2	10.0	7.0	10.0	7.0	7.0	7.0	7.0
Minimum Initial (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	36.0
Minimum Split (s)	10.0	47.0	10.0	47.0	33.0	33.0	33.0	33.0
Total Split (%)	11.1%	52.2%	11.1%	52.2%	36.7%	36.7%	36.7%	36.7%
Maximum Green (s)	7.0	41.0	7.0	41.0	27.0	27.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)	11.0	11.0	8.0	11.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	3	3	5	3	5	5	5	5
90th %ile Green (s)	10.2	42.0	7.0	38.8	26.0	26.0	26.0	26.0
90th %ile Term Code	Gap	Coord	Min	Coord	Ped	Ped	Ped	Ped
70th %ile Green (s)	7.6	64.8	0.0	54.2	13.2	13.2	13.2	13.2
70th %ile Term Code	Gap	Coord	Skip	Coord	Hold	Hold	Gap	Gap
50th %ile Green (s)	7.0	67.6	0.0	57.6	10.4	10.4	10.4	10.4
50th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Gap	Gap
30th %ile Green (s)	7.0	70.3	0.0	60.3	7.7	7.7	7.7	7.7
30th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Gap	Gap
10th %ile Green (s)	7.0	71.0	0.0	61.0	7.0	7.0	7.0	7.0
10th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Min	Min

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Control Type: Actuated-Coordinated

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	118	455	11	939	28	23	224
Lane Group Flow (vph)	0.26	0.20	0.02	0.46	0.30	0.09	0.63
v/c Ratio	5.2	6.4	5.1	12.3	39.2	24.1	21.9
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	5.2	6.4	5.1	12.3	39.2	24.1	21.9
Total Delay	m21.8	41.2	2.7	88.2	10.8	7.9	30.6
Queue Length 50th (m)	131.0	193.7	64.0	20.0	39.9	172.5	
Queue Length 95th (m)	449	2250	722	2040	197	521	604
Internal Link Dist (m)	0	0	0	0	0	0	0
Turn Bay Length (m)	0	0	0	0	0	0	0
Base Capacity (vph)	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.20	0.02	0.46	0.14	0.04	0.37

Intersection Summary
m Volume for 95th percentile queue is metered by upstream signal.

6: Farley Drive & Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																																																																	
Lane Configurations																																																																													
Traffic Volume (vph)	105	365	40	10	790	45	25	15	5	40	20	140																																																																	
Future Volume (vph)	105	365	40	10	790	45	25	15	5	40	20	140																																																																	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900																																																																	
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8																																																																	
Total Lost time (s)	3.0	6.0	3.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0																																																																	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.99	1.00	0.98	0.98																																																																	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00																																																																	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00																																																																	
Frt	1.00	0.99	1.00	0.95	1.00	0.95	1.00	0.96	1.00	0.96	0.91	0.99																																																																	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.96	1.00	0.99	0.99																																																																	
Sat'd. Flow (prot)	1715	3201	1779	3344	1625	1723	1625	1723	1723	1823	1823	1823																																																																	
Flt Permitted	0.25	1.00	0.49	1.00	0.91	1.00	0.39	1.00	0.92	1.00	0.92	1.00																																																																	
Sat'd. Flow (perm)	449	3201	449	917	3344	659	1723	1723	1702	1702	1702	1702																																																																	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89																																																																	
Adj. Flow (vph)	118	410	45	11	888	51	28	17	6	45	22	157																																																																	
RTOR Reduction (vph)	0	6	0	0	3	0	0	0	5	0	0	115																																																																	
Lane Group Flow (vph)	118	449	0	11	936	0	28	18	0	0	109	0																																																																	
Conf. Bikes (#/hr)	9	8	8	8	9	14	10	10	10	10	10	14																																																																	
Conf. Bikes (#/hr)	4	10%	5%	0%	6%	0%	4%	0%	16%	8%	0%	3%																																																																	
Heavy Vehicles (%)	pm+pt	NA	NA	pm+pt	NA	NA	NA	NA	NA	NA	NA	NA																																																																	
Turn Type	5	2		1	6		8				4																																																																		
Protected Phases	2			6			8				4																																																																		
Permitted Phases	65.1	60.7	55.7	54.3	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9																																																																	
Actuated Green, G (s)	65.1	60.7	55.7	54.3	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9																																																																	
Effective Green, g (s)	0.72	0.67	0.62	0.60	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14																																																																	
Actuated g/C Ratio	3.0	6.0	3.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0																																																																	
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0																																																																	
Vehicle Extension (s)	434	2158	580	2017	94	246	94	246	243	243	243	243																																																																	
Lane Grp Cap (vph)	c0.02	0.14	0.01	c0.02	0.01	c0.28	0.01	0.01	0.01	0.01	0.01	0.01																																																																	
v/s Ratio Prot	0.27	0.21	0.02	0.46	0.30	0.07	0.04	0.30	0.07	0.04	0.06	0.45																																																																	
v/s Ratio Perm	4.5	5.5	6.6	9.8	34.5	33.4	34.5	33.4	33.4	33.4	33.4	35.3																																																																	
Uniform Delay, d1	0.93	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																																																																	
Progression Factor	0.3	0.2	0.0	0.8	1.8	0.1	1.8	0.1	1.3	1.3	1.3	1.3																																																																	
Incremental Delay, d2	4.5	5.5	6.6	10.6	36.3	33.5	36.3	33.5	36.6	36.6	36.6	36.6																																																																	
Delay (s)	A	A	A	B	D	C	D	C	D	D	D	D																																																																	
Level of Service	5.3	5.3	5.3	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6																																																																	
Approach Delay (s)	A	A	A	B	B	B	B	B	B	B	B	B																																																																	
Approach LOS	A	A	A	B	B	B	B	B	B	B	B	B																																																																	
Intersection Summary	<table border="1"> <tr> <td>HCM 2000 Control Delay</td> <td>12.8</td> <td colspan="11">HCM 2000 Level of Service</td> </tr> <tr> <td>HCM 2000 Volume to Capacity ratio</td> <td>0.44</td> <td colspan="11">B</td> </tr> <tr> <td>Actuated Cycle Length (s)</td> <td>90.0</td> <td colspan="11">Sum of lost time (s)</td> </tr> <tr> <td>Intersection Capacity Utilization</td> <td>63.7%</td> <td colspan="11">15.0</td> </tr> <tr> <td>Analysis Period (min)</td> <td>15</td> <td colspan="11">ICU Level of Service</td> </tr> </table>												HCM 2000 Control Delay	12.8	HCM 2000 Level of Service											HCM 2000 Volume to Capacity ratio	0.44	B											Actuated Cycle Length (s)	90.0	Sum of lost time (s)											Intersection Capacity Utilization	63.7%	15.0											Analysis Period (min)	15	ICU Level of Service										
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service																																																																											
HCM 2000 Volume to Capacity ratio	0.44	B																																																																											
Actuated Cycle Length (s)	90.0	Sum of lost time (s)																																																																											
Intersection Capacity Utilization	63.7%	15.0																																																																											
Analysis Period (min)	15	ICU Level of Service																																																																											
Critical Lane Group	A																																																																												

7: Farley Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																																																		
Lane Configurations																																																														
Traffic Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40																																																		
Future Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40																																																		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900																																																		
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8																																																		
Total Lost time (s)	0	1760	0	0	1794	0	0	1773	0	0	1913	0																																																		
Lane Util. Factor	0.960											0.996																																																		
Frbp. ped/bikes	0	1760	0	0	1794	0	0	1773	0	0	1913	0																																																		
Frbp. ped/bikes	0	1760	0	0	1794	0	0	1773	0	0	1913	0																																																		
Frt	30	30	30	30	30	30	30	30	30	30	30	30																																																		
Flt Protected	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2																																																		
Sat'd. Flow (prot)	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9																																																		
Flt Permitted	34	7	0	0	14	7	0	21	0	7	27	55																																																		
Sat'd. Flow (perm)	0	41	0	0	21	0	0	21	0	0	89	0																																																		
Link Speed (k/h)	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop																																																		
Link Distance (m)	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop																																																		
Travel Time (s)	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop																																																		
Adj. Flow (vph)	34	7	0	0	14	7	0	21	0	7	27	55																																																		
Lane Group Flow (vph)	0	41	0	0	21	0	0	21	0	0	89	0																																																		
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop																																																		
Intersection Summary	<table border="1"> <tr> <td>Area Type:</td> <td colspan="11">Other</td> </tr> <tr> <td>Control Type:</td> <td colspan="11">Unsignalized</td> </tr> <tr> <td>Intersection Capacity Utilization</td> <td>26.1%</td> <td colspan="11">ICU Level of Service A</td> </tr> <tr> <td>Analysis Period (min)</td> <td>15</td> <td colspan="11"></td> </tr> </table>												Area Type:	Other											Control Type:	Unsignalized											Intersection Capacity Utilization	26.1%	ICU Level of Service A											Analysis Period (min)	15											
Area Type:	Other																																																													
Control Type:	Unsignalized																																																													
Intersection Capacity Utilization	26.1%	ICU Level of Service A																																																												
Analysis Period (min)	15																																																													

7. Farley Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Stop											
Sign Control	Stop											
Traffic Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Future Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	34	7	0	0	14	7	0	21	0	7	27	55
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	41	21	21	89								
Volume Left (vph)	34	0	0	7								
Volume Right (vph)	0	7	0	55								
Head (s)	0.21	-0.20	0.10	-0.31								
Departure Headway (s)	4.4	4.0	4.2	3.8								
Degree Utilization, x	0.05	0.02	0.02	0.09								
Capacity (veh/h)	802	877	826	939								
Control Delay (s)	7.6	7.1	7.3	7.1								
Approach Delay (s)	7.6	7.1	7.3	7.1								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	7.3											
Level of Service	A											
Intersection Capacity Utilization	26.1%											
Analysis Period (min)	15											
ICU Level of Service												
A												

8. Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Stop											
Traffic Volume (vph)	5	0	5	0	0	5	5	10	5	5	15	0
Future Volume (vph)	5	0	5	0	0	5	5	10	5	5	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1709	0	0	1625	0	0	1541	0	0	1776	0
Flt Permitted	0.976											
Satd. Flow (perm)	0	1709	0	0	1625	0	0	1541	0	0	1776	0
Link Speed (k/h)	30											
Link Distance (m)	31.6											
Travel Time (s)	3.8											
Adj. Flow (vph)	7	0	7	0	0	7	7	13	7	7	20	0
Lane Group Flow (vph)	0	14	0	0	7	0	0	27	0	0	27	0
Sign Control	Stop											
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	26.3%											
Analysis Period (min)	15											
ICU Level of Service A												

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	5	0	5	0	0	5	5	10	5	5	15	0
Future Volume (vph)	5	0	5	0	0	5	5	10	5	5	15	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	7	0	7	0	0	7	7	13	7	7	20	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	14	7	27	27								
Volume Left (vph)	7	0	7	7								
Volume Right (vph)	7	7	7	0								
Head (s)	-0.20	-0.60	0.17	0.13								
Departure Headway (s)	3.8	3.4	4.1	4.1								
Degree Utilization, x	0.01	0.01	0.03	0.03								
Capacity (veh/h)	922	1027	882	869								
Control Delay (s)	6.9	6.5	7.3	7.2								
Approach Delay (s)	A	A	A	A								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	7.1											
Level of Service	A											
Intersection Capacity Utilization	26.3%											
Analysis Period (min)	15											
	ICU Level of Service A											

9: Hawkins Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBR	NBL	NBR	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	0	0	65	20	15
Future Volume (vph)	5	0	0	65	20	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1642	0	0	1990	1971	0
Flt Permitted	0.950					
Satd. Flow (perm)	1642	0	0	1990	1971	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Adj. Flow (vph)	6	0	0	83	26	19
Lane Group Flow (vph)	6	0	0	83	45	0
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.6%					
Analysis Period (min)	15					
	ICU Level of Service A					

9: Hawkins Drive & Internal E-W Street

12-12-2023

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W		
Traffic Volume (veh/h)	5	0	0	65	20	15
Future Volume (Veh/h)	5	0	0	65	20	15
Sign Control	0%	Free	Free	0%	0%	0%
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	6	0	0	83	26	19
Pedestrians	12					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	None
Median type				None	None	None
Median storage (veh)						
Upstream signal (m)						
pX_pilotron unblocked						
VC_conflicting volume	130	48	57			
VC1_stage 1 conf vol						
VC2_stage 2 conf vol						
VCU_unblocked vol	130	48	57			
IC_single (s)	6.6	7.2	4.1			
IC_2 stage (s)	3.6	4.2	2.2			
p0_queue free %	99	100	100			
ICM capacity (veh/h)	822	792	1543			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	6	83	45			
Volume Left	6	0	0			
Volume Right	0	0	19			
cSH	822	1543	1700			
Volume to Capacity	0.01	0.00	0.03			
Queue Length 95th (m)	0.2	0.0	0.0			
Control Delay (s)	9.4	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.4	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.4					
Intersection Capacity Utilization	16.6%					
Analysis Period (min)	15					
ICU Level of Service	A					

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	W			W		
Traffic Volume (vph)	50	5	5	100	40	15
Future Volume (vph)	50	5	5	100	40	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	1831	0	0	1971	1721	0
Flt Permitted				0.997	0.965	
Satd. Flow (perm)	1831	0	0	1971	1721	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	90.5			63.5	67.2	
Travel Time (s)	8.1			5.7	8.1	
Adj. Flow (vph)	56	6	6	112	45	17
Lane Group Flow (vph)	62	0	0	118	62	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type	Other					
Control Type	Unsignalized					
Intersection Capacity Utilization	21.1%					
Analysis Period (min)	15					
ICU Level of Service A						

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Traffic Volume (veh/h)	50	5	5	100	40	15
Future Volume (Veh/h)	50	5	5	100	40	15
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	56	6	6	112	45	17
Pedestrians						
Lane Width (m)				4.5		
Walking Speed (m/s)				1.2		
Percent Blockage				1		
Right turn flare (veh)	None	None	None	None	None	None
Median type						
Median storage (veh)						
Upstream signal (m)	311					
pX platoon unblocked						
vC, conflicting volume		62			183	65
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCv, unblocked vol		62			183	65
IC, single (s)		4.1			6.4	6.2
IC, 2 stage (s)		2.2			3.5	3.3
p0 queue free %		100			94	98
CM capacity (veh/h)		1554			803	998
Direction_Lane #	EB 1	WB 1	NB 1			
Volume Total	62	118	62			
Volume Left	0	6	45			
Volume Right	6	0	17			
cSH	1700	1554	849			
Volume to Capacity	0.04	0.00	0.07			
Queue Length 95th (m)	0.0	0.1	1.9			
Control Delay (s)	0.0	0.4	9.6			
Lane LOS	A	A	A			
Approach Delay (s)	0.0	0.4	9.6			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay	2.6					
Intersection Capacity Utilization	21.1%					
ICU Level of Service	A					
Analysis Period (min)	15					

1: Hawkins Drive & Clair Road East

12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Traffic Volume (vph)	820	15	65	570	10	115
Future Volume (vph)	820	15	65	570	10	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)		7.5		7.5		7.5
Satd. Flow (prot)	3477	0	1785	3535	1824	0
Flt Permitted			0.950		0.996	
Satd. Flow (perm)	3477	0	1785	3535	1824	0
Link Speed (k/h)	60		60		50	
Link Distance (m)	160.7		130.4		64.6	
Travel Time (s)	9.6		7.8		4.7	
Adj. Flow (vph)	837	15	66	582	10	117
Lane Group Flow (vph)	852	0	66	582	127	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.4%					
ICU Level of Service	A					
Analysis Period (min)	15					

12-12-2023
 HCM Unsignalized Intersection Capacity Analysis
 1: Hawkins Drive & Clair Road East

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	820	15	65	570	10	115
Future Volume (Veh/h)	820	15	65	570	10	115
Sign Control	Free					
Grade	0%					
Peak Hour Factor	0.98					
Hourly flow rate (vph)	837	15	66	582	10	117
Pedestrians	1					
Lane Width (m)	3.5					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)	None					
Median type	None					
Median storage (veh)	161					
Upstream signal (m)	0.87					
pX platoon unblocked	865					
VC, conflicting volume	1282					
VC1, stage 1 conf vol	0					
VC2, stage 2 conf vol	0					
VCu, unblocked vol	554					
IC, single (s)	4.1					
ICr, 2 stage (s)	2.2					
p0 queue free %	93					
CM capacity (veh/h)	884					
Direction_Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	568	294	66	291	291	127
Volume Left	0	0	66	0	0	10
Volume Right	0	15	0	0	0	117
cSH	1700	1700	884	1700	1700	664
Volume to Capacity	0.33	0.17	0.07	0.17	0.17	0.19
Queue Length 95th (m)	0.0	0.0	1.9	0.0	0.0	5.6
Control Delay (s)	0.0	0.0	9.4	0.0	0.0	11.7
Lane LOS	A					
Approach Delay (s)	0.0					
Approach LOS	B					
Intersection Summary						
Average Delay	1.3					
Intersection Capacity Utilization	44.4%					
Analysis Period (min)	15					
ICU Level of Service A						

12-12-2023
 Lanes, Volumes, Timings
 2: Hawkins Drive & Poppy Drive East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	65	85	10	0	40	5	10	5	0	15	0	25
Future Volume (vph)	65	85	10	0	40	5	10	5	0	15	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	2030	0	0	1839	0	0	2023	0	0	1812	0
Flt Permitted	0.980						0.968				0.982	
Satd. Flow (perm)	0	2030	0	0	1839	0	0	2023	0	0	1812	0
Link Speed (k/h)	40											
Link Distance (m)	63.5											
Travel Time (s)	5.7											
Adj. Flow (vph)	77	101	12	0	48	6	12	6	0	18	0	30
Lane Group Flow (vph)	0	190	0	0	54	0	18	0	0	48	0	0
Sign Control	Free											
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	27.8%											
Analysis Period (min)	15											
ICU Level of Service A												

2: Hawkins Drive & Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	85	10	0	40	5	10	5	0	15	0	25
Future Volume (Veh/h)	65	85	10	0	40	5	10	5	0	15	0	25
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	77	101	12	0	48	6	12	6	0	18	0	30
Pedestrians	8			4			13			33		
Lane Width (m)	4.5			3.6			4.5			4.5		
Walking Speed (m/s)	1.2			1.2			1.2			1.2		
Percent Blockage	1			0			1			3		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	375											
pX platoon unblocked												
VC, conflicting volume	87			126			363	361	124	352	364	92
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCU, unblocked vol	87			126			363	361	124	352	364	92
IC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.3
IC, 2 stage (s)												
p0 queue free %	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
CM capacity (veh/h)	95			100			98	99	100	97	100	97
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	190	54	18	48								
Volume Left	77	0	12	18								
Volume Right	12	6	0	30								
cSH	1469	1453	520	723								
Volume to Capacity	0.05	0.00	0.03	0.07								
Queue Length 95th (m)	1.3	0.0	0.9	1.7								
Control Delay (s)	3.3	0.0	12.2	10.3								
Lane LOS	A	B	B	B								
Approach Delay (s)	3.3	0.0	12.2	10.3								
Approach LOS	B	B	B	B								
Intersection Summary												
Average Delay	4.3											
Intersection Capacity Utilization	27.8%											
Analysis Period (min)	15											
ICU Level of Service	A											

3: Poppy Drive East & Fanley Drive

12-12-2023

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	160	70	15	20	30
Future Volume (vph)	20	160	70	15	20	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	2077	1975	0	1692	0
Flt Permitted	0.994				0.980	
Satd. Flow (perm)	0	2077	1975	0	1692	0
Link Speed (k/h)	40	40	40	40	30	30
Link Distance (m)	220.5	90.5	90.5	55.2	55.2	55.2
Travel Time (s)	19.8	8.1	8.1	6.6	6.6	6.6
Adj. Flow (vph)	23	182	80	17	23	34
Lane Group Flow (vph)	0	205	97	0	57	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	26.2%					
Analysis Period (min)	15					
ICU Level of Service A						

3. Poppy Drive East & Farley Drive

12-12-2023

4. Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

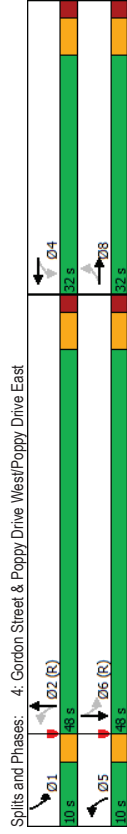
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	160	70	15	20	30
Future Volume (Veh/h)	20	160	70	15	20	30
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	23	182	80	17	23	34
Pedestrians					15	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)			None	None		
Median type						
Median storage (veh)						
Upstream signal (m)		220				
pX platoon unblocked						
VC, conflicting volume	112				332	104
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCU, unblocked vol	112				332	104
IC, single (s)	4.1				6.4	6.2
IC, 2 stage (s)						
p0 queue free %	2.2				3.5	3.3
CM capacity (veh/h)	98				96	96
Direction_Lane #	1472				649	945
Direction	EB 1	WB 1	SB 1			
Volume Total	205	97	57			
Volume Left	23	0	23			
Volume Right	0	17	34			
cSH	1472	1700	788			
Volume to Capacity	0.02	0.06	0.07			
Queue Length 95th (m)	0.4	0.0	1.8			
Control Delay (s)	1.0	0.0	9.9			
Lane LOS	A	A	A			
Approach Delay (s)	1.0	0.0	9.9			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay		2.1				
Intersection Capacity Utilization		26.2%				
Analysis Period (min)		15				
ICU Level of Service		A				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations											
Traffic Volume (vph)	30	25	30	60	20	60	50	835	110	80	765
Future Volume (vph)	30	25	30	60	20	60	50	835	110	80	765
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0
Taper Length (m)	7.5			7.5			7.5			7.5	
Satd. Flow (prot)	0	1774	0	0	1854	0	2006	3426	0	1728	3485
Flt Permitted		0.818		0.852			0.335			0.251	
Satd. Flow (perm)	0	1468	0	0	1611	0	705	3426	0	454	3485
Right Turn on Red		Yes		Yes			Yes		Yes		Yes
Satd. Flow (RTOR)	31			42			21			4	
Link Speed (k/h)	40			40			60			60	
Link Distance (m)	93.0			220.5			196.0			180.5	
Travel Time (s)	8.4			19.8			11.8			10.8	
Adj. Flow (vph)	31	26	31	61	20	61	51	852	112	82	781
Lane Group Flow (vph)	0	88	0	0	142	0	51	964	0	82	801
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	NA
Protected Phases	8		8	4		4	5		2	1	6
Permitted Phases	8		8	4		4	2		2	6	
Detector Phase	8		8	4		4	5		2	1	6
Switch Phase											
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	32.0	32.0	32.0	10.0	35.0	10.0	35.0	35.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	10.0	48.0	10.0	48.0	48.0
Total Split (%)	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	11.1%	53.3%	11.1%	53.3%	53.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0	7.0	42.0	7.0	42.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0			6.0			3.0	6.0	3.0	6.0	6.0
Lead/Lag							Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	12.0
Pedestrian Calls (#/hr)	6			6			6		6		6
Act Effct Green (s)	12.9			12.9			65.4	56.7	12.9	66.6	59.0
Actuated g/C Ratio	0.14			0.14			0.73	0.63	0.14	0.74	0.66
v/c Ratio	0.37			0.53			0.08	0.44	0.37	0.19	0.35
Control Delay	26.2			30.7			4.5	10.9	26.2	4.5	9.7
Queue Delay	0.0			0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	26.2			30.7			4.5	10.9	26.2	4.5	9.7
LOS	C			C			A	B	C	A	A
Approach Delay	26.2			30.7			10.6		26.2		9.2
Approach LOS	C			C			B		C		A

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.53
Intersection Signal Delay:	12.0
Intersection Capacity Utilization:	61.6%
Analysis Period (min):	15



4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Protected Phases	8	4	4	2	2	1	6
Permitted Phases	7.0	7.0	7.0	7.0	10.0	7.0	10.0
Minimum Initial (s)	30.0	30.0	30.0	30.0	10.0	35.0	35.0
Minimum Split (s)	32.0	32.0	32.0	32.0	10.0	48.0	48.0
Total Split (%)	35.6%	35.6%	35.6%	11.1%	53.3%	11.1%	53.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	7.0	42.0	7.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	2.0	0.0
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6
90th %ile Green (s)	24.0	24.0	24.0	24.0	7.3	42.3	8.7
90th %ile Term Code	Ped	Ped	Ped	Gap	Coord	Gap	Coord
70th %ile Green (s)	13.5	13.5	13.5	13.5	7.0	54.5	7.0
70th %ile Term Code	Hold	Hold	Gap	Min	Coord	Min	Coord
50th %ile Green (s)	11.2	11.2	11.2	11.2	7.0	56.8	7.0
50th %ile Term Code	Hold	Hold	Gap	Min	Coord	Min	Coord
30th %ile Green (s)	8.9	8.9	8.9	8.9	0.0	59.1	7.0
30th %ile Term Code	Hold	Hold	Gap	Gap	Skip	Coord	Min
10th %ile Green (s)	7.0	7.0	7.0	7.0	0.0	71.0	0.0
10th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Skip

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	88	142	51	964	82	801
Lane Group Flow (vph)	0.37	0.53	0.08	0.44	0.19	0.35
v/c Ratio	26.2	30.7	4.5	10.9	4.5	9.7
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	26.2	30.7	4.5	10.9	4.5	9.7
Total Delay	9.6	17.3	1.7	41.6	3.8	42.3
Queue Length 50th (m)	20.0	30.2	7.2	83.6	m4.8	m38.6
Queue Length 95th (m)	69.0	196.5	172.0	70.0	156.5	
Internal Link Dist (m)						
Turn Bay Length (m)	446	495	614	2167	439	2286
Base Capacity (vph)	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.29	0.08	0.44	0.19	0.35
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	30	25	30	60	20	60	50	835	110	80	765	20	
Future Volume (vph)	30	25	30	60	20	60	50	835	110	80	765	20	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	
Frbp. ped/bikes	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frbp. ped/bikes	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.95	0.95	0.95	0.94	0.94	0.94	1.00	0.98	1.00	0.95	1.00	1.00	
Flt Protected	0.98	0.98	0.98	0.98	0.98	0.98	0.95	1.00	0.98	0.95	1.00	1.00	
Satd. Flow (prot)	1765	1765	1765	1852	1852	1852	2004	3424	1725	3486	1725	3486	
Flt Permitted	0.82	0.82	0.82	0.85	0.85	0.85	0.34	1.00	0.25	1.00	0.25	1.00	
Satd. Flow (perm)	1468	1468	1468	1611	1611	1611	707	3424	457	3486	457	3486	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	31	26	31	61	20	61	51	862	112	82	781	20	
RTOR Reduction (vph)	0	27	0	0	36	0	0	8	0	0	0	1	
Lane Group Flow (vph)	0	61	0	0	106	0	51	956	0	82	800	0	
Conf. Peds. (#/hr)	18	3	3	3	3	3	18	6	17	17	6	6	
Heavy Vehicles (%)	18%	0%	0%	1%	0%	3%	2%	2%	1%	1%	2%	0%	
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0	
Turn Type	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA	
Protected Phases	8	8	8	4	4	4	5	2	2	1	6	6	
Permitted Phases	8	8	8	4	4	4	5	2	2	1	6	6	
Actuated Green, G (s)	12.9	12.9	12.9	12.9	12.9	12.9	60.5	56.2	63.7	57.8	57.8	57.8	
Effective Green, g (s)	12.9	12.9	12.9	12.9	12.9	12.9	60.5	56.2	63.7	57.8	57.8	57.8	
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.14	0.14	0.67	0.62	0.71	0.64	0.64	0.64	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	210	210	210	230	230	230	537	2138	406	2238	406	2238	
v/s Ratio Prot	0.04	0.04	0.04	0.07	0.07	0.07	0.00	0.28	0.01	0.23	0.01	0.23	
v/c Ratio Perm	0.29	0.29	0.29	0.46	0.46	0.46	0.09	0.45	0.20	0.36	0.20	0.36	
Uniform Delay, d1	34.5	34.5	34.5	35.4	35.4	35.4	5.0	8.8	4.5	7.5	4.5	7.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.06	1.06	
Incremental Delay, d2	0.8	0.8	0.8	1.5	1.5	1.5	0.1	0.7	0.2	0.3	0.2	0.3	
Delay (s)	35.2	35.2	35.2	36.8	36.8	36.8	5.1	9.5	4.5	8.3	4.5	8.3	
Level of Service	D	D	D	D	D	D	A	A	A	A	A	A	
Approach Delay (s)	35.2	35.2	35.2	36.8	36.8	36.8	9.3	9.3	7.9	7.9	7.9	7.9	
Approach LOS	D	D	D	D	D	D	A	A	A	A	A	A	
Intersection Summary													
HCM 2000 Control Delay	11.6											HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43												
Actuated Cycle Length (s)	90.0											Sum of lost time (s)	15.0
Intersection Capacity Utilization	61.6%											ICU Level of Service	B
Analysis Period (min)	15												
c Critical Lane Group													

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	250	775	125	180	440	105	145	605	165	180	610	130
Future Volume (vph)	250	775	125	180	440	105	145	605	165	180	610	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	163.0	0.0	163.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	7.5	3440	0	1711	3409	0	1646	3321	0	1728	3326	0
Satd. Flow (prot)	1745	3440	0	1711	3409	0	1646	3321	0	1728	3326	0
Flt Permitted	0.330			0.150			0.214			0.188		
Satd. Flow (perm)	598	3440	0	269	3409	0	369	3321	0	340	3326	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)	21			33			40			30		
Link Speed (km/h)	60			60			60			60		
Link Distance (m)	268.6			217.7			180.5			233.4		
Travel Time (s)	16.1			13.1			10.8			14.0		
Adj. Flow (vph)	258	799	129	186	454	108	149	624	170	186	629	134
Lane Group Flow (vph)	258	928	0	186	562	0	149	794	0	186	763	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8	7	4	5	2	1	6		6		
Permitted Phases	8			4			2			6		
Detector Phase	3	8	7	4	5	2	1	6		6		
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0	7.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (s)	11.0	34.0	11.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (%)	12.2%	37.8%	12.2%	37.8%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%
Maximum Green (s)	8.0	28.0	8.0	28.0	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	Min	None	Min	None	Min	None	Min	None	Min
Walk Time (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	11			11			9			9		
Act Effect Green (s)	39.7	26.9	39.1	26.6	38.3	27.9	39.0	28.2	39.0	28.2	39.0	28.2
Actuated g/C Ratio	0.44	0.30	0.43	0.30	0.43	0.31	0.43	0.31	0.43	0.31	0.43	0.31
v/c Ratio	0.66	0.89	0.69	0.55	0.57	0.75	0.70	0.72	0.70	0.72	0.70	0.72
Control Delay	25.9	41.2	35.9	29.7	23.8	24.0	32.0	30.9	32.0	30.9	32.0	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	41.2	35.9	29.7	23.8	24.0	32.0	30.9	32.0	30.9	32.0	30.9
LOS	C	D	D	C	C	C	C	C	C	C	C	C
Approach Delay	37.8			31.3			23.9			31.1		
Approach LOS	D			C			C			C		

2028 FB PM
HBR - BA Group
Synchro 11 Report
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2028 FB PM
HBR - BA Group
Synchro 11 Report
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Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	7	4	2	6			
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (s)	11.0	34.0	11.0	34.0	10.0	35.0	10.0	35.0
Total Split (%)	12.2%	37.8%	12.2%	37.8%	11.1%	38.9%	11.1%	38.9%
Maximum Green (s)	8.0	28.0	8.0	28.0	7.0	29.0	7.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	11		11		9		9	
90th %ile Green (s)	8.0	28.0	8.0	28.0	7.0	29.0	7.0	29.0
90th %ile Term Code	Max	Max	Max	Ped	Max	Coord	Max	Coord
70th %ile Green (s)	8.3	28.0	8.3	28.0	7.0	28.7	7.0	28.7
70th %ile Term Code	Max	Max	Max	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	10.5	28.0	10.5	28.0	7.0	26.5	7.0	26.5
50th %ile Term Code	Max	Max	Max	Hold	Max	Coord	Max	Coord
30th %ile Green (s)	12.1	27.4	11.4	26.7	9.0	23.4	9.8	24.2
30th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Max	Coord
10th %ile Green (s)	9.9	23.2	9.1	22.4	7.0	31.8	7.9	32.7
10th %ile Term Code	Gap	Gap	Gap	Hold	Min	Coord	Gap	Coord

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
 Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	258	928	186	562	149	794	186	763
v/c Ratio	0.66	0.89	0.69	0.55	0.57	0.75	0.70	0.72
Control Delay	25.9	41.2	35.9	29.7	23.8	24.0	32.0	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	41.2	35.9	29.7	23.8	24.0	32.0	30.9
Queue Length 50th (m)	26.6	81.1	22.2	49.8	17.3	67.5	20.6	63.6
Queue Length 95th (m)	#50.8	#115.1	#49.1	57.7	26.3	26.1	#39.7	82.0
Internal Link Dist (m)		244.6		193.7		156.5		209.4
Turn Bay Length (m)	70.0		32.0		72.0		163.0	
Base Capacity (vph)	388	1084	268	1083	261	1117	266	1119
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.86	0.69	0.52	0.57	0.71	0.70	0.68

Intersection Summary
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

5. Gordon Street & Clair Road West/Clair Road East

12-12-2023

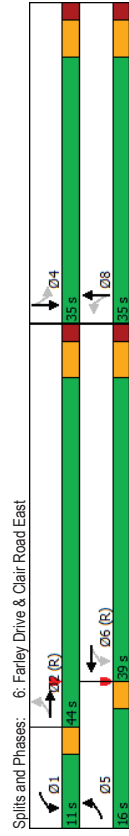
6. Farley Drive & Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	775	125	180	440	105	145	605	165	180	610	130
Future Volume (vph)	250	775	125	180	440	105	145	605	165	180	610	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Frbp. ped/bikes	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.98	1.00	1.00	0.97	1.00	0.97	1.00	0.97	1.00	0.97	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1738	3440	1710	3410	1710	3410	1645	3321	1726	3325	1726	3325
Flt Permitted	0.33	1.00	0.15	1.00	0.15	1.00	0.21	1.00	0.19	1.00	0.19	1.00
Satd. Flow (perm)	604	3440	271	3410	271	3410	370	3321	342	3325	342	3325
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	268	799	129	186	454	108	149	624	170	186	629	134
RTOR Reduction (vph)	0	15	0	0	23	0	0	28	0	0	21	0
Lane Group Flow (vph)	258	913	0	186	539	0	149	766	0	186	742	0
Confl. Bikes (#/hr)	34	21	21	34	21	34	18	26	26	34	26	18
Heavy Vehicles (%)	0%	1%	2%	2%	1%	0%	0%	2%	5%	1%	2%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2					1	6
Permitted Phases	8	26	4	26	2	26					6	28
Actuated Green, G (s)	36.7	26.9	36.1	26.6	35.3	27.9					35.9	28.2
Effective Green, g (s)	36.7	26.9	36.1	26.6	35.3	27.9					35.9	28.2
Actuated g/C Ratio	0.41	0.30	0.40	0.30	0.39	0.31					0.40	0.31
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0					3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0					3.0	3.0
Lane Grp Cap (vph)	369	1028	260	1007	249	1029					254	1041
v/s Ratio Prot	0.08	0.27	0.08	0.16	0.05	0.23					0.06	0.22
v/s Ratio Perm	0.21	0.89	0.21	0.54	0.18	0.74					0.23	0.71
Uniform Delay, d1	18.9	30.1	20.3	26.5	19.2	27.9					19.6	27.3
Progression Factor	1.00	1.00	1.42	1.12	1.01	0.72					1.00	1.00
Incremental Delay, d2	5.7	9.5	8.6	0.5	3.5	4.5					10.4	4.2
Delay (s)	24.6	39.6	37.4	30.2	23.0	24.6					30.0	31.5
Level of Service	C	D	D	C	C	C					C	C
Approach Delay (s)	36.3			32.0		24.4					31.2	
Approach LOS	D			C		C					C	
Intersection Summary												
HCM 2000 Control Delay				31.2				HCM 2000 Level of Service				C
HCM 2000 Volume to Capacity ratio				0.79								
Actuated Cycle Length (s)				90.0				Sum of lost time (s)				18.0
Intersection Capacity Utilization				86.5%				ICU Level of Service				E
Analysis Period (min)				15								
C Critical Lane Group												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	725	145	45	475	70	85	55	30	80	65	145
Future Volume (vph)	200	725	145	45	475	70	85	55	30	80	65	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Storage Length (m)	131.0		0.0	64.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0
Storage Lanes	1		0	1		0	1		0	0	0	0
Taper Length (m)	7.5		7.5		3415		7.5		7.5		7.5	
Satd. Flow (prot)	1785	3372	0	1785	3415	0	1705	1753	0	0	1916	0
Flt Permitted	0.389		0.299		0.411		0.411		0.411		0.877	
Satd. Flow (perm)	722	3372	0	559	3415	0	723	1753	0	0	1692	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)	32		20			20			31		59	
Link Speed (k/h)	60		60		60.7		63.9		63.9		60	
Link Distance (m)	217.7		160.7		160.7		160.7		160.7		160.7	
Travel Time (s)	13.1		9.6		9.6		7.7		7.7		17.7	
Adj. Flow (vph)	208	755	151	47	495	73	89	57	31	83	68	151
Lane Group Flow (vph)	208	906	0	47	568	0	89	88	0	0	302	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	2	1	6	2	8				4	
Permitted Phases	2			6		6	8				4	
Detector Phase	5	2		1	6	6	8				4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0				7.0	
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0				32.0	
Total Split (s)	16.0	44.0	11.0	39.0	35.0	35.0	35.0				35.0	
Total Split (%)	17.9%	48.9%	12.2%	43.3%	38.9%	38.9%	38.9%				38.9%	
Maximum Green (s)	13.0	38.0	8.0	33.0	29.0	29.0	29.0				29.0	
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0				4.0	
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0				2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0				6.0	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead				Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes				Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0				3.0	
Recall Mode	None	C-Min	None	C-Min	None	C-Min	None				None	
Walk Time (s)	11.0		11.0		11.0		8.0		8.0		8.0	
Flash Dont Walk (#/hr)	18.0		18.0		18.0		18.0		18.0		18.0	
Pedestrian Calls (#/hr)	7		7		7		12		12		12	
Act Effct Green (s)	62.3	53.3	57.0	46.9	18.6	18.6	18.6				18.6	
Actuated g/C Ratio	0.69	0.59	0.63	0.52	0.21	0.21	0.21				0.21	
v/c Ratio	0.34	0.45	0.10	0.32	0.60	0.23	0.76				0.76	
Control Delay	3.9	8.3	6.6	14.0	47.7	19.9	39.1				39.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0	
Total Delay	3.9	8.3	6.6	14.0	47.7	19.9	39.1				39.1	
LOS	A	A	A	B	D	B	D				D	
Approach Delay	7.5			13.5			33.9				39.1	
Approach LOS	A			B			C				D	

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	15.6
Intersection Capacity Utilization:	73.5%
Analysis Period (min):	15



	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	5	2	1	6	8	8	4
Protected Phases	2	6	1	6	8	8	4
Permitted Phases	2	10.0	7.0	10.0	7.0	7.0	7.0
Minimum Initial (s)	7.0	10.0	7.0	10.0	35.0	32.0	32.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0
Total Split (s)	16.0	44.0	11.0	39.0	35.0	35.0	35.0
Total Split (%)	17.8%	48.9%	12.2%	43.3%	38.9%	38.9%	38.9%
Maximum Green (s)	13.0	38.0	8.0	33.0	29.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None
Walk Time (s)	11.0	11.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	7	7	12	12	12	12	12
90th %ile Green (s)	13.2	41.4	7.6	35.8	26.0	26.0	26.0
90th %ile Term Code	Gap	Coord	Gap	Coord	Ped	Ped	Ped
70th %ile Green (s)	10.8	46.2	7.0	42.6	21.8	21.8	21.8
70th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Gap
50th %ile Green (s)	9.1	49.4	7.0	47.3	18.6	18.6	18.6
50th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Gap
30th %ile Green (s)	7.9	62.5	0.0	51.6	15.5	15.5	15.5
30th %ile Term Code	Gap	Coord	Skip	Coord	Hold	Hold	Gap
10th %ile Green (s)	7.0	67.1	0.0	57.1	10.9	10.9	10.9
10th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Gap
Intersection Summary							
Cycle Length:	90						
Actuated Cycle Length:	90						
Offset:	0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green						
Control Type:	Actuated-Coordinated						

6: Farley Drive & Clair Road East

12-12-2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	208	906	47	568	89	88	302	
v/c Ratio	0.34	0.45	0.10	0.32	0.60	0.23	0.76	
Control Delay	3.9	8.3	6.6	14.0	47.7	19.9	39.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	3.9	8.3	6.6	14.0	47.7	19.9	39.1	
Queue Length 50th (m)	6.2	15.4	2.3	28.0	14.8	8.6	42.0	
Queue Length 95th (m)	m59.6	m88.2	7.3	51.1	28.2	19.0	64.2	
Internal Link Dist (m)		193.7		136.7		39.9	172.5	
Turn Bay Length (m)	131.0		64.0		20.0			
Base Capacity (vph)	655	2010	468	1788	232	585	585	
Starvation Cap Reductn	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.32	0.45	0.10	0.32	0.38	0.15	0.52	

Intersection Summary
 m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
 6: Farley Drive & Clair Road East

12-12-2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	725	145	45	475	70	85	55	30	80	65	145
Future Volume (vph)	200	725	145	45	475	70	85	55	30	80	65	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Total Lost time (s)	3.0	6.0	3.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.99	1.00	0.95	1.00	0.95	1.00	1.00	0.99	1.00	0.98	1.00
Frbp. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	0.98	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.98	1.00	0.99	1.00
Frt	0.95	1.00	0.97	1.00	0.98	1.00	0.95	1.00	0.95	1.00	0.99	1.00
Flt Protected	1777	3373		1782	3414		1673	1754		1904		
Satd. Flow (prot)	0.39	1.00	0.30	0.30	1.00	0.41	1.00	0.88		1.00		
Flt Permitted	728	3373		561	3414		724	1754		1692		
Satd. Flow (perm)	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Peak-hour factor, PHF	208	755	151	47	495	73	89	57	31	83	68	151
Adj. Flow (vph)	0	13	0	0	10	0	25	0	0	0	47	0
RTOR Reduction (vph)	208	893	0	47	558	0	89	63	0	0	255	0
Lane Group Flow (vph)	20	13	13	20	36	29	29	29	29	29	29	36
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	0%	0%	2%	1%	0%

Turn Type	pm+pt	NA	pm+pt	NA	NA	NA	NA	NA	NA	NA	NA	NA
Protected Phases	5	2		1	6		8		4			4
Permitted Phases	2		6				8		4			
Actuated Green, G (s)	59.4	52.1	51.1	46.8	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6
Effective Green, g (s)	59.4	52.1	51.1	46.8	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6
Actuated g/C Ratio	0.66	0.58	0.57	0.52	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Clearance Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	592	1952	376	1775	149	362	349					
v/s Ratio Prot	c0.04	c0.26	0.01	0.16								
v/s Ratio Perm	0.19	0.46	0.12	0.31	0.12	0.18						
v/c Ratio	0.35	0.46	0.12	0.31	0.60	0.18						
Uniform Delay, d1	6.1	10.9	8.7	12.4	32.3	29.4						
Progression Factor	0.52	0.66	1.00	1.00	1.00	1.00						
Incremental Delay, d2	0.2	0.4	0.2	0.5	6.3	0.2						
Delay (s)	3.4	7.6	8.8	12.9	38.6	29.6						
Level of Service	A	A	A	B	D	C						
Approach Delay (s)	6.8		12.6		34.1							
Approach LOS	A		B		C							

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	150
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
7: Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Future Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1797	0	0	1722	0	0	1834	0	0	1956	0
Flt Permitted	0.963			0.993			0.996				0.990	
Satd. Flow (perm)	0	1797	0	0	1722	0	0	1834	0	0	1956	0
Link Speed (k/h)	30											
Link Distance (m)	57.2											
Travel Time (s)	6.9											
Adj. Flow (vph)	94	22	6	11	22	44	6	56	11	56	61	156
Lane Group Flow (vph)	0	122	0	0	77	0	0	73	0	0	273	0
Sign Control	Stop											
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	41.8%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis
7: Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop											
Traffic Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Future Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Peak Hour Factor	0.90											
Hourly flow rate (vph)	94	22	6	11	22	44	6	56	11	56	61	156
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	122	77	73	273								
Volume Left (vph)	94	11	6	56								
Volume Right (vph)	6	44	11	156								
Head (s)	0.12	-0.31	-0.07	-0.29								
Departure Headway (s)	4.9	4.5	4.6	4.2								
Degree Utilization, x	0.17	0.10	0.09	0.32								
Capacity (veh/h)	680	725	728	816								
Control Delay (s)	8.9	8.0	8.1	9.1								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	8.8											
Level of Service	A											
Intersection Capacity Utilization	41.8%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations												
Traffic Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Future Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1766	0	0	1723	0	0	1795	0	0	1804	0
Flt Permitted	0.968			0.984			0.988				0.979	
Satd. Flow (perm)	0	1766	0	0	1723	0	0	1795	0	0	1804	0
Link Speed (k/h)	30			30			30				30	
Link Distance (m)	31.6			39.2			55.2				54.0	
Travel Time (s)	3.8			4.7			6.6				6.5	
Adj. Flow (vph)	34	6	11	11	6	17	11	23	11	34	34	11
Lane Group Flow (vph)	0	51	0	0	34	0	0	45	0	0	79	0
Sign Control		Stop		Stop			Stop			Stop		Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization:	30.2%											
Analysis Period (min):	15											
ICU Level of Service:	A											

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations												
Sign Control		Stop		Stop			Stop			Stop		Stop
Traffic Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Future Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	34	6	11	11	6	17	11	23	11	34	34	11
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	51	34	45	79								
Volume Left (vph)	34	11	11	34								
Volume Right (vph)	11	17	11	11								
Head (s)	0.00	-0.24	-0.10	0.00								
Departure Headway (s)	4.2	4.0	4.1	4.1								
Degree Utilization, x	0.06	0.04	0.05	0.09								
Capacity (veh/h)	827	870	854	849								
Control Delay (s)	7.5	7.1	7.3	7.5								
Approach Delay (s)	7.5	7.1	7.3	7.5								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	7.4											
Level of Service	A											
Intersection Capacity Utilization	30.2%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings

9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations						
Traffic Volume (vph)	55	5	0	70	35	45
Future Volume (vph)	55	5	0	70	35	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1851	0	0	2090	1929	0
Flt Permitted	0.956					
Satd. Flow (perm)	1851	0	0	2090	1929	0
Link Speed (kph)	30			40	40	
Link Distance (m)	71.6		121.9	64.6		
Travel Time (s)	8.6		11.0	5.8		
Adj. Flow (vph)	62	6	0	79	39	51
Lane Group Flow (vph)	68	0	0	79	90	0
Sign Control	Stop			Free	Free	
Intersection Summary	Other					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations						
Traffic Volume (veh/h)	55	5	0	70	35	45
Future Volume (Veh/h)	55	5	0	70	35	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	62	6	0	79	39	51
Pedestrians	8					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						
pX platoon unblocked	152	72	98			
vC, conflicting volume						
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	152	72	98			
IC, single (s)	6.4	6.4	4.1			
IC, 2 stage (s)						
IF (s)	3.5	3.4	2.2			
p0 queue free %	83	99	100			
qM capacity (veh/h)	836	945	1496			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	68	79	90			
Volume Left	62	0	0			
Volume Right	6	0	51			
vSH	845	1496	1700			
Volume to Capacity	0.08	0.00	0.05			
Queue Length 95th (m)	2.1	0.0	0.0			
Control Delay (s)	9.6	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.6	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	2.8					
Intersection Capacity Utilization	17.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	135	30	10	80	30	10
Traffic Volume (vph)	135	30	10	80	30	10
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.5	4.5	4.5	4.5	3.5	3.5
Lane Width (m)	2038	0	0	2041	1750	0
Satd. Flow (prot)	0.994	0.964				
Flt Permitted	2038	0	0	2041	1750	0
Satd. Flow (perm)	40			40	30	
Link Speed (k/h)	90.5			63.5	67.2	
Link Distance (m)	8.1			5.7	8.1	
Travel Time (s)	147	33	11	87	33	11
Adj. Flow (vph)	180	0	0	98	44	0
Lane Group Flow (vph)	Free	Free	Free	Stop	Stop	Stop
Sign Control						
Intersection Summary	Other					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	26.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	135	30	10	80	30	10
Traffic Volume (veh/h)	135	30	10	80	30	10
Future Volume (Veh/h)	135	30	10	80	30	10
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	147	33	11	87	33	11
Pedestrians	2			17	1	
Lane Width (m)	4.5			4.5	3.5	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			2	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	311					
pK, platoon unblocked				181	276	182
vC, conflicting volume						
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol				181	276	182
iC, single (s)				4.1	6.4	6.2
iC, 2 stage (s)						
p0 queue free %				2.2	3.5	3.3
IF (s)				99	95	99
pM capacity (veh/h)				1405	711	850
Direction_Lane #	EB 1	WB 1	NB 1			
Volume Total	180	98	44			
Volume Left	0	11	33			
Volume Right	33	0	11			
cSH	1700	1405	741			
Volume to Capacity	0.11	0.01	0.06			
Queue Length 95th (m)	0.0	0.2	1.5			
Control Delay (s)	0.0	0.9	10.2			
Lane LOS	A	A	B			
Approach Delay (s)	0.0	0.9	10.2			
Approach LOS		B	B			
Intersection Summary	Intersection Summary					
Average Delay	1.7					
Intersection Capacity Utilization	26.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑
Traffic Volume (vph)	545	15	90	495	15	95
Future Volume (vph)	545	15	90	495	15	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)		7.5		7.5		7.5
Satd. Flow (prot)	3507	0	1767	3466	1835	0
Flt Permitted			0.950		0.993	
Satd. Flow (perm)	3507	0	1767	3466	1835	0
Link Speed (k/h)	60		60		60	50
Link Distance (m)	160.7		130.4		64.6	
Travel Time (s)	9.6		7.8		4.7	
Adj. Flow (vph)	588	16	94	516	16	99
Lane Group Flow (vph)	584	0	94	516	115	0
Sign Control	Free	Stop	Free	Stop	Free	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	37.2%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis

1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑
Traffic Volume (veh/h)	545	15	90	495	15	95
Future Volume (Veh/h)	545	15	90	495	15	95
Sign Control	Free	Stop	Free	Stop	Free	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	588	16	94	516	16	99
Pedestrians					6	
Lane Width (m)					4.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)	None			None		
Median type						
Median storage (veh)						
Upstream signal (m)	161					
pX, platoon unblocked			0.95		0.95	0.95
vC, conflicting volume		590			1028	298
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
IC, unblocked vol		464			925	156
IC, single (s)		4.1			6.8	6.9
IC, 2 stage (s)		2.2			3.5	3.3
p0 queue free %		91			93	88
GM capacity (veh/h)		1040			234	819
Direction_Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	379	205	94	258	258	115
Volume Left	0	0	94	0	0	16
Volume Right	0	16	0	0	0	99
cSH	1700	1700	1040	1700	1700	607
Volume to Capacity	0.22	0.12	0.09	0.15	0.15	0.19
Queue Length 95th (m)	0.0	0.0	2.4	0.0	0.0	5.5
Control Delay (s)	0.0	0.0	8.8	0.0	0.0	12.3
Lane LOS			A			B
Approach Delay (s)	0.0		1.4			12.3
Approach LOS			B			B
Intersection Summary						
Average Delay	1.7					
Intersection Capacity Utilization	37.2%					
Analysis Period (min)	15					
ICU Level of Service A						

Lanes, Volumes, Timings

2: Hawkins Drive & Poppy Drive East

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	45	40	5	0	50	10	5	0	0	5	5	20
Traffic Volume (veh/h)	45	40	5	0	50	10	5	0	0	5	5	20
Future Volume (veh/h)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Lane Width (m)	0	2026	0	0	1797	0	0	1986	0	0	1771	0
Satd. Flow (prot)	0.976						0.950				0.992	
Satd. Flow (perm)	0	2026	0	0	1797	0	0	1986	0	0	1771	0
Link Speed (k/h)	40				40		40				40	
Link Distance (m)	63.5				196.8		136.5				121.9	
Travel Time (s)	5.7				17.7		12.3				11.0	
Adj. Flow (vph)	48	43	5	0	54	11	5	0	0	5	5	22
Lane Group Flow (vph)	0	96	0	0	65	0	0	5	0	0	32	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary	Other											
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	24.0%											
ICU Level of Service A	ICU Level of Service A											
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

2: Hawkins Drive & Poppy Drive East

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	45	40	5	0	50	10	5	0	0	5	5	20
Traffic Volume (veh/h)	45	40	5	0	50	10	5	0	0	5	5	20
Future Volume (veh/h)	45	40	5	0	50	10	5	0	0	5	5	20
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	48	43	5	0	54	11	5	0	0	5	5	22
Pedestrians	6				3		11				12	
Lane Width (m)	4.5				3.6		4.5				4.5	
Walking Speed (m/s)	1.2				1.2		1.2				1.2	
Percent Blockage	1				0		1				1	
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)	37.5											
pX, platoon unblocked												
VC, conflicting volume	77				59		242		230	60	216	226
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCu, unblocked vol	77				59		242		230	60	216	226
IC, single (s)	4.1				4.1		7.1		6.5	6.2	7.1	6.5
IC, 2 stage (s)												
IF (s)	2.2				2.2		3.5		4.0	3.3	3.5	4.0
p0 queue free %	97				100		99		100	100	99	99
qM capacity (veh/h)	1515				1540		654		637	998	703	639
946												
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	96	65	5	32								
Volume Left	48	0	5	5								
Volume Right	5	11	0	22								
cSH	1515	1540	654	838								
Volume to Capacity	0.03	0.00	0.01	0.04								
Queue Length 95th (m)	0.8	0.0	0.2	1.0								
Control Delay (s)	3.8	0.0	10.5	9.5								
Lane LOS	A	B	B	A								
Approach Delay (s)	3.8	0.0	10.5	9.5								
Approach LOS	B	A	B	A								
Intersection Summary	Intersection Summary											
Average Delay	3.7											
Intersection Capacity Utilization	24.0%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings
3: Poppy Drive East & Farley Drive

12-12-2023

	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group						
Lane Configurations						
Traffic Volume (vph)	25	95	70	15	15	35
Future Volume (vph)	25	95	70	15	15	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	2069	1961	0	1675	0
Flt Permitted	0.990				0.985	
Satd. Flow (perm)	0	2069	1961	0	1675	0
Link Speed (k/h)		40	40		30	
Link Distance (m)		220.5	90.5		55.2	
Travel Time (s)		19.8	8.1		6.6	
Adj. Flow (vph)	27	104	77	16	16	38
Lane Group Flow (vph)	0	131	93	0	54	0
Sign Control		Free	Free		Stop	
Intersection Summary	Other					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	23.0%					
ICU Level of Service A						
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
3: Poppy Drive East & Farley Drive

12-12-2023

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations						
Traffic Volume (veh/h)	25	95	70	15	15	35
Future Volume (Veh/h)	25	95	70	15	15	35
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	104	77	16	16	38
Pedestrians					15	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)		220				
pX, platoon unblocked						
VC, conflicting volume	108				258	100
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	108				258	100
IC, single (s)	4.1				6.4	6.2
IC, 2 stage (s)	2.2				3.5	3.3
p0 queue free %	98				98	96
pM capacity (veh/h)	1477				713	949
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	131	93	54			
Volume Left	27	0	16			
Volume Right	0	16	38			
cSH	1477	1700	864			
Volume to Capacity	0.02	0.05	0.06			
Queue Length 95th (m)	0.4	0.0	1.6			
Control Delay (s)	1.7	0.0	9.4			
Lane LOS	A	A	A			
Approach Delay (s)	1.7	0.0	9.4			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay	2.6					
Intersection Capacity Utilization	23.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
4: Gordon Street & Poppy Drive West/Poppy Drive East

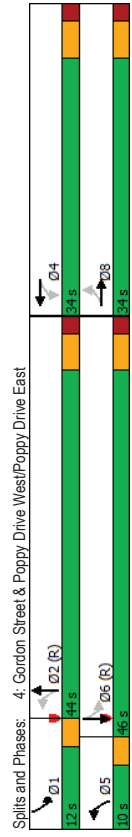
12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	25	15	20	60	20	65	40	660	75	60	735	15
Traffic Volume (vph)	25	15	20	60	20	65	40	660	75	60	735	15
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0
Storage Length (m)	0	0	0	0	0	0	0	1	0	0	1	0
Taper Length (m)	7.5	0	0	7.5	0	7.5	0	0	0	7.5	0	0
Satd. Flow (prot)	0	1719	0	0	1853	0	2046	3503	0	1745	3557	0
Flt Permitted	0	0.789	0	0.838	0	0.325	0	0.310	0	0.310	0	0
Satd. Flow (perm)	0	1377	0	0	1581	0	697	3503	0	567	3557	0
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	22	47	47	47	47	47	17	17	17	3	3	3
Link Speed (k/h)	40	40	40	40	40	40	60	60	60	60	60	60
Link Distance (m)	93.0	220.5	220.5	220.5	220.5	220.5	196.0	196.0	196.0	180.5	180.5	180.5
Travel Time (s)	8.4	19.8	19.8	19.8	19.8	19.8	11.8	11.8	11.8	10.8	10.8	10.8
Adj. Flow (vph)	27	16	22	66	22	71	44	725	82	66	808	16
Lane Group Flow (vph)	0	65	0	0	159	0	44	807	0	66	824	0
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8	8	4	4	4	4	5	2	1	6	6	6
Permitted Phases	8	8	4	4	4	4	5	2	1	6	6	6
Detector Phase	8	8	4	4	4	4	5	2	1	6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	35.0	35.0	35.0	30.0	35.0	35.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0	34.0	44.0	44.0	44.0	42.0	46.0	46.0
Total Split (%)	37.8%	37.8%	37.8%	37.8%	37.8%	37.8%	48.9%	48.9%	48.9%	46.1%	51.1%	51.1%
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0	28.0	38.0	38.0	38.0	30.0	40.0	40.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	17.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	12.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	3	3	3	3	3	3
Act Effect Green (s)	13.3	13.3	13.3	13.3	13.3	13.3	56.5	56.5	56.5	66.1	58.7	58.7
Act Effect Green Ratio	0.15	0.15	0.15	0.15	0.15	0.15	0.63	0.63	0.63	0.73	0.65	0.65
v/c Ratio	0.29	0.58	0.58	0.58	0.58	0.58	0.07	0.37	0.13	0.13	0.36	0.36
Control Delay	25.8	32.2	32.2	32.2	32.2	32.2	4.5	10.1	3.6	8.2	8.2	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.8	32.2	32.2	32.2	32.2	32.2	4.5	10.1	3.6	8.2	8.2	8.2
LOS	C	C	C	C	C	C	A	B	A	A	A	A
Approach Delay	25.8	32.2	32.2	32.2	32.2	32.2	9.9	7.8	7.8	7.8	7.8	7.8
Approach LOS	C	C	C	C	C	C	A	A	A	A	A	A

Lanes, Volumes, Timings
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	11.3
Intersection LOS:	B
ICU Level of Service:	B
Analysis Period (min):	15



Phasings
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
8	8	4	4	5	2	1	6
Protected Phases							
Permitted Phases	8	4	2	2	6	6	6
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	10.0	35.0	10.0	35.0
Total Split (s)	34.0	34.0	34.0	10.0	44.0	12.0	46.0
Total Split (%)	37.8%	37.8%	37.8%	11.1%	48.9%	13.3%	51.1%
Maximum Green (s)	28.0	28.0	28.0	7.0	38.0	9.0	40.0
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag				Lead	Lag	Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	5	5	5	5	3	3	3
90th %ile Green (s)	24.0	24.0	24.0	7.1	42.8	8.2	43.9
90th %ile Term Code	Ped	Ped	Ped	Gap	Coord	Gap	Coord
70th %ile Green (s)	14.2	14.2	14.2	7.0	53.8	7.0	53.8
70th %ile Term Code	Hold	Hold	Gap	Min	Coord	Min	Coord
50th %ile Green (s)	11.8	11.8	11.8	7.0	56.2	7.0	56.2
50th %ile Term Code	Hold	Hold	Gap	Min	Coord	Min	Coord
30th %ile Green (s)	9.4	9.4	9.4	0.0	58.6	7.0	68.6
30th %ile Term Code	Hold	Hold	Gap	Skip	Coord	Min	Coord
10th %ile Green (s)	7.0	7.0	7.0	0.0	71.0	0.0	71.0
10th %ile Term Code	Hold	Hold	Min	Skip	Coord	Skip	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Control Type: Actuated-Coordinated

Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

EBT	WBT	NBL	NBT	SBL	SBT
65	159	44	807	66	824
Lane Group					
Lane Group Flow (vph)	0.29	0.58	0.07	0.37	0.13
v/c Ratio	25.8	32.2	4.5	10.1	3.6
Control Delay	0.0	0.0	0.0	0.0	0.0
Queue Delay	25.8	32.2	4.5	10.1	3.6
Total Delay	7.1	19.4	1.5	33.2	1.0
Queue Length 50th (m)	16.3	33.5	6.5	65.5	m5.1
Queue Length 95th (m)	69.0	196.5	172.0	70.0	156.5
Internal Link Dist (m)					
Turn Bay Length (m)	443	524	609	2204	540
Base Capacity (vph)	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.30	0.07	0.37	0.12

Intersection Summary
m Volume for 95th percentile queue is metered by upstream signal.

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	15	20	60	20	65	40	660	75	60	735	15
Future Volume (vph)	25	15	20	60	20	65	40	660	75	60	735	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	6.0	6.0	6.0	3.0	3.0	3.0	6.0	6.0	6.0	3.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frb. ped/bikes	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Frt	0.95	0.95	0.94	1.00	1.00	0.98	1.00	1.00	1.00	0.95	1.00	1.00
Flt Protected	0.98	0.98	0.98	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1711	1847	1847	2043	3503	3503	1743	3557	3557	1743	3557	3557
Flt Permitted	0.79	0.84	0.84	1.00	1.00	1.00	0.32	1.00	1.00	0.31	1.00	1.00
Satd. Flow (perm)	1377	1580	1580	1688	3503	3503	589	3557	3557	589	3557	3557
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	16	22	66	22	71	44	725	82	66	808	16
RTOR Reduction (vph)	0	19	0	0	0	40	0	6	0	0	1	0
Lane Group Flow (vph)	0	46	0	0	119	0	44	801	0	66	823	0
Conf. Bikes (#/hr)	14	6	6	6	6	14	10	10	10	10	10	10
Heavy Vehicles (%)	23%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	8			4			5	2			1	6
Permitted Phases	8			4			5	2			6	6
Actuated Green, G (s)	13.3			13.3			60.1	55.9			63.3	57.5
Effective Green, g (s)	13.3			13.3			60.1	55.9			63.3	57.5
Actuated g/C Ratio	0.15			0.15			0.67	0.62			0.70	0.64
Clearance Time (s)	6.0			6.0			3.0	6.0			3.0	6.0
Vehicle Extension (s)	3.0			3.0			3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	203			233			528	2175			475	2272
v/s Ratio Prot				0.00			0.00	0.23			0.01	0.023
v/s Ratio Perm	0.03			0.08			0.05	0.08			0.09	0.09
v/c Ratio	0.23			0.51			35.3	5.1			8.4	7.6
Uniform Delay, d1	33.8			35.3			5.1	8.4			4.3	7.6
Progression Factor	1.00			1.00			1.00	1.00			0.75	0.87
Incremental Delay, d2	0.6			1.9			0.1	0.5			0.1	0.4
Delay (s)	34.4			37.2			5.2	8.9			3.4	7.0
Level of Service	C			D			A	A			A	A
Approach Delay (s)	34.4			37.2			8.7	8.7			6.7	6.7
Approach LOS	C			D			A	A			B	A
Intersection Summary												
HCM 2000 Control Delay	10.9 HCM 2000 Level of Service											
HCM 2000 Volume to Capacity ratio	0.38											
Actuated Cycle Length (s)	Sum of lost time (s)											
Intersection Capacity Utilization	57.9% ICU Level of Service											
Analysis Period (min)	15											
c Critical Lane Group												

5: Gordon Street & Clair Road West/Clair Road East

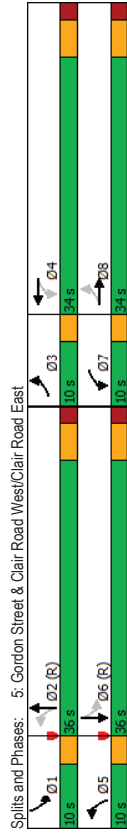
12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	480	85	200	385	110	115	485	110	180	570	80
Future Volume (vph)	170	480	85	200	385	110	115	485	110	180	570	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	163.0	0.0	0.0
Storage Lanes	1			1			1	1		1		1
Taper Length (m)	7.5	3469	0	7.5	3390	0	1646	3437	0	1728	3475	0
Satd. Flow (prot)	1745	3469	0	1711	3390	0	1646	3437	0	1728	3475	0
Flt Permitted	0.348			0.247			0.309			0.315		
Satd. Flow (perm)	629	3469	0	440	3390	0	532	3437	0	569	3475	0
Right Turn on Red	Yes			Yes			Yes			Yes		Yes
Satd. Flow (RTOR)	23			42			32			18		60
Link Speed (k/h)	60			60			60			60		60
Link Distance (m)	288.6			217.7			180.5			233.4		233.4
Travel Time (s)	16.1			13.1			10.8			14.0		14.0
Adj. Flow (vph)	175	495	88	206	397	113	119	500	113	186	588	82
Lane Group Flow (vph)	175	593	0	206	510	0	119	613	0	186	670	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	NA
Protected Phases	3	8		7	4		5	2		1	6	6
Permitted Phases	8			4			2			6		6
Detector Phase	3	8		7	4		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	10.0		7.0	10.0	10.0
Minimum Split (s)	10.0	34.0		10.0	34.0		10.0	35.0		10.0	35.0	35.0
Total Split (s)	10.0	34.0		10.0	34.0		10.0	36.0		10.0	36.0	36.0
Total Split (%)	11.1%	37.8%		11.1%	37.8%		11.1%	40.0%		11.1%	40.0%	40.0%
Maximum Green (s)	7.0	28.0		7.0	30.0		7.0	30.0		7.0	30.0	30.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	C-Min		None	C-Min	10.0
Walk Time (s)	9.0			9.0			10.0			10.0		19.0
Flash Dont Walk (#/hr)	19.0			19.0			19.0			19.0		19.0
Pedestrian Calls (#/hr)	12			12			7			7		7
Act Effct Green (s)	33.5	20.5		35.4	21.4		42.3	31.2		44.7	32.4	32.4
Actuated g/C Ratio	0.37	0.23		0.39	0.24		0.47	0.35		0.50	0.36	0.36
v/c Ratio	0.49	0.72		0.63	0.61		0.34	0.51		0.46	0.53	0.53
Control Delay	21.2	35.8		27.8	30.0		10.4	18.1		17.6	25.2	25.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	21.2	35.8		27.8	30.0		10.4	18.1		17.6	25.2	25.2
LOS	C	D		C	C		B	B		B	C	C
Approach Delay	32.4			29.4			16.9			23.5		23.5
Approach LOS	C			C			B			C		C

5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	25.5
Intersection Capacity Utilization:	82.3%
Analysis Period (min):	15
Intersection LOS:	C
ICU Level of Service:	E



5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	4	4	2	5	2	6	1
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	36.0	10.0	36.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%	40.0%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	9.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	12	12	12	12	7	7	12	7
90th %ile Green (s)	8.0	28.0	8.0	28.0	7.0	29.0	7.0	29.0
90th %ile Term Code	Max	Ped	Max	Ped	Max	Coord	Max	Coord
70th %ile Green (s)	12.8	21.9	13.5	22.6	10.4	23.8	12.8	26.2
70th %ile Term Code	Gap	Gap	Max	Hold	Gap	Coord	Gap	Coord
50th %ile Green (s)	11.5	19.9	13.0	21.4	8.9	28.2	10.9	30.2
50th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord
30th %ile Green (s)	10.1	17.8	11.4	19.1	7.6	33.7	9.1	35.2
30th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord
10th %ile Green (s)	7.9	14.8	9.0	15.9	7.0	41.1	7.1	41.2
10th %ile Term Code	Gap	Gap	Gap	Hold	Min	Coord	Gap	Coord
Intersection Summary								
Cycle Length:	90							
Actuated Cycle Length:	90							
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection							
Control Type:	Actuated-Coordinated							

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	175	583	206	510	119	613	186	670
v/c Ratio	0.49	0.72	0.63	0.61	0.34	0.51	0.46	0.53
Control Delay	21.2	35.8	27.8	30.0	10.4	18.1	17.6	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	35.8	27.8	30.0	10.4	18.1	17.6	25.2
Queue Length 50th (m)	19.5	50.3	24.2	42.4	4.4	47.5	18.1	50.6
Queue Length 95th (m)	31.4	60.7	#38.2	41.6	7.9	25.7	33.2	70.1
Internal Link Dist (m)	244.6		193.7		156.5		163.0	209.4
Turn Bay Length (m)	70.0		32.0		72.0		163.0	
Base Capacity (vph)	359	1095	327	1083	351	1279	403	1298
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.53	0.63	0.47	0.34	0.48	0.46	0.52

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	170	480	85	200	385	110	115	485	110
Future Volume (vph)	170	480	85	200	385	110	115	485	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.5	3.5	3.3	3.5	3.3	3.5	3.3	3.5
Total Lost time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frbp. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98
Flt Protected	1736	3470	1707	3390	1643	3439	1724	3474	
Satd. Flow (perm)	636	3470	443	3390	535	3439	572	3474	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	175	495	88	206	397	113	119	500	113
RTOR Reduction (vph)	0	18	0	0	32	0	21	0	0
Lane Group Flow (vph)	175	565	0	206	478	0	119	592	0
Conf. Peds. (#/hr)	36	26	26	26	36	21	19	19	21
Conf. Bikes (#/hr)									3
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%	6%	0%	2%
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt
Protected Phases	3	8	7	4	5	2	1	6	6
Permitted Phases	8	4	4	2	2	2	6	6	6
Actuated Green, G (s)	30.6	20.5	32.4	21.4	39.3	31.1	41.7	32.3	32.3
Effective Green, g (s)	30.6	20.5	32.4	21.4	39.3	31.1	41.7	32.3	32.3
Actuated g/C Ratio	0.34	0.23	0.36	0.24	0.44	0.35	0.46	0.36	0.36
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	339	790	313	806	334	1188	385	1246	
v/s Ratio Prot	0.06	c0.16	c0.08	0.14	0.03	0.17	c0.05	c0.19	
v/s Ratio Perm	0.12	0.16	0.16	0.12	0.12	0.12	0.17	0.17	
v/c Ratio	0.52	0.72	0.66	0.59	0.36	0.50	0.48	0.53	
Uniform Delay, d1	22.0	32.1	21.6	30.4	15.7	23.3	15.0	22.8	
Progression Factor	1.00	1.00	1.08	0.99	0.61	0.71	1.00	1.00	
Incremental Delay, d2	1.3	3.1	4.6	1.1	0.6	1.4	1.0	1.6	
Delay (s)	23.3	35.2	27.8	31.1	10.2	18.0	16.0	24.4	
Level of Service	C	D	C	C	B	B	B	C	
Approach Delay (s)		32.4		30.2		16.7		22.6	
Approach LOS		C		C		B		C	
Intersection Summary									
HCM 2000 Control Delay	25.4 HCM 2000 Level of Service C								
HCM 2000 Volume to Capacity ratio	0.60								
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 18.0								
Intersection Capacity Utilization	82.3% ICU Level of Service E								
Analysis Period (min)	15								
c Critical Lane Group									

Lanes, Volumes, Timings
6: Farley Drive & Clair Road East

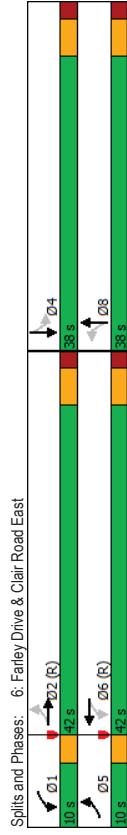
12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	125	445	155	35	410	70	125	70	35	90	65	160
Future Volume (vph)	125	445	155	35	410	70	125	70	35	90	65	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Storage Length (m)	131.0	0.0	64.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	0	0	0	0
Taper Length (m)	7.5	3376	0	1785	3353	0	1705	1765	0	7.5	0	1943
Satd. Flow (prot)	1767	3376	0	1785	3353	0	1705	1765	0	7.5	0	1943
Flt Permitted	0.412	0.404	0.404	0.404	0.404	0.404	0.404	0.404	0.404	0.404	0.404	0.864
Satd. Flow (perm)	757	3376	0	755	3353	0	716	1765	0	0	0	1694
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	64	64	25	25	25	25	31	31	31	64	64	64
Link Speed (k/h)	60	60	60	60	60	60	60	60	60	60	60	60
Link Distance (m)	217.7	217.7	160.7	160.7	160.7	160.7	63.9	63.9	63.9	196.5	196.5	196.5
Travel Time (s)	13.1	13.1	9.6	9.6	9.6	9.6	7.7	7.7	7.7	17.7	17.7	17.7
Adj. Flow (vph)	136	484	168	38	446	76	136	76	38	98	71	174
Lane Group Flow (vph)	136	652	0	38	522	0	136	114	0	0	343	0
Turn Type	pm+pt	NA	pm+pt	NA	NA	NA	NA	NA	NA	Perm	NA	NA
Protected Phases	5	2	1	6	6	6	8	8	8	4	4	4
Permitted Phases	2	2	6	1	6	6	8	8	8	4	4	4
Detector Phase	5	2	1	6	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	10.0	42.0	10.0	42.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	11.1%	46.7%	11.1%	46.7%	42.2%	42.2%	42.2%	42.2%	42.2%	42.2%	42.2%	42.2%
Maximum Green (s)	7.0	36.0	7.0	36.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6	6
Act Effect Green (s)	59.7	51.2	55.9	45.8	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7
Actuated g/C Ratio	0.66	0.57	0.62	0.51	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
v/c Ratio	0.23	0.33	0.07	0.30	0.83	0.27	0.78	0.78	0.78	0.78	0.78	0.78
Control Delay	4.0	7.2	7.2	14.2	68.1	20.3	38.2	38.2	38.2	38.2	38.2	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	7.2	7.2	14.2	68.1	20.3	38.2	38.2	38.2	38.2	38.2	38.2
LOS	A	A	A	B	E	C	D	D	D	D	D	D
Approach Delay	6.6	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
Approach LOS	A	B	B	B	B	B	B	B	B	B	B	B

Lanes, Volumes, Timings
6: Farley Drive & Clair Road East

12-12-2023

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	19.4
Intersection LOS:	B
ICU Level of Service:	C
Analysis Period (min):	15



Splits and Phases: 6: Farley Drive & Clair Road East

Phasings
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Protected Phases	5	2	1	6	8	8	4
Permitted Phases	2	1	6	1	8	4	4
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	35.0
Total Split (s)	10.0	42.0	10.0	42.0	38.0	38.0	38.0
Total Split (%)	11.1%	46.7%	11.1%	46.7%	42.2%	42.2%	42.2%
Maximum Green (s)	7.0	36.0	7.0	36.0	32.0	32.0	32.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None
Walk Time (s)	11.0			11.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0			18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	6			6	8	8	8
90th %ile Green (s)	11.1	38.7	7.4	35.0	28.9	28.9	28.9
90th %ile Term Code	Gap	Coord	Gap	Coord	Gap	Hold	Hold
70th %ile Green (s)	9.1	43.9	7.0	41.8	24.1	24.1	24.1
70th %ile Term Code	Gap	Coord	Min	Coord	Hold	Gap	Gap
50th %ile Green (s)	7.9	47.2	7.0	46.3	20.8	20.8	20.8
50th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Gap
30th %ile Green (s)	7.0	60.6	0.0	50.6	17.4	17.4	17.4
30th %ile Term Code	Min	Coord	Skip	Coord	Hold	Gap	Gap
10th %ile Green (s)	7.0	65.5	0.0	55.5	12.5	12.5	12.5
10th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Gap

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Control Type: Actuated-Coordinated

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	136	652	38	522	136	114	343
v/c Ratio	0.23	0.33	0.07	0.30	0.83	0.27	0.78
Control Delay	4.0	7.2	7.2	14.2	68.1	20.3	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	7.2	7.2	14.2	68.1	20.3	38.2
Queue Length 50th (m)	2.0	4.4	2.1	25.7	23.6	12.2	48.1
Queue Length 95th (m)	14.9	57.2	6.9	47.2	42.1	23.4	70.3
Internal Link Dist (m)	131.0	193.7	64.0	136.7	20.0	39.9	172.5
Turn Bay Length (m)	131.0	193.7	64.0	136.7	20.0	39.9	172.5
Base Capacity (vph)	596	1947	550	1727	254	647	643
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.33	0.07	0.30	0.54	0.18	0.53

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

6: Farley Drive & Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	125	445	155	35	410	70	125	70	35	90	65	160	
Traffic Volume (vph)	125	445	155	35	410	70	125	70	35	90	65	160	
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Ideal Flow (vphpl)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8	
Lane Width (m)	3.0	6.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Total Lost time (s)	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.98	0.98	0.98	
Flpb. ped/bikes	1.00	0.99	1.00	1.00	0.99	1.00	0.99	1.00	0.99	0.99	0.99	0.99	
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	0.99	0.99	
Frt	1.00	0.96	1.00	0.98	1.00	0.98	1.00	0.95	1.00	0.99	0.99	0.99	
Flt Protected	1759	3377	1781	3354	1686	1765	1686	1765	1686	1832	1832	1832	
Satd. Flow (prot)	0.41	1.00	0.40	1.00	0.40	1.00	0.40	1.00	0.40	0.86	0.86	0.86	
Flt Permitted	764	3377	758	3354	718	1765	718	1765	718	1892	1892	1892	
Satd. Flow (perm)	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Peak-hour factor, PHF	136	484	168	38	446	76	136	76	38	98	71	174	
Adj. Flow (vph)	0	28	0	0	12	0	0	24	0	0	49	0	
RTOR Reduction (vph)	136	624	0	38	510	0	136	90	0	0	294	0	
Lane Group Flow (vph)	17	9	9	9	17	23	21	21	21	21	23	23	
Conf. Peds. (#/hr)	1%	1%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	
Heavy Vehicles (%)	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	
Turn Type	5	2	1	6	8	8	8	8	8	8	8	8	
Protected Phases	2	6	6	6	6	6	6	6	6	6	6	6	
Permitted Phases	2	6	6	6	6	6	6	6	6	6	6	6	
Actuated Green, G (s)	57.3	50.0	50.2	45.9	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	
Effective Green, g (s)	57.3	50.0	50.2	45.9	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	
Actuated g/C Ratio	0.64	0.56	0.56	0.51	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap. (vph)	579	1876	471	1710	165	405	165	405	165	389	389	389	
v/s Ratio Prot	c0.02	c0.18	0.00	0.15	0.00	0.05	0.00	0.05	0.00	0.17	0.17	0.17	
v/s Ratio Perm	0.13	0.04	0.04	c0.19	0.04	c0.19	0.04	c0.19	0.04	0.17	0.17	0.17	
v/c Ratio	0.23	0.33	0.08	0.30	0.08	0.22	0.08	0.22	0.08	0.26	0.26	0.26	
Uniform Delay, d1	6.6	10.9	9.0	12.7	32.9	28.1	32.9	28.1	32.9	32.3	32.3	32.3	
Progression Factor	0.48	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.4	0.1	0.4	27.1	0.3	27.1	0.3	27.1	8.1	8.1	8.1	
Delay (s)	3.3	7.0	9.1	13.2	60.0	28.4	60.0	28.4	60.0	40.4	40.4	40.4	
Level of Service	A	A	A	B	E	C	E	C	E	D	D	D	
Approach Delay (s)	6.4	A	12.9	B	45.6	D	45.6	D	45.6	40.4	40.4	40.4	
Approach LOS	A	A	B	B	D	D	D	D	D	D	D	D	
Intersection Summary													
HCM 2000 Control Delay	19.3											HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47												
Actuated Cycle Length (s)	90.0											Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.4%											ICU Level of Service	C
Analysis Period (min)	15												
c Critical Lane Group													

7: Farley Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	105	20	10	20	25	55	0	80	10	70	55	125
Traffic Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Total Lost time (s)	0	1789	0	0	1722	0	0	1853	0	0	1979	0
Flt Permitted	0	962	0	0	990	0	0	1033	0	0	1086	0
Satd. Flow (perm)	0	1789	0	0	1722	0	0	1853	0	0	1979	0
Link Speed (k/h)	30	30	30	30	30	30	30	30	30	30	30	30
Link Distance (m)	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2	57.2
Travel Time (s)	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Adj. Flow (vph)	121	23	11	23	29	63	0	92	11	80	63	144
Lane Group Flow (vph)	0	155	0	0	115	0	0	103	0	0	287	0
Sign Control	Stop											
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization:	43.2%											
ICU Level of Service:	A											
Analysis Period (min):	15											

7. HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop											
Traffic Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Future Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	121	23	11	23	29	63	0	92	11	80	63	144
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	155	115	103	287								
Volume Left (vph)	121	23	0	80								
Volume Right (vph)	11	63	11	144								
Head (s)	0.11	-0.29	-0.06	-0.25								
Departure Headway (s)	5.1	4.8	4.9	4.5								
Degree Utilization, x	0.22	0.15	0.14	0.36								
Capacity (veh/h)	649	683	678	757								
Control Delay (s)	9.5	8.6	8.7	10.0								
Approach Delay (s)	A	A	A	A								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	9.4											
Level of Service	A											
Intersection Capacity Utilization	43.2%											
Analysis Period (min)	15											
	ICU Level of Service A											

8. Lanes, Volumes, Timings
8. Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	10	15	10	5	35	5	20	20	35	25	25
Future Volume (vph)	40	10	15	10	5	35	5	20	20	35	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1766	0	0	1683	0	0	1756	0	0	1769	0
Flt Permitted	0.970				0.990			0.994			0.980	
Satd. Flow (perm)	0	1766	0	0	1683	0	0	1756	0	0	1769	0
Link Speed (k/h)	30				30			30			30	
Link Distance (m)	31.6				39.2			55.2			54.0	
Travel Time (s)	3.8				4.7			6.6			6.5	
Adj. Flow (vph)	49	12	18	12	6	43	6	24	24	43	30	30
Lane Group Flow (vph)	0	79	0	0	61	0	0	54	0	0	103	0
Sign Control	Stop											
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	32.5%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis
 8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	40	10	15	10	5	35	5	20	20	20	35	25
Future Volume (vph)	40	10	15	10	5	35	5	20	20	20	35	25
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	49	12	18	12	6	43	6	24	24	24	43	30
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	79	61	54	103								
Volume Left (vph)	49	12	6	43								
Volume Right (vph)	18	43	24	30								
Head (s)	-0.01	-0.38	-0.24	-0.09								
Departure Headway (s)	4.3	3.9	4.1	4.2								
Degree Utilization, x	0.09	0.07	0.06	0.12								
Capacity (veh/h)	804	871	842	833								
Control Delay (s)	7.7	7.2	7.3	7.7								
Approach Delay (s)	A	A	A	A								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	7.5											
Level of Service	A											
Intersection Capacity Utilization	32.5%											
Analysis Period (min)	15											
	ICU Level of Service A											

Lanes, Volumes, Timings
 9: Hawkins Drive & Internal E-W Street

12-12-2023

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W					
Traffic Volume (vph)	65	0	5	50	30	70
Future Volume (vph)	65	0	5	50	30	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1905	0	0	2082	1894	0
Flt Permitted	0.950			0.996		
Satd. Flow (perm)	1905	0	0	2082	1894	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Adj. Flow (vph)	80	0	6	62	37	86
Lane Group Flow (vph)	80	0	0	68	123	0
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.1%					
Analysis Period (min)	15					
	ICU Level of Service A					

9: Hawkins Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Volume (veh/h)	65	0	5	50	30	70
Future Volume (Veh/h)	65	0	5	50	30	70
Sign Control	Stop	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	80	0	6	62	37	86
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						
pX_pilotron unblocked						
VC_conflicting volume	154	80	123			
VC1_stage 1 conf vol						
VC2_stage 2 conf vol						
VCU_unblocked vol	154	80	123			
IC_single (s)	6.4	6.2	4.1			
IC_2 stage (s)	3.5	3.3	2.2			
p0_queue free %	90	100	100			
IF (s)	839	986	1477			
CM capacity (veh/h)						
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	80	68	123			
Volume Left	80	6	0			
Volume Right	0	0	86			
cSH	839	1477	1700			
Volume to Capacity	0.10	0.00	0.07			
Queue Length 95th (m)	2.5	0.1	0.0			
Control Delay (s)	9.7	0.7	0.0			
Lane LOS	A	A	A			
Approach Delay (s)	9.7	0.7	0.0			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay			3.0			
Intersection Capacity Utilization			17.1%			ICU Level of Service A
Analysis Period (min)			15			

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	W			4	4	W
Traffic Volume (vph)	90	20	5	75	20	15
Future Volume (vph)	90	20	5	75	20	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	2021	0	0	2027	1683	0
Flt Permitted				0.997	0.972	
Satd. Flow (perm)	2021	0	0	2027	1683	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	90.5			63.5	67.2	
Travel Time (s)	8.1			5.7	8.1	
Adj. Flow (vph)	103	23	6	86	23	17
Lane Group Flow (vph)	126	0	0	92	40	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	19.9%					
Analysis Period (min)	15					
ICU Level of Service A						

12-12-2023
 HCM Unsignalized Intersection Capacity Analysis
 10 : 1888 Gordon Street Access & Poppy Drive East

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Traffic Volume (veh/h)	90	20	5	75	20	15
Future Volume (Veh/h)	90	20	5	75	20	15
Sign Control	Free	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	103	23	6	86	23	17
Pedestrians	3			6	1	
Lane Width (m)	4.5			4.5	3.5	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	311					
pX platoon unblocked						
VC, conflicting volume		127			216	122
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol		127			216	122
IC, single (s)		4.1			6.4	6.2
IC, 2 stage (s)						
p0 queue free %		2.2			3.5	3.3
IF (s)		100			97	98
CM capacity (veh/h)		1470			761	929
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	126	92	40			
Volume Left	0	6	23			
Volume Right	23	0	17			
cSH	1700	1470	824			
Volume to Capacity	0.07	0.00	0.05			
Queue Length 95th (m)	0.0	0.1	1.2			
Control Delay (s)	0.0	0.5	9.6			
Lane LOS	A	A	A			
Approach Delay (s)	0.0	0.5	9.6			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay	1.7					
Intersection Capacity Utilization	19.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

12-12-2023
 Lanes, Volumes, Timings
 1 : Hawkins Drive & Clair Road East

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Traffic Volume (vph)	395	5	35	820	10	70
Future Volume (vph)	395	5	35	820	10	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1			1	0
Taper Length (m)		7.5			7.5	
Satd. Flow (prot)	3376	0	1785	3433	1724	0
Flt Permitted			0.950		0.994	
Satd. Flow (perm)	3376	0	1785	3433	1724	0
Link Speed (k/h)	60			60	50	
Link Distance (m)	160.7			130.4	64.6	
Travel Time (s)	9.6			7.8	4.7	
Conf. Peds. (#/hr)		5				
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	14%	0%	4%	8%	6%
Bus Blockages (#/hr)	2	0	0	0	0	0
Adj. Flow (vph)	459	6	41	953	12	81
Shared Lane Traffic (%)						
Lane Group Flow (vph)	465	0	41	953	93	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.2%					
ICU Level of Service	A					
Analysis Period (min)	15					

12-12-2023
 HCM Unsignalized Intersection Capacity Analysis
 1: Hawkins Drive & Clair Road East

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←↑	↑	←	←	←	←
Traffic Volume (veh/h)	395	5	35	820	10	70
Future Volume (Veh/h)	395	5	35	820	10	70
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	459	6	41	953	12	81
Pedestrians					5	
Lane Width (m)					4.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)	None				None	
Median type						
Median storage (veh)						
Upstream signal (m)	161					
pX platoon unblocked	0.98				0.98	0.98
VC, conflicting volume	470				1026	238
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCU, unblocked vol	410				978	172
IC, single (s)	4.1				7.0	7.0
IC, 2 stage (s)	2.2				3.6	3.4
p0 queue free %	96				95	90
CM capacity (veh/h)	1127				222	806
Direction_Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	306	159	41	476	476	93
Volume Left	0	0	41	0	0	12
Volume Right	0	6	0	0	0	81
cSH	1700	1700	1127	1700	1700	602
Volume to Capacity	0.18	0.09	0.04	0.28	0.28	0.15
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	4.3
Control Delay (s)	0.0	0.0	8.3	0.0	0.0	12.1
Lane LOS			A			B
Approach Delay (s)	0.0		0.3			12.1
Approach LOS			B			B
Intersection Summary						
Average Delay	0.9					
Intersection Capacity Utilization	34.2%					
Analysis Period (min)	15					
	ICU Level of Service A					

12-12-2023
 Lanes, Volumes, Timings
 2: Hawkins Drive & Poppy Drive East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	45	25	0	0	65	10	10	5	0	5	0	15
Future Volume (vph)	45	25	0	0	65	10	10	5	0	5	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	1864	0	0	1804	0	0	2021	0	0	1608	0
Flt Permitted	0.969							0.967			0.988	
Satd. Flow (perm)	0	1864	0	0	1804	0	0	2021	0	0	1608	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		63.5			196.9			136.5			121.9	
Travel Time (s)		5.7			17.7			12.3			11.0	
Conf. Peds. (#/hr)	24	15	15	15	24	15	15	17	17	17	17	15
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	9%	8%	0%	0%	4%	0%	0%	0%	0%	0%	0%	20%
Adj. Flow (vph)	57	32	0	0	82	13	13	6	0	6	0	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	0	0	95	0	0	19	0	0	25	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	25.9%											
Analysis Period (min)	15											
	ICU Level of Service A											

2: Hawkins Drive & Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	25	0	0	65	10	10	5	0	5	0	15
Future Volume (Veh/h)	45	25	0	0	65	10	10	5	0	5	0	15
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	57	32	0	0	82	13	13	6	0	6	0	19
Pedestrians	15				17			15		6		24
Lane Width (m)	4.5				3.6			4.5		4.5		4.5
Walking Speed (m/s)	1.2				1.2			1.2		1.2		1.2
Percent Blockage	2				1			2		3		3
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)	375											
pX platoon unblocked												
VC, conflicting volume	119			47			284	280	64	278	274	128
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCU, unblocked vol	119			47			284	280	64	278	274	128
IC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.4
IC, 2 stage (s)												
IF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	96			100			98	99	100	99	100	98
CM capacity (veh/h)	1391			1549			598	581	976	607	586	841
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	89	95	19	25								
Volume Left	57	0	13	6								
Volume Right	0	13	0	19								
cSH	1391	1549	593	770								
Volume to Capacity	0.04	0.00	0.03	0.03								
Queue Length 95th (m)	1.0	0.0	0.8	0.8								
Control Delay (s)	5.0	0.0	11.3	9.8								
Lane LOS	A	A	B	A								
Approach Delay (s)	5.0	0.0	11.3	9.8								
Approach LOS	B	A	A									
Intersection Summary												
Average Delay	4.0											
Intersection Capacity Utilization	25.9%											
ICU Level of Service	A											
Analysis Period (min)	15											

3: Poppy Drive East & Fanley Drive

12-12-2023

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	80	175	10	10	10
Future Volume (vph)	5	80	175	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	1942	1964	0	1547	0
Flt Permitted	0.997				0.976	
Satd. Flow (perm)	0	1942	1964	0	1547	0
Link Speed (k/h)		40	40		30	
Link Distance (m)		220.5	90.5		55.2	
Travel Time (s)		19.8	8.1		6.6	
Confl. Peds. (#/hr)	8			8		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	30%	6%	0%	9%	12%	
Adj. Flow (vph)	5	88	192	11	11	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	93	203	0	22	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	20.7%					
ICU Level of Service A						
Analysis Period (min)	15					

3: Poppy Drive East & Farley Drive

12-12-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	80	175	10	10	10
Future Volume (Veh/h)	5	80	175	10	10	10
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	5	88	192	11	11	11
Pedestrians					8	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)					None	
Median type					None	
Median storage (veh)					220	
Upstream signal (m)					220	
pX platoon unblocked					211	
VC, conflicting volume					304	206
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCU, unblocked vol	211				304	206
IC, single (s)	4.4				6.5	6.3
IC, 2 stage (s)						
IF (s)	2.5				3.6	3.4
p0 queue free %	100				98	99
CM capacity (veh/h)	1202				667	805
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	93	203	22			
Volume Left	5	0	11			
Volume Right	0	11	11			
cSH	1202	1700	729			
Volume to Capacity	0.00	0.12	0.03			
Queue Length 95th (m)	0.1	0.0	0.7			
Control Delay (s)	0.5	0.0	10.1			
Lane LOS	A	B	B			
Approach Delay (s)	0.5	0.0	10.1			
Approach LOS	B		B			
Intersection Summary						
Average Delay		0.8				
Intersection Capacity Utilization		20.7%				A
Analysis Period (min)		15				

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	10	15	70	5	120	20	810	55	35	630	25
Future Volume (vph)	20	10	15	70	5	120	20	810	55	35	630	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	0	1362	0	1772	0	1894	3282	0	1678	3358	0	0
Flt Permitted	0	0.738		0.862		0.390	0.278		0.278			
Satd. Flow (perm)	0	1026	0	1554	0	1776	3282	0	1678	3358	0	0
Right Turn on Red		Yes		Yes		Yes	Yes		Yes		Yes	Yes
Satd. Flow (RTOR)	16			92			10				6	
Link Speed (k/h)	40			40			60				60	
Link Distance (m)	93.0			220.5			196.0				180.5	
Travel Time (s)	8.4			19.8			11.8				10.8	
Conf. Peds. (#/hr)	4		2	2		4	3		8		8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	75%	22%	0%	0%	50%	8%	7%	16%	4%	5%	20%	0%
Bus Blockages (#/hr)	0	0	0	2	2	0	0	0	0	0	0	0
Adj. Flow (vph)	21	10	16	73	5	125	21	844	57	36	656	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	0	0	203	0	21	901	0	36	682	0
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8	8		4	4	5	2	1	6			
Permitted Phases	8	8		4	4	2	2	6	6			
Detector Phase	8	8		4	4	5	2	1	6			
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0		7.0	10.0		7.0		10.0	
Minimum Split (s)	30.0	30.0		30.0		30.0	35.0		30.0		35.0	
Total Split (s)	33.0	33.0		33.0		33.0	47.0		33.0		47.0	
Total Split (%)	36.7%	36.7%		36.7%		36.7%	52.2%		36.7%		52.2%	
Maximum Green (s)	27.0	27.0		27.0		27.0	41.0		27.0		41.0	
Yellow Time (s)	4.0	4.0		4.0		4.0	4.0		4.0		4.0	
All-Red Time (s)	2.0	2.0		2.0		2.0	2.0		2.0		2.0	
Lost Time Adjust (s)	0.0	0.0		0.0		0.0	0.0		0.0		0.0	
Total Lost Time (s)	6.0	6.0		6.0		6.0	6.0		6.0		6.0	
Lead/Lag	Lead	Lag		Lead		Lead	Lag		Lead		Lag	
Lead-Lag Optimize?	Yes	Yes		Yes		Yes	Yes		Yes		Yes	
Vehicle Extension (s)	3.0	3.0		3.0		3.0	3.0		3.0		3.0	
Recall Mode	None	None		None		None	C-Min		None		C-Min	
Walk Time (s)	8.0	8.0		8.0		8.0	17.0		8.0		17.0	
Flash Dont Walk (s)	16.0	16.0		16.0		16.0	12.0		16.0		12.0	
Pedestrian Calls (#/hr)	1	1		1		1	3		1		3	
Act Effct Green (s)	13.5	13.5		13.5		13.5	65.7		13.5		65.7	
Actuated g/C Ratio	0.15	0.15		0.15		0.15	0.73		0.15		0.67	
v/c Ratio	0.28	0.28		0.65		0.65	0.03		0.08		0.30	
Control Delay	26.6	26.6		28.5		28.5	4.6		10.3		7.9	
Queue Delay	0.0	0.0		0.0		0.0	0.0		0.0		0.0	

Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	26.6			28.5	4.6	10.3				3.6	7.9	
LOS	C			C	A	B				A	A	A
Approach Delay	26.6			28.5			10.1				7.7	
Approach LOS	C			C			B				A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

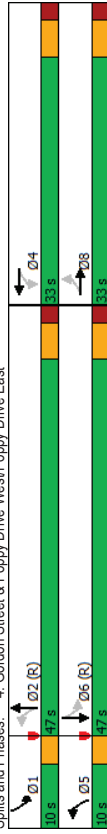
Maximum v/c Ratio: 0.65

Intersection Signal Delay: 11.6

Intersection Capacity Utilization: 53.8%

Analysis Period (min): 15

Splits and Phases: 4: Gordon Street & Poppy Drive West/Poppy Drive East



Phasings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	8			4			5	2		1	6	
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	7.0	10.0	
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	35.0	35.0	30.0	35.0	30.0	
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	47.0	47.0	33.0	47.0	33.0	
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	52.2%	52.2%	36.7%	52.2%	36.7%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0	27.0	41.0	41.0	27.0	41.0	27.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	
Lead/Lag							Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	8.0	
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	16.0	
Pedestrian Calls (#/hr)	1	1	1	1	1	1	3	3	1	3	1	3
90th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	43.8	43.8	24.0	43.8	24.0	44.0
90th %ile Term Code	Ped	Ped	Ped	Ped	Ped	Ped	Min	Coord	Min	Coord	Min	Coord
70th %ile Green (s)	14.9	14.9	14.9	14.9	14.9	14.9	53.1	53.1	14.9	53.1	14.9	53.1
70th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Min	Coord	Min	Coord	Min	Coord
50th %ile Green (s)	12.1	12.1	12.1	12.1	12.1	12.1	55.9	55.9	12.1	55.9	12.1	65.9
50th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Skip	Coord	Skip	Coord	Min	Coord
30th %ile Green (s)	9.3	9.3	9.3	9.3	9.3	9.3	68.7	68.7	9.3	68.7	9.3	68.7
30th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Skip	Coord	Skip	Coord	Skip	Coord
10th %ile Green (s)	7.0	7.0	7.0	7.0	7.0	7.0	71.0	71.0	7.0	71.0	7.0	71.0
10th %ile Term Code	Hold	Hold	Hold	Min	Min	Min	Skip	Coord	Skip	Coord	Skip	Coord

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	47	203	21	901	36	682
Lane Group Flow (vph)	0.28	0.65	0.03	0.42	0.08	0.30
v/c Ratio	26.6	28.5	4.6	10.3	3.6	7.9
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	26.6	28.5	4.6	10.3	3.6	7.9
Total Delay	5.1	19.1	0.7	40.3	1.1	17.9
Queue Length 50th (m)	13.2	36.0	3.9	76.1	m3.2	43.8
Queue Length 95th (m)	69.0	196.5	172.0	70.0	156.5	
Internal Link Dist (m)	319	530	653	2136	454	2260
Turn Bay Length (m)	0	0	0	0	0	0
Base Capacity (vph)	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.38	0.03	0.42	0.08	0.30
Intersection Summary						
m	Volume for 95th percentile queue is metered by upstream signal.					

HCM Signalized Intersection Capacity Analysis
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

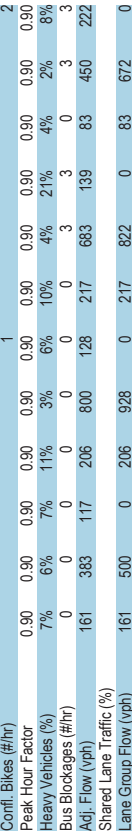
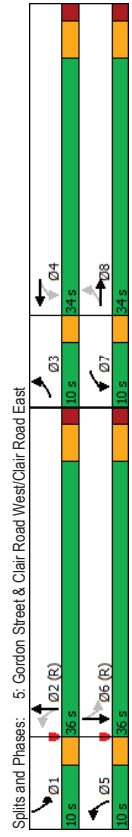
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔			↔	↔		↔	↔	↔
Traffic Volume (vph)	20	10	15	70	5	120	20	810	55	35	630	25
Future Volume (vph)	20	10	15	70	5	120	20	810	55	35	630	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.95	1.00	1.00	0.95	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	0.95	0.92	0.98	0.98	0.95	1.00	0.99	1.00	0.95	1.00	0.99
Flt Protected	1360	1360	1771	1893	3281	1676	3359					
Satd. Flow (prot)	0.74	0.74	0.86	0.86	0.39	1.00	0.28	1.00				
Flt Permitted	1027	1027	1553	776	3281	491	3359					
Satd. Flow (perm)	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Peak-hour factor, PHF	21	10	16	73	5	125	21	844	57	36	656	26
Adj. Flow (vph)	0	14	0	0	78	0	4	0	0	0	2	0
RTOR Reduction (vph)	0	33	0	0	125	0	21	897	0	36	680	0
Lane Group Flow (vph)	4	2	2	2	4	3	8	8	8	8	8	8
Conf. Peds. (#/hr)	75%	22%	0%	0%	50%	5%	8%	7%	16%	4%	5%	20%
Heavy Vehicles (%)	0	0	0	2	2	0	0	0	0	0	0	0
Bus Blockages (#/hr)	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA
Turn Type	8	8	4	4	4	5	2	1	6			
Protected Phases	8	8	4	4	4	5	2	1	6			
Permitted Phases	8	8	4	4	4	5	2	1	6			
Actuated Green, G (s)	13.5	13.5	13.5	13.5	60.1	57.3	62.9	58.7	58.7			
Effective Green, g (s)	13.5	13.5	13.5	13.5	60.1	57.3	62.9	58.7	58.7			
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.67	0.64	0.70	0.65	0.65			
Clearance Time (s)	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	154	154	232	232	552	2088	398	2190	2190			
v/s Ratio Prot	0.00	0.00	0.00	0.00	0.00	0.27	0.06	0.20	0.20			
v/s Ratio Perm	0.03	0.03	0.08	0.08	0.02	0.02	0.06	0.06	0.06			
v/c Ratio	0.22	0.22	0.54	0.54	0.04	0.43	0.09	0.31	0.31			
Uniform Delay, d1	33.6	33.6	35.4	35.4	5.0	8.2	4.5	6.8	6.8			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.76	0.96	0.96			
Incremental Delay, d2	0.7	0.7	2.4	2.4	0.0	0.6	0.1	0.3	0.3			
Delay (s)	34.3	34.3	37.8	37.8	5.1	8.8	3.5	6.8	6.8			
Level of Service	C	C	D	D	A	A	A	A	A			
Approach Delay (s)	34.3	34.3	37.8	37.8	8.7	8.7	6.7	6.7	6.7			
Approach LOS	C	C	D	D	A	A	A	A	A			
Intersection Summary												
HCM 2000 Control Delay	11.7 HCM 2000 Level of Service B											
HCM 2000 Volume to Capacity ratio	0.43											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0											
Intersection Capacity Utilization	53.8% ICU Level of Service A											
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	25.1	27.5	47.7	32.8	23.4	16.7	24.5				
LOS	C	C	C	D	C	C	C	B	C			
Approach Delay		27.1		44.0		25.3						23.6
Approach LOS		C		D		C						C
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset: 0 (0%):	Referenced to phase 2/NBTL and 6/SBTL, Start of Green, Master Intersection											
Natural Cycle:	90											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.90											
Intersection Signal Delay:	31.2											
Intersection LOS:	C											
Intersection Capacity Utilization:	83.6%											
Analysis Period (min):	15											

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	145	345	105	185	720	115	195	615	125	75	405	200
Future Volume (vph)	145	345	105	185	720	115	195	615	125	75	405	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	0	0	0	0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	7.5	3218	0	1572	3360	0	1586	3220	0	1678	3216	0
Satd. Flow (prot)	0.148	0.383	0.253	0.253	0.218	0.218	0.253	0.218	0.218	0.218	0.218	0.218
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	47	60	60	60	60	60	28	28	28	28	101	101
Link Speed (k/h)	268.6	217.7	180.5	217.7	180.5	233.4	180.5	233.4	180.5	233.4	180.5	233.4
Travel Time (s)	31	22	22	31	12	10.8	21	21	21	21	14.0	14.0
Confl. Peds. (#/hr)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Confl. Bikes (#/hr)	7%	6%	7%	11%	3%	6%	10%	4%	21%	4%	2%	8%
Peak Hour Factor	0	0	0	0	0	0	0	0	3	3	0	3
Heavy Vehicles (%)	161	383	117	206	800	128	217	683	139	83	450	222
Bus Blockages (#/hr)												
Adj. Flow (vph)	161	500	0	206	928	0	217	822	0	83	672	0
Shared Lane Traffic (%)	3	8	7	4	5	2	1	6				
Lane Group Flow (vph)	3	8	7	4	5	2	1	6				
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	8	4	2	6								
Permitted Phases	3	8	7	4	5	2	1	6				
Detector Phase	3	8	7	4	5	2	1	6				
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	36.0	10.0	36.0	10.0	36.0	10.0	36.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%	40.0%	11.1%	40.0%	11.1%	40.0%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0	7.0	30.0	7.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Flash Don't Walk (s)	10	10	10	10	10	10	10	10	10	10	10	10
Pedestrian Calls (#/hr)	36.2	27.0	38.6	27.1	40.6	31.6	38.8	28.8	38.8	28.8	38.8	28.8
Act Effect Green (s)	0.42	0.30	0.43	0.30	0.45	0.35	0.43	0.32	0.43	0.32	0.43	0.32
Actuated g/C Ratio	0.69	0.50	0.58	0.50	0.75	0.72	0.31	0.61	0.31	0.61	0.31	0.61
v/c Ratio	33.3	25.1	27.5	47.7	32.8	23.4	16.7	24.5				
Control Delay												



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	7	4	2	6	6	6	6
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	36.0	10.0	36.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%	40.0%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	10	10	10	10	9	9	9	9
90th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
90th %ile Term Code	Max	Ped	Max	Max	Coord	Coord	Max	Coord
70th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
70th %ile Term Code	Max	Hold	Max	Max	Coord	Coord	Max	Coord
50th %ile Green (s)	8.9	28.0	8.9	28.0	7.0	28.1	7.0	28.1
50th %ile Term Code	Max	Hold	Max	Max	Coord	Coord	Max	Coord
30th %ile Green (s)	10.1	27.5	10.6	28.0	9.1	26.8	7.1	24.8
30th %ile Term Code	Gap	Hold	Gap	Gap	Max	Coord	Gap	Coord
10th %ile Green (s)	8.2	23.3	8.6	23.7	9.0	43.1	0.0	31.1
10th %ile Term Code	Gap	Hold	Gap	Gap	Coord	Coord	Skip	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	500	206	928	217	822	83	672
v/c Ratio	0.69	0.50	0.58	0.90	0.75	0.72	0.31	0.61
Control Delay	33.3	25.1	27.5	47.7	32.8	23.4	16.7	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	25.1	27.5	47.7	32.8	23.4	16.7	24.5
Queue Length 50th (m)	16.3	34.7	23.0	77.1	26.1	71.1	8.3	46.2
Queue Length 95th (m)	#43.1	50.1	49.6	#120.5	#28.0	46.3	16.1	63.2
Internal Link Dist (m)	244.6		193.7		156.5		209.4	
Turn Bay Length (m)	70.0	32.0		72.0		163.0		
Base Capacity (vph)	233	1033	357	1059	291	1185	265	1147
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.48	0.58	0.88	0.75	0.69	0.31	0.59

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

5. Gordon Street & Clair Road West/Clair Road East

12-12-2023

6. Farley Drive & Clair Road East

12-12-2023

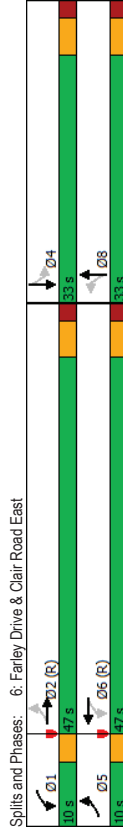
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	→	→	→	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	145	345	105	185	720	115	195	615	125	75	405	200
Future Volume (vph)	145	345	105	185	720	115	195	615	125	75	405	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost time (s)	3.0	6.0	6.0	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.99	1.00	0.95
Frb. ped/bikes	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	0.99
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.96	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1630	3218	1567	3361	1585	3219	1676	3217	1676	3217	1676	3217
Flt Permitted	0.15	1.00	0.38	1.00	0.25	1.00	0.22	1.00	0.22	1.00	0.22	1.00
Satd. Flow (perm)	254	3218	631	3361	423	3219	384	3217	384	3217	384	3217
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	161	383	117	206	800	128	217	683	139	83	450	222
RTOR Reduction (vph)	0	33	0	0	15	0	0	18	0	0	69	0
Lane Group Flow (vph)	161	467	0	206	913	0	217	804	0	83	603	0
Confl. Bikes (#/hr)	31	22	22	31	12	31	12	21	21	21	21	12
Heavy Vehicles (%)	7%	6%	7%	11%	3%	6%	10%	4%	21%	4%	2%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Turn Type	pm+pt	NA	NA	pm+pt	NA	pm+pt	NA	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	1	6	1	6	1	6
Permitted Phases	8	4	4	4	2	2	6	4	6	4	6	4
Actuated Green, G (s)	35.2	27.0	35.6	27.2	38.8	31.0	34.4	28.8	34.4	28.8	34.4	28.8
Effective Green, g (s)	35.2	27.0	35.6	27.2	38.8	31.0	34.4	28.8	34.4	28.8	34.4	28.8
Actuated g/C Ratio	0.39	0.30	0.40	0.30	0.43	0.34	0.38	0.32	0.38	0.32	0.38	0.32
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	224	965	336	1015	283	1108	227	1029	227	1029	227	1029
v/s Ratio Prot	c0.07	0.15	0.06	c0.27	c0.07	0.25	0.02	0.19	0.02	0.19	0.02	0.19
v/s Ratio Perm	0.21	0.18	0.18	0.18	0.26	0.12	0.12	0.12	0.12	0.12	0.12	0.12
v/c Ratio	0.72	0.48	0.61	0.90	0.77	0.73	0.37	0.59	0.37	0.59	0.37	0.59
Uniform Delay, d1	20.6	25.8	19.1	30.1	18.3	25.8	18.8	25.6	18.8	25.6	18.8	25.6
Progression Factor	1.00	1.00	1.27	1.21	0.93	0.77	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.5	0.4	3.0	9.8	11.1	3.9	1.0	2.4	1.0	2.4	1.0	2.4
Delay (s)	31.1	26.2	27.2	46.2	28.1	23.8	19.8	28.1	19.8	28.1	19.8	28.1
Level of Service	C	C	C	D	C	C	B	C	B	C	B	C
Approach Delay (s)	27.4	C	42.7	D	24.7	C	27.2	C	27.2	C	27.2	C
Approach LOS	C	C	D	D	C	C	B	C	B	C	B	C
Intersection Summary												
HCM 2000 Control Delay	31.4 HCM 2000 Level of Service C											
HCM 2000 Volume to Capacity ratio	0.83											
Actuated Cycle Length (s)	90.0 Sum of lost time (s)											
Intersection Capacity Utilization	83.6% ICU Level of Service E											
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	→	→	→	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	105	365	50	10	790	45	70	15	5	40	20	140
Future Volume (vph)	105	365	50	10	790	45	70	15	5	40	20	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Total Lost time (s)	131.0	0.0	64.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Lane Util. Factor	1	0	1	0	1	0	1	0	0	0	0	0
Frb. ped/bikes	7.5	3192	0	1785	3345	0	1639	1723	0	7.5	0	1826
Frb. ped/bikes	0.245	0.484	0.416	0.245	0.484	0.416	0.245	0.484	0.416	0.245	0.484	0.416
Flt Protected	441	3192	0	904	3345	0	711	1723	0	0	0	1701
Flt Permitted	22	Yes	Yes	8	Yes	Yes	6	Yes	6	134	Yes	134
Satd. Flow (prot)	60	60	60	60	60	60	30	40	40	60	40	40
Satd. Flow (perm)	217.7	160.7	160.7	160.7	160.7	160.7	63.9	196.5	196.5	160.7	160.7	196.5
Travel Time (s)	13.1	8	8	8	9	14	7.7	10	10	10	10	14
Confl. Peds. (#/hr)	9	8	8	8	9	14	7.7	10	10	10	10	14
Confl. Bikes (#/hr)	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Peak Hour Factor	4%	10%	5%	0%	6%	0%	4%	0%	16%	8%	0%	3%
Heavy Vehicles (%)	118	410	56	11	888	51	79	17	6	45	22	157
Adj. Flow (vph)	118	466	0	11	939	0	79	23	0	224	0	224
Shared Lane Traffic (%)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Lane Group Flow (vph)	5	2	2	1	6	8	8	8	8	4	4	4
Turn Type	5	2	2	1	6	8	8	8	8	4	4	4
Protected Phases	2	2	2	1	6	8	8	8	8	4	4	4
Permitted Phases	5	2	2	1	6	8	8	8	8	4	4	4
Switch Phase	7.0	10.0	7.0	10.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0
Minimum Initial (s)	10.0	35.0	10.0	35.0	10.0	47.0	33.0	33.0	33.0	33.0	33.0	33.0
Minimum Split (s)	11.1%	52.2%	11.1%	52.2%	11.1%	52.2%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Total Split (%)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Maximum Green (s)	0.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Yellow Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	3.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost Time (s)	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead-Lag Optimizer?	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Recall Mode	11.0	11.0	11.0	11.0	11.0	11.0	18.0	18.0	18.0	18.0	18.0	18.0
Walk Time (s)	18.0	18.0	18.0	18.0	18.0	18.0	5	5	5	5	5	5
Fresh Dont Walk (s)	3	3	3	3	3	3	14.2	14.2	14.2	14.2	14.2	14.2
Pedestrian Calls (#/hr)	66.8	61.8	62.9	52.9	0.70	0.59	0.16	0.16	0.16	0.16	0.16	0.16
Act Effct Green (s)	0.74	0.69	0.70	0.59	0.02	0.48	0.71	0.08	0.71	0.08	0.59	0.59
Actuated g/C Ratio	0.27	0.21	0.02	0.48	5.4	13.1	65.1	23.1	65.1	23.1	19.8	19.8
v/c Ratio	5.5	6.7	5.4	13.1	65.1	23.1	65.1	23.1	65.1	23.1	19.8	19.8
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	5.5	6.7	5.4	13.1	65.1	23.1						19.8
LOS	A	A	A	B	E	C						B
Approach Delay	6.4			13.0		55.7						19.8
Approach LOS	A			B		E						B
Intersection Summary												
Area Type: Other												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 80												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.71												
Intersection Signal Delay: 14.1												
Intersection LOS: B												
Intersection Capacity Utilization 63.7%												
ICU Level of Service B												
Analysis Period (min) 15												



Phasings

6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		8	8			4	4
Permitted Phases	2			6								
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	10.0	47.0	10.0	47.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Total Split (%)	11.1%	52.2%	11.1%	52.2%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Maximum Green (s)	7.0	41.0	7.0	41.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0			11.0			8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0			18.0			18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	3			3			5	5	5	5	5	5
90th %ile Green (s)	10.2	42.0	7.0	38.8	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
90th %ile Term Code	Gap	Coord	Min	Coord	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped
70th %ile Green (s)	7.9	62.5	0.0	51.6	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
70th %ile Term Code	Gap	Coord	Skip	Coord	Gap	Gap	Hold	Hold	Hold	Hold	Hold	Hold
50th %ile Green (s)	7.1	65.3	0.0	55.2	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
50th %ile Term Code	Gap	Coord	Skip	Coord	Gap	Gap	Hold	Hold	Hold	Hold	Hold	Hold
30th %ile Green (s)	7.0	68.1	0.0	58.1	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
30th %ile Term Code	Min	Coord	Skip	Coord	Gap	Gap	Hold	Hold	Hold	Hold	Hold	Hold
10th %ile Green (s)	7.0	71.0	0.0	61.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
10th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Min	Min	Min	Min	Min	Min
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Control Type: Actuated-Coordinated												

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	118	466	11	939	79	23	224
Lane Group Flow (vph)	0.27	0.21	0.02	0.48	0.71	0.08	0.59
v/c Ratio	5.5	6.7	5.4	13.1	65.1	23.1	19.8
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	5.5	6.7	5.4	13.1	65.1	23.1	19.8
Total Delay	3.7	9.2	0.4	43.5	14.1	2.7	15.1
Queue Length 50th (m)	m21.7	41.8	2.7	88.2	25.0	7.9	30.6
Queue Length 95th (m)	193.7		136.7		39.9	172.5	
Internal Link Dist (m)	131.0	64.0		20.0			
Turn Bay Length (m)	438	2198	700	1987	213	521	604
Base Capacity (vph)	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.21	0.02	0.47	0.37	0.04	0.37
Intersection Summary							
m	Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	105	365	50	10	790	45	70	15	5	40	20	140
Future Volume (vph)	105	365	50	10	790	45	70	15	5	40	20	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Total Lost time (s)	3.0	6.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	0.99	1.00	0.98	0.98
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	0.98	1.00	0.99	1.00	0.95	1.00	0.96	1.00	0.99	0.99
Flt Protected	1715	3192	1780	3344	1625	1723						1823
Satd. Flow (prot)	0.24	1.00	0.48	1.00	0.42	1.00	0.42	1.00	0.92	1.00	0.92	1.00
Flt Permitted	442	3192	907	3344	712	1723						1702
Satd. Flow (perm)	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Peak-hour factor, PHF	118	410	56	11	888	51	79	17	6	45	22	157
Adj. Flow (vph)	0	7	0	0	3	0	0	5	0	0	113	0
RTOR Reduction (vph)	118	459	0	11	936	0	79	18	0	0	111	0
Lane Group Flow (vph)	9	8	8	8	9	14	10	10	10	10	10	14
Confl. Bikes (#/hr)							2					
Heavy Vehicles (%)	4%	10%	5%	0%	6%	0%	4%	0%	16%	8%	0%	3%
Turn Type	pm+pt	NA	NA	pm+pt	NA	NA	NA	NA	NA	Perm	NA	NA
Protected Phases	5	2		1	6		8		8		4	
Permitted Phases	2		6				8			4		
Actuated Green, G (s)	63.8	59.4	54.4	53.0	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
Effective Green, g (s)	63.8	59.4	54.4	53.0	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
Actuated g/C Ratio	0.71	0.66	0.60	0.59	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Clearance Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	423	2106	561	1969	112	271						268
v/s Ratio Prot	c0.02	0.14	0.00	c0.28	0.01							
v/s Ratio Perm	0.17	0.01	0.01	0.01	c0.11							
v/c Ratio	0.28	0.22	0.02	0.48	0.71	0.07	0.07	0.07	0.41	0.41	0.41	0.41
Uniform Delay, d1	5.0	6.1	7.1	10.6	35.9	32.3						34.2
Progression Factor	0.92	0.95	1.00	1.00	1.00	1.00						1.00
Incremental Delay, d2	0.3	0.2	0.0	0.8	18.3	0.1						1.0
Delay (s)	4.9	6.0	7.1	11.4	54.2	32.4						35.2
Level of Service	A	A	A	B	D	C						D
Approach Delay (s)	5.7	11.3	11.3	49.3								35.2
Approach LOS	A	A	A	B	D	D						D
Intersection Summary												
HCM 2000 Control Delay	14.5 HCM 2000 Level of Service B											
HCM 2000 Volume to Capacity ratio	0.50											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0											
Intersection Capacity Utilization	63.7% ICU Level of Service B											
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings
7. Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	5	0	0	10	55	0	10	0	20	15	40
Future Volume (vph)	25	5	0	0	10	55	0	10	0	20	15	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1760	0	0	1665	0	0	1773	0	0	1860	0
Flt Permitted	0.960										0.987	
Satd. Flow (perm)	0	1760	0	0	1665	0	0	1773	0	0	1860	0
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		57.2			91.1			54.0			63.9	
Travel Time (s)		6.9			10.9			6.5			7.7	
Confl. Peds. (#/hr)	1		2	2		1	16		5	5		16
Confl. Bikes (#/hr)			1			1						
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	3%	0%	0%	0%	0%	0%	0%	6%	0%	20%	4%	0%
Adj. Flow (vph)	34	7	0	0	14	75	0	14	0	27	21	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	89	0	0	14	0	0	103	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	27.8%											
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	25	5	0	0	10	55	0	10	0	20	15	40
Future Volume (vph)	25	5	0	0	10	55	0	10	0	20	15	40
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	34	7	0	0	14	75	0	14	0	27	21	55
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	41	89	14	103								
Volume Left (vph)	34	0	0	27								
Volume Right (vph)	0	75	0	55								
Head (s)	0.21	-0.51	0.10	-0.16								
Departure Headway (s)	4.4	3.7	4.4	4.0								
Degree Utilization, x	0.05	0.09	0.02	0.11								
Capacity (veh/h)	783	942	785	866								
Control Delay (s)	7.7	7.1	7.4	7.5								
Approach Delay (s)	7.7	7.1	7.4	7.5								
Approach LOS	A	A	A	A								

Intersection Summary												
Delay	7.4											
Level of Service	A											
Intersection Capacity Utilization	27.8%											
Analysis Period (min)	15											
ICU Level of Service	A											

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	5	5	5	10	15	0
Future Volume (vph)	5	5	5	10	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1709	0	0	1713	1773	0
Flt Permitted	0.976			0.983		
Satd. Flow (perm)	1709	0	0	1713	1773	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	31.6			55.2	54.0	
Travel Time (s)	3.8			6.6	6.5	
Confl. Peds. (#/hr)	3	18	36			36
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	0%	0%	12%	6%	0%
Adj. Flow (vph)	7	7	7	13	20	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	20	20	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	24.8%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	5	5	5	10	15	0
Future Volume (vph)	5	5	5	10	15	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	7	7	7	13	20	0
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	14	20	20			
Volume Left (vph)	7	7	0			
Volume Right (vph)	7	0	0			
Head (s)	-0.20	0.20	0.10			
Departure Headway (s)	3.8	4.2	4.0			
Degree Utilization, x	0.01	0.02	0.02			
Capacity (veh/h)	934	851	880			
Control Delay (s)	6.8	7.2	7.1			
Approach Delay (s)	6.8	7.2	7.1			
Approach LOS	A	A	A			
Intersection Summary						
Delay	7.1					
Level of Service	A					
Intersection Capacity Utilization	24.8%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations						
Traffic Volume (vph)	15	0	0	65	20	20
Future Volume (vph)	15	0	0	65	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1642	0	0	1990	1948	0
Flt Permitted	0.950					
Satd. Flow (perm)	1642	0	0	1990	1948	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Confl. Peds. (#/hr)			12			12
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	16%	100%	0%	5%	0%	0%
Adj. Flow (vph)	19	0	0	83	26	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	0	0	83	52	0
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.6%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis

9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations						
Traffic Volume (veh/h)	15	0	0	65	20	20
Future Volume (Veh/h)	15	0	0	65	20	20
Sign Control	Stop	Free	Free	Free	Free	Free
Grade	0%			0%	0%	0%
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	19	0	0	83	26	26
Pedestrians	12					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	None
Median type						
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
VC, conflicting volume	134	51	64			
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCU, unblocked vol	134	51	64			
IC, single (s)	6.6	7.2	4.1			
IC, 2 stage (s)						
IF (s)	3.6	4.2	2.2			
p0 queue free %	98	100	100			
GM capacity (veh/h)	818	788	1534			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	19	83	52			
Volume Left	19	0	0			
Volume Right	0	0	26			
CSH	818	1534	1700			
Volume to Capacity	0.02	0.00	0.03			
Queue Length 95th (m)	0.6	0.0	0.0			
Control Delay (s)	9.5	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.5	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	1.2					
Intersection Capacity Utilization	16.6%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	50	5	5	100	0	40	0	15	0	0	70
Future Volume (vph)	25	50	5	5	100	0	40	0	15	0	0	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	4.5	4.5	4.5	4.5	3.6	3.5	3.6	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1865	0	0	1971	0	1740	0	0	0	0	1593
Flt Permitted	0.985			0.997			0.965					
Satd. Flow (perm)	0	1865	0	0	1971	0	1740	0	0	0	0	1593
Link Speed (k/h)	40			40			30					50
Link Distance (m)	90.5			63.5			67.2					112.0
Travel Time (s)	8.1			5.7			8.1					8.1
Confl. Peds. (#/hr)									6			
Peak Hour Factor	0.92	0.89	0.89	0.89	0.89	0.92	0.89	0.92	0.89	0.92	0.92	0.92
Heavy Vehicles (%)	2%	14%	0%	0%	6%	2%	2%	0%	0%	2%	2%	2%
Adj. Flow (vph)	27	56	6	6	112	0	45	0	17	0	0	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	0	0	118	0	62	0	0	0	0	76
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	28.2%
Analysis Period (min)	15
ICU Level of Service A	

HCM Unsignalized Intersection Capacity Analysis

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	50	5	5	100	0	40	0	15	0	0	70
Future Volume (Veh/h)	25	50	5	5	100	0	40	0	15	0	0	70
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.89	0.89	0.89	0.89	0.92	0.89	0.92	0.89	0.92	0.92	0.92
Hourly flow rate (vph)	27	56	6	6	112	0	45	0	17	0	0	76
Pedestrians							6					
Lane Width (m)							4.5					
Walking Speed (m/s)							1.2					
Percent Blockage							1					
Right turn flare (veh)												
Median type							None					
Median storage (veh)												
Upstream signal (m)							311					
pX platoon unblocked												
vC, conflicting volume	112			62			313	237	65	260	240	112
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vC3, unblocked vol	112			62			313	237	65	260	240	112
IC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
IC, 2 stage (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			92	100	98	100	100	92
qM capacity (veh/h)	1478			1554			578	649	998	665	647	941
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	89	118	62	76								
Volume Left	27	6	45	0								
Volume Right	6	0	17	76								
vSH	1478	1554	653	941								
Volume to Capacity	0.02	0.00	0.09	0.08								
Queue Length 95th (m)	0.4	0.1	2.5	2.1								
Control Delay (s)	2.4	0.4	11.1	9.2								
Lane LOS	A	A	B	A								
Approach Delay (s)	2.4	0.4	11.1	9.2								
Approach LOS	B	A	A	A								
Intersection Summary												
Average Delay				4.8								
Intersection Capacity Utilization				28.2%								A
Analysis Period (min)				15								

Lanes, Volumes, Timings
11: Internal N-S Street & Internal E-W Street

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	91.1			71.6	112.0	
Travel Time (s)	6.6			5.2	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 0.0%	ICU Level of Service A					
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
11: Internal N-S Street & Internal E-W Street

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	0	0	0	0	0	0
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Head (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	917	917	917	917
Control Delay (s)	6.9	6.9	6.9	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A	A	A
Intersection Summary	Other					
Delay	0.0					
Level of Service	A					
Intersection Capacity Utilization	0.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

1: Hawkins Drive & Clair Road East

12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑
Traffic Volume (vph)	820	15	65	575	10	105
Future Volume (vph)	820	15	65	575	10	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)	3477	0	1785	3535	1826	0
Satd. Flow (prot)	0.950	0.950	0.950	0.950	0.950	0.950
Flt Permitted	3477	0	1785	3535	1826	0
Satd. Flow (perm)	60	60	60	60	50	60
Link Speed (k/h)	160.7	130.4	130.4	64.6	64.6	64.6
Link Distance (m)	9.6	13	13	7.8	4.7	1
Travel Time (s)	13	13	13	7.8	4.7	1
Conf. Peds. (#/hr)	1	1	1	1	1	1
Conf. Bikes (#/hr)	0.98	0.98	0.98	0.98	0.98	0.98
Peak Hour Factor	2%	0%	0%	1%	0%	0%
Heavy Vehicles (%)	2	0	0	0	0	0
Bus Blockages (#/hr)	837	15	66	587	10	107
Adj. Flow (vph)	852	0	66	587	117	0
Shared Lane Traffic (%)	Free	Free	Free	Free	Stop	Stop
Lane Group Flow (vph)	Free	Free	Free	Free	Stop	Stop
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary	Other:					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	43.8%					
Analysis Period (min)	15					
ICU Level of Service A	ICU Level of Service A					

HCM Unsignalized Intersection Capacity Analysis

1: Hawkins Drive & Clair Road East

12-12-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑
Traffic Volume (veh/h)	820	15	65	575	10	105
Future Volume (Veh/h)	820	15	65	575	10	105
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	837	15	66	587	10	107
Pedestrians	1	1	1	1	1	1
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Walking Speed (m/s)	1.2	1.2	1.2	1.2	1.2	1.2
Percent Blockage	0	0	0	0	0	0
Right turn flare (veh)	None	None	None	None	None	None
Median type	None	None	None	None	None	None
Median storage (veh)	161	161	161	161	161	161
Upstream signal (m)	0.88	0.88	0.88	0.88	0.88	0.88
pX platoon unblocked	865	865	865	865	865	865
VC conflicting volume	1284	1284	1284	1284	1284	1284
VC1 stage 1 conf vol	0	0	0	0	0	0
VC2 stage 2 conf vol	0	0	0	0	0	0
VCu unblocked vol	561	561	561	561	561	561
IC single (s)	4.1	4.1	4.1	4.1	4.1	4.1
IC 2 stage (s)	2.2	2.2	2.2	2.2	2.2	2.2
p0 queue free %	93	93	93	93	93	93
IF (s)	3.5	3.5	3.5	3.5	3.5	3.5
ICM capacity (veh/h)	881	881	881	881	881	881
Direction_Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	588	294	66	294	294	117
Volume Left	0	0	66	0	0	10
Volume Right	0	15	0	0	0	107
CSH	1700	1700	881	1700	1700	646
Volume to Capacity	0.33	0.17	0.07	0.17	0.17	0.18
Queue Length 95th (m)	0.0	0.0	1.9	0.0	0.0	5.3
Control Delay (s)	0.0	0.0	9.4	0.0	0.0	11.8
Lane LOS	A	A	A	A	B	B
Approach Delay (s)	0.0	0.0	1.0	1.0	1.0	11.8
Approach LOS	A	A	A	A	B	B
Intersection Summary	Intersection Summary					
Average Delay	1.2					
Intersection Capacity Utilization	43.8%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

2: Hawkins Drive & Poppy Drive East

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations												
Traffic Volume (vph)	65	85	10	0	40	5	10	5	0	15	0	25
Future Volume (vph)	65	85	10	0	40	5	10	5	0	15	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	2030	0	0	1839	0	0	2023	0	0	1812	0
Flt Permitted	0.980						0.968				0.982	
Satd. Flow (perm)	0	2030	0	0	1839	0	0	2023	0	0	1812	0
Link Speed (kph)		40			40		40				40	
Link Distance (m)		63.5			196.9		136.5				121.9	
Travel Time (s)		5.7			17.7		12.3				11.0	
Confl. Peds. (#/hr)	33		13	13		33	8		4	4		8
Confl. Bikes (#/hr)		1										
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	77	101	12	0	48	6	12	6	0	18	0	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	190	0	0	54	0	0	18	0	0	0	48
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary	Area Type	Other
Control Type: Unsignalized		
Intersection Capacity Utilization: 27.8%		ICU Level of Service A
Analysis Period (min): 15		

HCM Unsignalized Intersection Capacity Analysis

2: Hawkins Drive & Poppy Drive East

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	85	10	0	40	5	10	5	0	15	0	25
Future Volume (Veh/h)	65	85	10	0	40	5	10	5	0	15	0	25
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	77	101	12	0	48	6	12	6	0	18	0	30
Pedestrians		8			4		13			4		33
Lane Width (m)		4.5			3.6		4.5			4.5		4.5
Walking Speed (m/s)		1.2			1.2		1.2			1.2		1.2
Percent Blockage		1			0		1			1		3
Right turn flare (veh)		None			None		None			None		None
Median type		None			None		None			None		None
Median storage (veh)												
Upstream signal (m)		37.5										
pX platoon unblocked												
vC, conflicting volume	87			126			363		361	124	352	364
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
ICU, unblocked vol	87			126			363		361	124	352	364
IC, single (s)	4.1			4.1			7.1		6.5	6.2	7.1	6.5
IC, 2 stage (s)												
IF (s)	2.2			2.2			3.5		4.0	3.3	3.5	4.0
p0 queue free %	95			100			98		99	100	97	100
pM capacity (veh/h)	1469			1453			522		514	916	536	512
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	190	54	18	48								
Volume Left	77	0	12	18								
Volume Right	12	6	0	30								
vSH	1469	1453	520	723								
Volume to Capacity	0.05	0.00	0.03	0.07								
Queue Length 95th (m)	1.3	0.0	0.9	1.7								
Control Delay (s)	3.3	0.0	12.2	10.3								
Lane LOS	A	B	B	B								
Approach Delay (s)	3.3	0.0	12.2	10.3								
Approach LOS	B	B	B	B								
Intersection Summary												
Average Delay				4.3								
Intersection Capacity Utilization				27.8%								A
Analysis Period (min)				15								

Lanes, Volumes, Timings
3: Poppy Drive East & Farley Drive

12-12-2023

	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group						
Lane Configurations						
Traffic Volume (vph)	0	215	105	15	20	25
Future Volume (vph)	0	215	105	15	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	2090	1985	0	1702	0
Flt Permitted					0.978	
Satd. Flow (perm)	0	2090	1985	0	1702	0
Link Speed (k/h)		40	40		30	
Link Distance (m)		220.5	90.5		55.2	
Travel Time (s)		19.8	8.1		6.6	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	4%	0%	0%	0%
Adj. Flow (vph)	0	244	119	17	23	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	244	136	0	51	0
Sign Control		Free	Free	Free	Stop	Stop
Intersection Summary	Other					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	21.3%					
Analysis Period (min)	15					
	ICU Level of Service A					

HCM Unsignalized Intersection Capacity Analysis
3: Poppy Drive East & Farley Drive

12-12-2023

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations						
Traffic Volume (veh/h)	0	215	105	15	20	25
Future Volume (Veh/h)	0	215	105	15	20	25
Sign Control		Free	Free	Free	Stop	Stop
Grade		0%	0%	0%	0%	0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	244	119	17	23	28
Pedestrians					15	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)			None	None		
Median type			None	None		
Median storage (veh)						
Upstream signal (m)		220				
pX, platoon unblocked						
VC, conflicting volume	151				386	142
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	151				386	142
IC, single (s)	4.1				6.4	6.2
IC, 2 stage (s)	2.2				3.5	3.3
p0 queue free %	100				96	97
qM capacity (veh/h)	1425				613	899
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	244	136	51			
Volume Left	0	0	23			
Volume Right	0	17	28			
CSH	1425	1700	743			
Volume to Capacity	0.00	0.08	0.07			
Queue Length 95th (m)	0.0	0.0	1.8			
Control Delay (s)	0.0	0.0	10.2			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	10.2			
Approach LOS			B			
Intersection Summary	Other					
Average Delay	1.2					
Intersection Capacity Utilization	21.3%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
4: Gordon Street & Poppy Drive West/Poppy Drive East

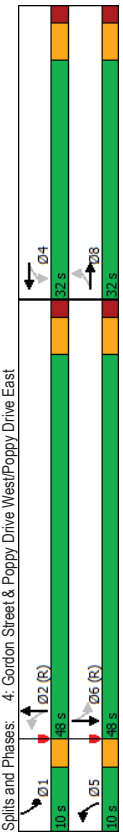
12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	30	25	30	70	20	80	50	835	125	100	765	20
Traffic Volume (vph)	30	25	30	70	20	80	50	835	125	100	765	20
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5	0	0	7.5	0	7.5	0	0	0	7.5	0	0
Satd. Flow (prot)	0	1774	0	0	1839	0	2006	3414	0	1728	3485	0
Flt Permitted	0	0.793	0	0.856	0	0.335	0.241					
Satd. Flow (perm)	0	1424	0	0	1605	0	705	3414	0	436	3485	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)	31		51				25			4		
Link Speed (k/h)	40		40				60			60		
Link Distance (m)	93.0		220.5				196.0			180.5		
Travel Time (s)	8.4		19.8				11.8			10.8		
Confl. Peds. (#/hr)	18		3			18	6		17	17		6
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	18%	0%	1%	0%	3%	2%	2%	1%	1%	2%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0
Adj. Flow (vph)	31	26	31	71	20	82	51	852	128	102	781	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	88	0	0	173	0	51	980	0	102	801	0
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8	8	4	4	5	2	1	6				
Permitted Phases	8	8	4	4	5	2	1	6				
Detector Phase												
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	7.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	35.0	30.0	30.0	35.0	30.0	35.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	48.0	32.0	32.0	48.0	32.0	48.0
Total Split (%)	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	53.3%	35.6%	35.6%	53.3%	35.6%	53.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0	42.0	26.0	26.0	42.0	26.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Last Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	None	C-Min	None
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	8.0	8.0	17.0	8.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	16.0	16.0	12.0	16.0	12.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6	6
Act Efect Green (s)	13.7	13.7	13.7	13.7	13.7	13.7	64.4	13.7	13.7	64.4	13.7	64.4
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15	0.15	0.72	0.15	0.15	0.72	0.15	0.65
v/c Ratio	0.36	0.36	0.36	0.36	0.36	0.36	0.08	0.36	0.08	0.24	0.36	0.36
Control Delay	25.5	25.5	25.5	32.4	11.7	32.4	4.7	11.7	4.9	9.7	25.5	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	25.5		32.4		4.7	11.7		4.9	9.7			
LOS	C		C		A	B		A	A			A
Approach Delay	25.5		32.4		11.3			11.3				9.2
Approach LOS	C		C		B			B				A
Intersection Summary	Other											
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green											
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.60											
Intersection Signal Delay:	12.7											
Intersection Capacity Utilization:	63.4%											
Analysis Period (min):	15											
Intersection L.O.S.:	B											
ICU Level of Service:	B											



Phasings
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	8	8	4	4	5	2	1	6
Protected Phases								
Permitted Phases	8	7.0	7.0	7.0	2	2	6	6
Minimum Initial (s)	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	10.0	35.0	10.0	35.0
Total Split (s)	32.0	32.0	32.0	32.0	10.0	48.0	10.0	48.0
Total Split (%)	35.6%	35.6%	35.6%	35.6%	11.1%	53.3%	11.1%	53.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	7.0	42.0	7.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Min	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	17.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	12.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6
90th %ile Green (s)	24.0	24.0	24.0	24.0	7.3	41.6	9.4	43.7
90th %ile Term Code	Ped	Ped	Ped	Ped	Coord	Coord	Gap	Coord
70th %ile Green (s)	15.1	15.1	15.1	15.1	7.0	52.4	7.5	52.9
70th %ile Term Code	Hold	Hold	Gap	Min	Coord	Coord	Gap	Coord
50th %ile Green (s)	12.5	12.5	12.5	12.5	7.0	55.5	7.0	55.5
50th %ile Term Code	Hold	Hold	Gap	Min	Coord	Coord	Min	Coord
30th %ile Green (s)	10.0	10.0	10.0	10.0	0.0	58.0	7.0	68.0
30th %ile Term Code	Hold	Hold	Gap	Gap	Skip	Coord	Min	Coord
10th %ile Green (s)	7.0	7.0	7.0	7.0	0.0	71.0	0.0	71.0
10th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Skip	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Control Type: Actuated-Coordinated

Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	88	173	51	980	102	801
Lane Group Flow (vph)	0.36	0.60	0.08	0.46	0.24	0.36
v/c Ratio	25.5	32.4	4.7	11.7	4.9	9.7
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	25.5	32.4	4.7	11.7	4.9	9.7
Total Delay	25.5	32.4	4.7	11.7	4.9	9.7
Queue Length 50th (m)	9.5	21.0	1.8	44.4	4.3	41.5
Queue Length 95th (m)	20.1	36.0	7.2	86.7	6.0	37.5
Internal Link Dist (m)	69.0	196.5	91.0	172.0	70.0	156.5
Turn Bay Length (m)						
Base Capacity (vph)	433	499	606	2125	428	2256
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.35	0.08	0.46	0.24	0.36

Intersection Summary
m Volume for 95th percentile queue is metered by upstream signal.

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	30	25	30	70	20	80	50	835	125	100	765	20
Traffic Volume (vph)	30	25	30	70	20	80	50	835	125	100	765	20
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	6.0	6.0	6.0	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0
Total Lost Time (s)	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.95
Lane Util. Factor	0.99	0.98	0.98	0.98	0.98	0.98	1.00	0.99	1.00	1.00	1.00	0.99
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	0.95	0.95	0.94	1.00	0.98	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Flt	0.98	0.98	0.98	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Flt Protected	1766	1837	2004	3415	1726	3486						
Satd. Flow (prot)	0.79	0.86	0.86	0.34	1.00	0.24	1.00					
Flt Permitted	1425	1604	1604	707	3415	439	3486					
Satd. Flow (perm)	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Peak-hour factor, PHF	31	26	31	71	20	82	51	852	128	102	781	20
Adj. Flow (vph)	0	26	31	71	20	82	51	852	128	102	781	20
RTOR Reduction (vph)	0	26	31	71	20	82	51	852	128	102	781	20
Lane Group Flow (vph)	0	62	0	0	130	0	51	970	0	102	800	0
Conf. Peds. (#/hr)	18	3	3	3	18	6	17	17	6	17	17	6
Heavy Vehicles (%)	0%	0%	0%	1%	0%	3%	2%	2%	1%	1%	2%	0%
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0
Turn Type	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8			4			5	2		1	6	
Permitted Phases				4			2			6		
Actuated Green, G (s)	13.7			13.7			59.4	55.1		63.2	57.0	
Effective Green, g (s)	13.7			13.7			59.4	55.1		63.2	57.0	
Actuated g/C Ratio	0.15			0.15			0.66	0.61		0.70	0.63	
Clearance Time (s)	6.0			6.0			3.0	6.0		3.0	6.0	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	216			244			528	2090		396	2207	
v/s Ratio Prot	0.00			0.00			c0.02	c0.28		c0.02	0.23	
v/s Ratio Perm	0.04			c0.08			0.06	0.06		0.16	0.16	
v/c Ratio	0.29			0.53			0.10	0.46		0.26	0.36	
Uniform Delay, d1	33.8			35.2			5.4	9.5		4.9	7.9	
Progression Factor	1.00			1.00			1.00	1.00		0.93	1.02	
Incremental Delay, d2	0.7			2.2			0.1	0.7		0.2	0.3	
Delay (s)	34.5			37.4			5.4	10.2		4.8	8.3	
Level of Service	C			D			A	B		A	A	
Approach Delay (s)	34.5			37.4			10.0			7.9		
Approach LOS	C			D			A	A		A		
Intersection Summary												
HCM 2000 Control Delay	12.3 HCM 2000 Level of Service											
HCM 2000 Volume to Capacity ratio	0.46											
Actuated Cycle Length (s)	90.0 Sum of lost time (s)											
Intersection Capacity Utilization	63.4% ICU Level of Service											
Analysis Period (min)	15											
c Critical Lane Group												

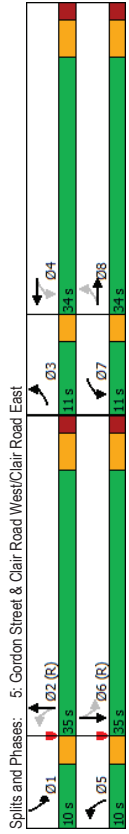
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4	4	4	4
Traffic Volume (vph)	250	775	135	180	440	115	155	615	165	185	620	130
Future Volume (vph)	250	775	135	180	440	115	155	615	165	185	620	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	0.0	32.0	0.0	72.0	0.0	0.0	0.0	163.0	0.0	0.0
Storage Lanes	1			0		0	1			0	1	
Taper Length (m)	7.5	3435	0	7.5	3401	0	1646	3321	0	1728	3327	0
Satd. Flow (prot)	1745	3435	0	1711	3401	0	1646	3321	0	1728	3327	0
Flt Permitted	0.324			0.149			0.205			0.182		
Satd. Flow (perm)	587	3435	0	267	3401	0	354	3321	0	329	3327	0
Right Turn on Red		Yes		Yes			Yes		Yes		Yes	
Satd. Flow (RTOR)	23			38			40			29		
Link Speed (k/h)	60			60			60			60		
Link Distance (m)	288.6			217.7			180.5			233.4		
Travel Time (s)	16.1			13.1			10.8			14.0		
Conf. Peds. (#/hr)	34			21			18			26		
Conf. Bikes (#/hr)		1										
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	2%	2%	1%	0%	6%	2%	5%	1%	2%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	3	0	3
Adj. Flow (vph)	258	799	139	186	454	119	160	634	170	191	639	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	938	0	186	573	0	160	804	0	191	773	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8			4			2			6		
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	10.0		7.0	10.0	
Minimum Split (s)	10.0	34.0		10.0	34.0		10.0	35.0		10.0	35.0	
Total Split (s)	11.0	34.0		11.0	34.0		11.1%	38.9%		11.1%	38.9%	
Total Split (%)	12.2%	37.8%		12.2%	37.8%		11.1%	38.9%		11.1%	38.9%	
Maximum Green (s)	8.0	28.0		8.0	28.0		7.0	29.0		7.0	29.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	2.0		0.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	C-Min		None	C-Min	
Walk Time (s)	9.0			9.0			19.0			19.0		
Flash Dont Walk (s)	19.0			19.0			19.0			19.0		
Pedestrian Calls (#/hr)	11			11			9			9		
Act Effct Green (s)	39.8	27.2		39.2	26.9		38.2	27.8		38.7	28.0	
Actuated g/C Ratio	0.44	0.30		0.44	0.30		0.42	0.31		0.43	0.31	
v/c Ratio	0.67	0.89		0.70	0.85		0.62	0.76		0.73	0.73	
Control Delay	26.4	41.1		35.7	27.6		26.8	25.3		35.1	31.5	

Lanes, Volumes, Timings

5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	41.1	35.7	27.6	26.8	25.3	35.1	31.5				
LOS	C	D	D	C	C	C	D	C				
Approach Delay	37.9			29.6			25.5					32.2
Approach LOS	D			C			C					C
Intersection Summary												
Area Type: Other												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection												
Natural Cycle: 90												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.89												
Intersection Signal Delay: 31.8												
Intersection LOS: C												
Intersection Capacity Utilization 87.1%												
Analysis Period (min) 15												



Phasings

5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8	7	4	5	2	1	6				
Permitted Phases	8	7	4	5	2	1	6					
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (%)	12.2%	37.8%	12.2%	37.8%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%
Maximum Green (s)	8.0	28.0	8.0	28.0	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	19.0	9.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Flash Dont Walk (s)	11											
Pedestrian Calls (#/hr)	11											
90th %ile Green (s)	8.0	28.0	8.0	28.0	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
70th %ile Green (s)	8.0	28.0	8.0	28.0	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
50th %ile Green (s)	10.3	28.0	10.3	28.0	7.0	26.7	7.0	26.7	7.0	26.7	7.0	26.7
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
30th %ile Green (s)	12.1	27.7	11.4	27.0	9.0	23.9	9.0	23.9	9.0	23.9	9.0	23.9
30th %ile Term Code	Gap	Gap	Gap	Gap	Hold	Max	Max	Max	Max	Max	Max	Max
10th %ile Green (s)	9.9	24.2	9.1	23.4	7.1	30.5	8.2	31.6				
10th %ile Term Code	Gap	Gap	Gap	Gap	Hold	Gap	Coord	Coord	Coord	Coord	Coord	Coord
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection												
Control Type: Actuated-Coordinated												

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	258	938	186	573	160	804	191	773
v/c Ratio	0.67	0.89	0.70	0.55	0.62	0.76	0.73	0.73
Control Delay	26.4	41.1	35.7	27.6	26.8	25.3	35.1	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	41.1	35.7	27.6	26.8	25.3	35.1	31.5
Queue Length 50th (m)	26.8	82.3	21.5	47.6	17.6	68.7	21.2	64.7
Queue Length 95th (m)	#51.6	#117.0	#49.0	57.9	#33.1	34.1	#43.8	83.4
Internal Link Dist (m)		244.6		193.7		156.5		209.4
Turn Bay Length (m)	70.0		32.0		72.0		163.0	
Base Capacity (vph)	384	1084	266	1084	256	1108	260	1110
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.87	0.70	0.53	0.63	0.73	0.73	0.70

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	←	←	←	←	←	←	←	←
Traffic Volume (vph)	250	775	135	180	440	115	155	615
Future Volume (vph)	250	775	135	180	440	115	155	615
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.5	3.5	3.3	3.5	3.3	3.5	3.5
Total Lost time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Frbp. ped/bikes	1.00	1.00	1.00	0.99	1.00	0.99	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	0.98	1.00	0.97	1.00	0.97	1.00
Frt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1738	3434	1710	3400	1645	3322	1726	3327
Flt Permitted	0.32	1.00	0.15	1.00	0.21	1.00	0.18	1.00
Satd. Flow (perm)	583	3434	268	3400	355	3322	332	3327
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	268	799	139	186	454	119	160	634
RTOR Reduction (vph)	0	16	0	0	27	0	28	0
Lane Group Flow (vph)	258	922	0	186	546	0	160	776
Confl. Bikes (#/hr)	34	21	21	34	18	26	26	18
Heavy Vehicles (%)	0%	1%	2%	2%	1%	0%	6%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	3	3
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8		4		2		6	
Actuated Green, G (s)	36.9	27.2	36.3	26.9	35.2	27.8	35.6	28.0
Effective Green, g (s)	36.9	27.2	36.3	26.9	35.2	27.8	35.6	28.0
Actuated g/C Ratio	0.41	0.30	0.40	0.30	0.39	0.31	0.40	0.31
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	366	1037	258	1016	244	1026	249	1035
v/s Ratio Prot	0.08	0.27	0.08	0.16	0.05	0.23	0.06	0.23
v/c Ratio Perm	0.21		0.22		0.20		0.24	
v/c Ratio	0.70	0.89	0.72	0.54	0.66	0.76	0.77	0.73
Uniform Delay, d1	18.8	30.0	20.2	26.4	19.5	28.0	19.9	27.6
Progression Factor	1.00	1.00	1.38	1.04	1.03	0.76	1.00	1.00
Incremental Delay, d2	6.1	9.5	9.1	0.5	5.7	4.8	13.2	4.5
Delay (s)	24.9	39.4	37.0	28.0	25.8	26.0	33.1	32.1
Level of Service	C	D	D	C	C	C	C	C
Approach LOS	D	D	C	C	C	C	C	C

Intersection Summary	
HCM 2000 Control Delay	31.5
HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81
Actuated Cycle Length (s)	90.0
Sum of lost time (s)	18.0
Intersection Capacity Utilization	87.1%
ICU Level of Service	E
Analysis Period (min)	15
Critical Lane Group	c

Lanes, Volumes, Timings
6: Farley Drive & Clair Road East

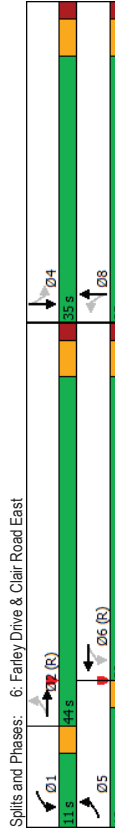
12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	200	725	150	50	475	70	95	40	30	80	55	145
Future Volume (vph)	200	725	150	50	475	70	95	40	30	80	55	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Storage Length (m)	131.0	0.0	64.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	0	0	0	0
Taper Length (m)	7.5	3369	0	1785	3415	0	1705	1728	0	7.5	0	1910
Sat'd. Flow (prot)	0.391	0.298	0.418	0.418	0.418	0.418	0.418	0.418	0.418	0.418	0.418	0.418
Flt Permitted	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sat'd. Flow (RTOR)	33	60	60	60	60	60	60	60	60	60	60	60
Link Speed (k/h)	217.7	160.7	160.7	160.7	160.7	160.7	160.7	160.7	160.7	160.7	160.7	160.7
Link Distance (m)	13.1	13	13	13	13	13	13	13	13	13	13	13
Travel Time (s)	20	13	13	13	13	13	13	13	13	13	13	13
Confl. Peds. (#/hr)	2	2	2	2	2	2	2	2	2	2	2	2
Confl. Bikes (#/hr)	2	2	2	2	2	2	2	2	2	2	2	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	0%	0%	2%	1%	0%
Adj. Flow (vph)	208	755	156	52	495	73	99	42	31	83	57	151
Shared Lane Traffic (%)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	208	911	0	52	568	0	99	73	0	0	291	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6	6	8	8	8	8	8	8	8
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Detector Phase	5	2	1	6	6	8	8	8	8	8	8	8
Switch Phase	7.0	10.0	7.0	10.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0
Minimum Initial (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Minimum Split (s)	16.0	44.0	11.0	39.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Total Split (s)	17.8%	48.9%	12.2%	43.3%	38.9%	38.9%	38.9%	38.9%	38.9%	38.9%	38.9%	38.9%
Maximum Green (s)	3.0	38.0	8.0	33.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Last Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	7	7	7	7	7	7	7	7	7	7	7	7
Act Effect Green (s)	62.9	53.9	57.7	47.6	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
Actuated g/C Ratio	0.70	0.60	0.64	0.53	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
v/c Ratio	0.34	0.45	0.11	0.31	0.68	0.20	0.68	0.20	0.68	0.20	0.68	0.20
Control Delay	3.8	8.2	6.4	13.7	54.6	16.5	54.6	16.5	54.6	16.5	54.6	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	3.8	8.2	6.4	13.7	54.6	16.5	54.6	16.5	54.6	16.5	37.9	37.9
LOS	A	A	A	A	B	D	B	B	B	D	D	D
Approach Delay	7.4	13.1	13.1	39.3	39.3	39.3	39.3	39.3	39.3	39.3	37.9	37.9
Approach LOS	A	A	A	B	B	D	D	D	D	D	D	D
Intersection Summary	Other											
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green											
Natural Cycle:	80											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.75											
Intersection Signal Delay:	15.5											
Intersection LOS:	B											
Intersection Capacity Utilization:	73.1%											
ICU Level of Service:	D											
Analysis Period (min):	15											



Splits and Phases: 6: Farley Drive & Clair Road East

Phase	Split (%)	Split (s)	Split (s)
Ø1	17.8%	16.5 s	16.5 s
Ø2	48.9%	44.3 s	44.3 s
Ø3	12.2%	11.0 s	11.0 s
Ø4	38.9%	35.0 s	35.0 s
Ø5	38.9%	35.0 s	35.0 s
Ø6 (R)	38.9%	35.0 s	35.0 s
Ø7	38.9%	35.0 s	35.0 s
Ø8	38.9%	35.0 s	35.0 s

Phasings
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	5	2	1	6	8	8	4	4
Protected Phases	2	5	6	1	8	8	4	4
Permitted Phases	7	10	7	10	7	7	7	7
Minimum Initial (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0
Minimum Split (s)	16.0	44.0	11.0	39.0	35.0	35.0	35.0	35.0
Total Split (%)	17.8%	48.9%	12.2%	43.3%	38.9%	38.9%	38.9%	38.9%
Maximum Green (s)	13.0	38.0	8.0	33.0	29.0	29.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)	11.0	11.0	8.0	11.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	7	7	12	7	12	12	12	12
90th %ile Green (s)	13.2	41.3	7.7	35.8	26.0	26.0	26.0	26.0
90th %ile Term Code	Gap	Coord	Gap	Coord	Ped	Ped	Ped	Ped
70th %ile Green (s)	10.5	47.1	7.0	43.6	20.9	20.9	20.9	20.9
70th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Gap	Gap
50th %ile Green (s)	9.0	50.2	7.0	48.2	17.8	17.8	17.8	17.8
50th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Gap	Gap
30th %ile Green (s)	7.8	63.3	0.0	52.5	14.7	14.7	14.7	14.7
30th %ile Term Code	Gap	Coord	Skip	Coord	Hold	Hold	Gap	Gap
10th %ile Green (s)	7.0	67.7	0.0	57.7	10.3	10.3	10.3	10.3
10th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Gap	Gap

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Control Type: Actuated-Coordinated

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	208	911	52	568	99	73	291
Lane Group Flow (vph)	0.34	0.45	0.11	0.31	0.68	0.20	0.75
v/c Ratio	3.8	8.2	6.4	13.7	54.6	18.5	37.9
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	3.8	8.2	6.4	13.7	54.6	18.5	37.9
Total Delay	m9.4	m88.0	7.8	51.1	31.4	15.9	60.2
Queue Length 50th (m)	6.2	15.8	2.5	27.3	16.9	6.3	39.4
Queue Length 95th (m)	m9.4	m88.0	7.8	51.1	31.4	15.9	60.2
Internal Link Dist (m)	131.0	193.7	64.0	136.7	20.0	39.9	172.5
Turn Bay Length (m)	661	2031	471	1814	236	577	587
Base Capacity (vph)	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.45	0.11	0.31	0.42	0.13	0.50

Intersection Summary
m Volume for 95th percentile queue is metered by upstream signal.

6: Farley Drive & Clair Road East

12-12-2023

7: Farley Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	725	150	50	475	70	95	40	30	80	55	145
Future Volume (vph)	200	725	150	50	475	70	95	40	30	80	55	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Total Lost time (s)	3.0	6.0	3.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.99	1.00	0.99	1.00	0.98	1.00	0.98	0.97	0.97
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.98	1.00	0.99	0.99
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.94	1.00	0.93	0.93
Frt	1.00	0.97	1.00	0.98	1.00	0.98	1.00	0.94	1.00	0.99	0.99	0.99
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	0.99	0.99	0.99
Satd. Flow (prot)	1777	3370	1782	3414	1672	1728	1728	1728	1895	1895	1895	1895
Flt Permitted	0.39	1.00	0.30	1.00	0.42	1.00	0.42	1.00	0.88	0.88	0.88	0.88
Satd. Flow (perm)	732	3370	559	3414	735	1728	1728	1728	1888	1888	1888	1888
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	208	755	156	52	495	73	99	42	31	83	57	151
RTOR Reduction (vph)	0	14	0	0	9	0	0	25	0	0	51	0
Lane Group Flow (vph)	208	897	0	52	559	0	99	48	0	0	240	0
Confl. Peds. (#/hr)	20	13	13	13	20	36	29	29	29	29	36	36
Confl. Bikes (#/hr)	2											
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	0%	0%	2%	1%	0%
Turn Type	pm+pt	NA	pm+pt	NA	NA	NA	NA	NA	NA	NA	NA	NA
Protected Phases	5	2		1	6		8				4	
Permitted Phases	2		6			8				4		
Actuated Green, G (s)	60.1	52.8	51.9	47.6	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
Effective Green, g (s)	60.1	52.8	51.9	47.6	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
Actuated g/C Ratio	0.67	0.59	0.58	0.53	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	599	1977	380	1805	146	343	335	335	335	335	335	335
v/s Ratio Prot	c0.04	c0.27	0.01	0.16		0.03						
v/s Ratio Perm	0.20	0.07	0.07	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
v/c Ratio	0.35	0.45	0.14	0.31	0.68	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Uniform Delay, d1	5.8	10.5	8.3	11.9	33.4	29.7	33.7	33.7	33.7	33.7	33.7	33.7
Progression Factor	0.54	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.4	0.2	0.4	11.8	0.2	7.1	7.1	7.1	7.1	7.1	7.1
Delay (s)	3.3	7.4	8.5	12.4	45.2	29.9	40.8	40.8	40.8	40.8	40.8	40.8
Level of Service	A	A	A	B	D	C	D	D	D	D	D	D
Approach Delay (s)	6.6		12.1		38.7		40.8	40.8	40.8	40.8	40.8	40.8
Approach LOS	A		B		D		D	D	D	D	D	D
Intersection Summary												
HCM 2000 Control Delay	15.2 HCM 2000 Level of Service B											
HCM 2000 Volume to Capacity ratio	0.52											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0											
Intersection Capacity Utilization	73.1% ICU Level of Service D											
Analysis Period (min)	15											
c Critical Lane Group												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	20	5	5	20	50	5	35	0	80	25	140
Future Volume (vph)	85	20	5	5	20	50	5	35	0	80	25	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Total Lost time (s)	0	1797	0	0	1703	0	0	1866	0	0	1837	0
Lane Util. Factor	0.963	0.996	0.996	0.996	0.996	0.996	0.993	0.993	0.993	0.993	0.984	0.984
Frbp. ped/bikes	0	1797	0	0	1703	0	0	1866	0	0	1837	0
Frbp. ped/bikes	0	1797	0	0	1703	0	0	1866	0	0	1837	0
Frt	0	1797	0	0	1703	0	0	1866	0	0	1837	0
Flt Protected	0	1797	0	0	1703	0	0	1866	0	0	1837	0
Satd. Flow (prot)	0	1797	0	0	1703	0	0	1866	0	0	1837	0
Flt Permitted	0	1797	0	0	1703	0	0	1866	0	0	1837	0
Satd. Flow (perm)	0	1797	0	0	1703	0	0	1866	0	0	1837	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	94	22	6	6	22	56	6	39	0	89	28	156
RTOR Reduction (vph)	0	122	0	0	84	0	0	45	0	0	273	0
Lane Group Flow (vph)	0	122	0	0	84	0	0	45	0	0	273	0
Confl. Peds. (#/hr)	5	5	5	5	5	26	22	22	22	22	22	26
Confl. Bikes (#/hr)	1											
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA	pm+pt	NA	NA	NA	NA	NA	NA	NA	NA	NA
Protected Phases	5	2		1	6		8				4	
Permitted Phases	2		6			8				4		
Actuated Green, G (s)	60.1	52.8	51.9	47.6	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
Effective Green, g (s)	60.1	52.8	51.9	47.6	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
Actuated g/C Ratio	0.67	0.59	0.58	0.53	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	599	1977	380	1805	146	343	335	335	335	335	335	335
v/s Ratio Prot	c0.04	c0.27	0.01	0.16		0.03						
v/s Ratio Perm	0.20	0.07	0.07	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
v/c Ratio	0.35	0.45	0.14	0.31	0.68	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Uniform Delay, d1	5.8	10.5	8.3	11.9	33.4	29.7	33.7	33.7	33.7	33.7	33.7	33.7
Progression Factor	0.54	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.4	0.2	0.4	11.8	0.2	7.1	7.1	7.1	7.1	7.1	7.1
Delay (s)	3.3	7.4	8.5	12.4	45.2	29.9	40.8	40.8	40.8	40.8	40.8	40.8
Level of Service	A	A	A	B	D	C	D	D	D	D	D	D
Approach Delay (s)	6.6		12.1		38.7		40.8	40.8	40.8	40.8	40.8	40.8
Approach LOS	A		B		D		D	D	D	D	D	D
Intersection Summary												
HCM 2000 Control Delay	15.2 HCM 2000 Level of Service B											
HCM 2000 Volume to Capacity ratio	0.52											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0											
Intersection Capacity Utilization	73.1% ICU Level of Service D											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop											
Traffic Volume (vph)	85	20	5	5	20	50	5	35	0	80	25	140
Future Volume (vph)	85	20	5	5	20	50	5	35	0	80	25	140
Peak Hour Factor	0.90											
Hourly flow rate (vph)	94	22	6	6	22	56	6	39	0	89	28	156
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	122	84	45	273								
Volume Left (vph)	94	6	6	89								
Volume Right (vph)	6	56	0	156								
Head (s)	0.12	-0.39	0.03	-0.26								
Departure Headway (s)	4.8	4.4	4.7	4.2								
Degree Utilization, x	0.16	0.10	0.06	0.32								
Capacity (veh/h)	690	751	709	816								
Control Delay (s)	8.8	7.9	8.0	9.1								
Approach Delay (s)	8.8	7.9	8.0	9.1								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	8.8											
Level of Service	A											
Intersection Capacity Utilization	41.9%											
Analysis Period (min)	15											
ICU Level of Service A												

Lanes, Volumes, Timings
8. Farley Drive & Existing Adjacent Site Access

12-12-2023

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	30	10	10	10	30	10
Future Volume (vph)	30	10	10	10	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1751	0	0	1834	1817	0
Flt Permitted	0.964					
Satd. Flow (perm)	1751	0	0	1834	1817	0
Link Speed (k/h)	30					
Link Distance (m)	31.6					
Travel Time (s)	3.8					
Confl. Peds. (#/hr)	13	45	45			
Confl. Bikes (#/hr)	2					
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	84	11	11	11	34	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	0	0	22	45	0
Sign Control	Stop					
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	28.9%					
Analysis Period (min)	15					
ICU Level of Service A						

8: Farley Drive & Existing Adjacent Site Access

12-12-2023

9: Hawkins Drive & Internal E-W Street

12-12-2023



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			Stop	Stop	
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	30	10	10	10	30	10
Future Volume (vph)	30	10	10	10	30	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	34	11	11	11	34	11
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	45	22	45			
Volume Left (vph)	34	11	0			
Volume Right (vph)	11	0	11			
Head (s)	0.00	0.10	-0.15			
Departure Headway (s)	4.0	4.1	3.9			
Degree Utilization, x	0.05	0.03	0.05			
Capacity (veh/h)	870	847	913			
Control Delay (s)	7.3	7.2	7.1			
Approach Delay (s)	7.3	7.2	7.1			
Approach LOS	A	A	A			
Intersection Summary						
Delay	7.2					
Level of Service	A					
Intersection Capacity Utilization	28.3%					
ICU Level of Service	A					
Analysis Period (min)	15					



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W					
Traffic Volume (vph)	45	5	0	70	35	45
Future Volume (vph)	45	5	0	70	35	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1845	0	0	2090	1929	0
Flt Permitted	0.957					
Satd. Flow (perm)	1845	0	0	2090	1929	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Confl. Peds. (#/hr)			8			8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	16%	0%	0%	0%	0%
Adj. Flow (vph)	51	6	0	79	39	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	57	0	0	79	90	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.0%					
ICU Level of Service A						
Analysis Period (min)	15					

9: Hawkins Drive & Internal E-W Street

12-12-2023

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-12-2023

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W					
Traffic Volume (veh/h)	45	5	0	70	35	45
Future Volume (Veh/h)	45	5	0	70	35	45
Sign Control	Stop	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	51	6	0	79	39	51
Pedestrians	8					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	None
Median type						
Median storage (veh)						
Upstream signal (m)						
pX platoon unblocked						
VC, conflicting volume	152	72	98			
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCU, unblocked vol	152	72	98			
IC, single (s)	6.4	6.4	4.1			
IC, 2 stage (s)						
p0 queue free %	3.5	3.4	2.2			
ICM capacity (veh/h)	836	945	1496			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	57	79	90			
Volume Left	51	0	0			
Volume Right	6	0	51			
cSH	846	1496	1700			
Volume to Capacity	0.07	0.00	0.05			
Queue Length 95th (m)	1.7	0.0	0.0			
Control Delay (s)	9.6	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.6	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	2.4					
Intersection Capacity Utilization	17.0%					
Analysis Period (min)	15					
ICU Level of Service	A					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	135	30	10	80	0	30	0	10	0	0	35
Future Volume (vph)	55	135	30	10	80	0	30	0	10	0	0	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	4.5	4.5	4.5	4.5	3.6	3.5	3.6	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	2016	0	0	2041	0	0	1769	0	0	1593	0
Flt Permitted	0.988			0.994			0.964					
Satd. Flow (perm)	0	2016	0	0	2041	0	0	1769	0	0	1593	0
Link Speed (k/h)	40			40			30				50	
Link Distance (m)	90.5			63.5			67.2				112.0	
Travel Time (s)	8.1			5.7			8.1				8.1	
Confl. Peds. (#/hr)		1		1			2		17			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	0%	2%	2%	0%	2%	0%	2%	2%	2%
Adj. Flow (vph)	60	147	33	11	87	0	33	0	11	0	0	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	240	0	0	98	0	0	44	0	0	38	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	36.4%											
Analysis Period (min)	15											
ICU Level of Service A												

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	135	30	10	80	0	30	0	10	0	0	35
Future Volume (Veh/h)	55	135	30	10	80	0	30	0	10	0	0	35
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	60	147	33	11	87	0	33	0	11	0	0	38
Pedestrians	2			17			1					
Lane Width (m)	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	3.6	3.6
Walking Speed (m/s)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Percent Blockage	0			2			0					
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	311											
pX platoon unblocked												
VC, conflicting volume	87			181			434		394		182	410
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCU, unblocked vol	87			181			434		394		182	410
IC, single (s)	4.1			4.1			7.1		6.5		6.2	6.5
IC, 2 stage (s)	2.2			2.2			3.5		4.0		3.3	4.0
p0 queue free %	96			99			93		100		99	100
CM capacity (veh/h)	1509			1405			495		517		850	506
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	240	98	44	38								
Volume Left	60	11	33	0								
Volume Right	33	0	11	38								
cSH	1509	1405	552	967								
Volume to Capacity	0.04	0.01	0.08	0.04								
Queue Length 95th (m)	1.0	0.2	2.1	1.0								
Control Delay (s)	2.1	0.9	12.1	8.9								
Lane LOS	A	A	B	A								
Approach Delay (s)	2.1	0.9	12.1	8.9								
Approach LOS	B	A	A	A								
Intersection Summary												
Average Delay	3.5											
Intersection Capacity Utilization	36.4%											
ICU Level of Service	A											
Analysis Period (min)	15											

11: Internal N-S Street & Internal E-W Street

12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	91.1			71.6	112.0	
Travel Time (s)	6.6			5.2	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Sign Control	Stop			Stop	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

12-12-2023
 HCM Unsignalized Intersection Capacity Analysis
 11: Internal N-S Street & Internal E-W Street

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	0.92	0.92	0.92	0.92	0.92	0.92
Peak Hour Factor	0	0	0	0	0	0
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	0	0	0			
Volume Left (vph)	0	0	0			
Volume Right (vph)	0	0	0			
Head (s)	0.00	0.00	0.00			
Departure Headway (s)	3.9	3.9	3.9			
Degree Utilization, x	0.00	0.00	0.00			
Capacity (veh/h)	917	917	917			
Control Delay (s)	6.9	6.9	6.9			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A	A	A			
Intersection Summary						
Delay	0.0					
Level of Service	A					
Intersection Capacity Utilization	0.0%					
Analysis Period (min)	15					
ICU Level of Service	A					

12-12-2023
 Lanes, Volumes, Timings
 1: Hawkins Drive & Clair Road East

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Traffic Volume (vph)	545	15	80	500	15	85
Future Volume (vph)	545	15	80	500	15	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Storage Length (m)	0.0	0.0	25.0	0.0	0.0	0.0
Storage Lanes	0	0	1	0	1	0
Taper Length (m)			7.5		7.5	
Satd. Flow (prot)	3507	0	1767	3466	1837	0
Flt Permitted			0.950		0.992	
Satd. Flow (perm)	3507	0	1767	3466	1837	0
Link Speed (k/h)	60		60		60	
Link Distance (m)	160.7		130.4		64.6	
Travel Time (s)	9.6		7.8		4.7	
Conf. Peds. (#/hr)		6		6		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	1%	3%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Adj. Flow (vph)	568	16	83	521	16	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	584	0	83	521	105	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	36.1%					
Analysis Period (min)	15					
ICU Level of Service A						

12-12-2023
 HCM Unsignalized Intersection Capacity Analysis
 1: Hawkins Drive & Clair Road East

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	545	15	80	500	15	85
Future Volume (Veh/h)	545	15	80	500	15	85
Sign Control	Free	Free	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	568	16	83	521	16	89
Pedestrians					6	
Lane Width (m)					4.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)	None				None	
Median type						
Median storage (veh)						
Upstream signal (m)	161					
pX platoon unblocked	0.95				0.95	0.95
VC, conflicting volume	580				1008	298
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCU, unblocked vol	467				907	161
IC, single (s)	4.1				6.8	6.9
IC, 2 stage (s)	2.2				3.5	3.3
p0 queue free %	92				93	89
CM capacity (veh/h)	1038				243	816
Direction_Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 1
Volume Total	379	205	83	260	260	105
Volume Left	0	0	83	0	0	16
Volume Right	0	16	0	0	0	89
cSH	1700	1700	1038	1700	1700	600
Volume to Capacity	0.22	0.12	0.08	0.15	0.15	0.18
Queue Length 95th (m)	0.0	0.0	2.1	0.0	0.0	5.0
Control Delay (s)	0.0	0.0	8.8	0.0	0.0	12.3
Lane LOS	A	A	A	A	B	B
Approach Delay (s)	0.0		1.2		12.3	
Approach LOS			B		B	
Intersection Summary						
Average Delay	1.6					
Intersection Capacity Utilization	36.1%					
Analysis Period (min)	15					
						ICU Level of Service
						A

12-12-2023
 Lanes, Volumes, Timings
 2: Hawkins Drive & Poppy Drive East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	45	40	5	0	50	10	5	0	0	5	5	20
Future Volume (vph)	45	40	5	0	50	10	5	0	0	5	5	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	2026	0	0	1797	0	0	1986	0	0	1771	0
Flt Permitted	0.976						0.950				0.992	
Satd. Flow (perm)	0	2026	0	0	1797	0	0	1986	0	0	1771	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		63.5			196.9			136.5			121.9	
Travel Time (s)		5.7			17.7			12.3			11.0	
Confl. Peds. (#/hr)	12		11		11		12		6		3	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	9%
Adj. Flow (vph)	48	43	5	0	54	11	5	0	0	5	5	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	0	0	65	0	0	5	0	0	32	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	24.0%											
Analysis Period (min)	15											
												ICU Level of Service A

2: Hawkins Drive & Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	40	5	0	50	10	5	0	0	5	5	20
Future Volume (Veh/h)	45	40	5	0	50	10	5	0	0	5	5	20
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	48	43	5	0	54	11	5	0	0	5	5	22
Pedestrians	6			3			11					12
Lane Width (m)	4.5			3.6			4.5					4.5
Walking Speed (m/s)	1.2			1.2			1.2					1.2
Percent Blockage	1			0			1					1
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	375											
pX platoon unblocked												
VC, conflicting volume	77		59		242		230		60	216		226
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCU, unblocked vol	77		59		242		230		60	216		226
IC, single (s)	4.1		4.1		7.1		6.5		6.2	7.1		6.5
IC, 2 stage (s)												
IF (s)	2.2		2.2		3.5		4.0		3.3	3.5		4.0
p0 queue free %	97		100		99		100		100	99		99
CM capacity (veh/h)	1515		1540		654		637		998	703		639
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	96	65	5	32								
Volume Left	48	0	5	5								
Volume Right	5	11	0	22								
cSH	1515	1540	654	838								
Volume to Capacity	0.03	0.00	0.01	0.04								
Queue Length 95th (m)	0.8	0.0	0.2	1.0								
Control Delay (s)	3.8	0.0	10.5	9.5								
Lane LOS	A	B	B	A								
Approach Delay (s)	3.8	0.0	10.5	9.5								
Approach LOS	B	A	A									
Intersection Summary												
Average Delay	3.7											
Intersection Capacity Utilization	24.0%											
ICU Level of Service	A											
Analysis Period (min)	15											

3: Poppy Drive East & Fanley Drive

12-12-2023

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	150	115	15	15	30
Future Volume (vph)	0	150	115	15	15	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	2090	1971	0	1681	0
Flt Permitted					0.984	
Satd. Flow (perm)	0	2090	1971	0	1681	0
Link Speed (k/h)		40	40		30	
Link Distance (m)		220.5	90.5		55.2	
Travel Time (s)		19.8	8.1		6.6	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	5%	0%	0%	0%
Adj. Flow (vph)	0	165	126	16	16	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	165	142	0	49	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	19.6%					
ICU Level of Service	A					
Analysis Period (min)	15					

3: Poppy Drive East & Farley Drive

12-12-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	150	115	15	15	30
Future Volume (Veh/h)	0	150	115	15	15	30
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	165	126	16	16	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (m)						
pX platoon unblocked						
vC conflicting volume						
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCn unblocked vol						
IC, single (s)						
IC, 2 stage (s)						
p0 queue free %						
CM capacity (veh/h)						
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	165	142	49			
Volume Left	0	0	16			
Volume Right	0	16	33			
cSH	1418	1700	807			
Volume to Capacity	0.00	0.08	0.06			
Queue Length 95th (m)	0.0	0.0	1.5			
Control Delay (s)	0.0	0.0	9.7			
Lane LOS	A	A	A			
Approach Delay (s)	0.0	0.0	9.7			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			19.6%			
Analysis Period (min)			15			
				ICU Level of Service		A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	15	20	75	20	90	40	660	85	80	735	15
Future Volume (vph)	25	15	20	75	20	90	40	660	85	80	735	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5	0	0	7.5	0	0	7.5	0	0	7.5	0	0
Satd. Flow (prot)	0	1719	0	0	1836	0	2046	3495	0	1745	3557	0
Flt Permitted	0.764	0.839	0.323							0.300		
Satd. Flow (perm)	0	1334	0	0	1568	0	693	3495	0	549	3557	0
Right Turn on Red		Yes		Yes			Yes		Yes			Yes
Satd. Flow (RTOR)	22	55					19			3		
Link Speed (k/h)	40	40					60			60		
Link Distance (m)	93.0	220.5					196.0			180.5		
Travel Time (s)	8.4	19.8					11.8			10.8		
Conf. Peds. (#/hr)	14	6	6	6	14	10	10	10	10	10	10	10
Conf. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	23%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	2	0	0	0	0	0	0	0
Adj. Flow (vph)	27	16	22	82	22	99	44	725	93	88	808	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	65	0	0	203	0	44	818	0	88	824	0
Turn Type	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8	8		4		4	5	2	1	6		
Permitted Phases	8	8		4		4	2		6			
Detector Phase												
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	35.0	35.0	30.0	35.0	35.0	35.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0	34.0	44.0	44.0	34.0	46.0	46.0	46.0
Total Split (%)	37.8%	37.8%	37.8%	37.8%	37.8%	37.8%	48.9%	48.9%	37.8%	51.1%	51.1%	51.1%
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0	28.0	38.0	38.0	28.0	40.0	40.0	40.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag							Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	3	3	5	3	3	3
Act Effct Green (s)	14.7	14.7	14.7	14.7	14.7	14.7	63.5	63.5	14.7	64.9	64.9	64.9
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.71	0.61	0.16	0.72	0.64	0.64
v/c Ratio	0.28	0.28	0.28	0.67	0.67	0.67	0.07	0.38	0.18	0.36	0.36	0.36
Control Delay	24.5	35.6	35.6	50.0	50.0	50.0	11.1	11.1	4.2	8.9	8.9	8.9

Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5			35.6			5.0	11.1		4.2		8.9
LOS	C			D			A	B		A		A
Approach Delay	24.5			35.6				10.8				8.4
Approach LOS	C			D			B			B		A

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

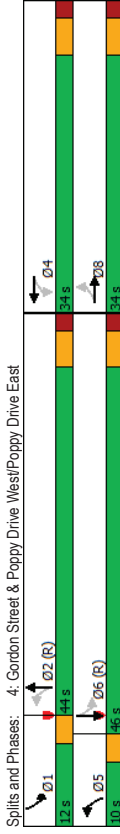
Intersection Signal Delay: 12.6

Intersection Capacity Utilization 59.8%

Analysis Period (min) 15

ICU Level of Service B

Intersection LOS: B



Phasings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases												
Permitted Phases	8			4			5			2		6
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	35.0	35.0	30.0	35.0	30.0	35.0
Total Split (%)	37.8%	37.8%	37.8%	37.8%	37.8%	37.8%	48.9%	48.9%	37.8%	48.9%	37.8%	48.9%
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0	28.0	38.0	38.0	28.0	38.0	28.0	38.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	0.0
Lead/Lag							Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	8.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	16.0	12.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	3	3	5	3	5	3
90th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	7.1	42.1	8.9	43.9	7.1	43.9
90th %ile Term Code	Ped	Ped	Ped	Ped	Ped	Ped	Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	16.8	16.8	16.8	16.8	16.8	16.8	7.0	50.9	7.3	51.2	7.0	51.2
70th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	14.1	14.1	14.1	14.1	14.1	14.1	7.0	53.9	7.0	53.9	7.0	53.9
50th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	11.3	11.3	11.3	11.3	11.3	11.3	0.0	56.7	7.0	66.7	0.0	66.7
30th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Skip	Coord	Min	Coord	Min	Coord
10th %ile Green (s)	7.3	7.3	7.3	7.3	7.3	7.3	0.0	70.7	0.0	70.7	0.0	70.7
10th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Skip	Coord	Skip	Coord	Skip	Coord

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	65	203	44	818	88	824
Lane Group Flow (vph)	0.28	0.67	0.07	0.38	0.18	0.36
v/c Ratio	24.5	35.6	5.0	11.1	4.2	8.9
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	24.5	35.6	5.0	11.1	4.2	8.9
Total Delay	24.5	35.6	5.0	11.1	4.2	8.9
Queue Length 50th (m)	6.9	25.6	1.7	36.5	2.1	25.4
Queue Length 95th (m)	16.3	42.7	6.5	67.5	m6.9	46.8
Internal Link Dist (m)	69.0	196.5		172.0		156.5
Turn Bay Length (m)			91.0		70.0	
Base Capacity (vph)	430	525	594	2137	520	2264
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.39	0.07	0.38	0.17	0.36
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

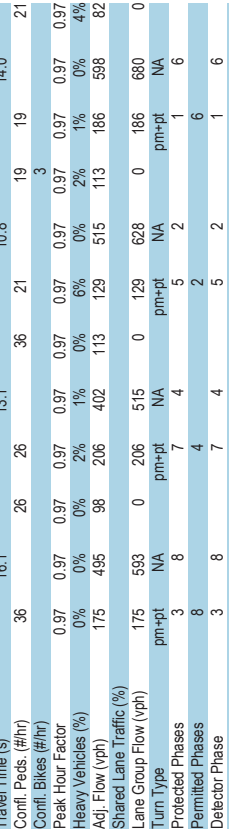
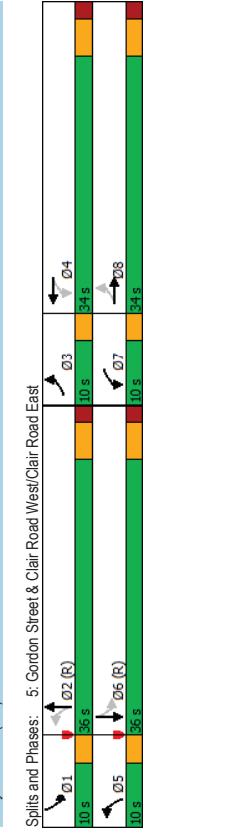
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		+		+			+	+		+	+		
Traffic Volume (vph)	25	15	20	75	20	90	40	660	85	80	735	15	
Future Volume (vph)	25	15	20	75	20	90	40	660	85	80	735	15	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	
Frbp. ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.95	0.95	0.95	0.93	0.93	0.93	1.00	0.98	1.00	1.00	1.00	1.00	
Flt Protected	0.98	0.98	0.98	0.98	0.98	0.98	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1712	1712	1712	1833	1833	1833	2043	3495	1743	3657	3657	1.00	
Flt Permitted	0.76	0.76	0.76	0.84	0.84	0.84	0.32	1.00	0.30	1.00	0.30	1.00	
Satd. Flow (perm)	1336	1336	1336	1569	1569	1569	694	3495	551	3557	3557	1.00	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Adj. Flow (vph)	27	16	22	82	22	99	44	725	93	88	808	16	
RTOR Reduction (vph)	0	18	0	0	46	0	0	8	0	0	0	1	
Lane Group Flow (vph)	0	47	0	0	157	0	44	810	0	88	823	0	
Confl. Peds. (#/hr)	14	6	6	6	6	14	10	10	10	10	10	10	
Confl. Bikes (#/hr)												1	
Heavy Vehicles (%)	23%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0	
Turn Type	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	
Protected Phases		8		4		4		5		2		1	
Permitted Phases	8			4		4		2		2		6	
Actuated Green, G (s)	14.7			14.7		14.7		58.5		54.3		62.1	
Effective Green, g (s)	14.7			14.7		14.7		58.5		54.3		56.1	
Actuated g/C Ratio	0.16			0.16		0.16		0.65		0.60		0.69	
Clearance Time (s)	6.0			6.0		6.0		3.0		6.0		6.0	
Vehicle Extension (s)	3.0			3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	218			256		256		514		2108		459	
v/s Ratio Prot								0.00		0.23		0.01	
v/s Ratio Perm	0.03			0.10		0.10		0.05		0.12		0.23	
v/c Ratio	0.21			0.61		0.61		0.09		0.38		0.19	
Uniform Delay, d1	32.6			35.0		35.0		5.7		9.2		4.9	
Progression Factor	1.00			1.00		1.00		1.00		1.00		0.76	
Incremental Delay, d2	0.5			4.3		4.3		0.1		0.5		0.2	
Delay (s)	33.1			39.3		39.3		5.8		9.8		7.7	
Level of Service	C			D		D		A		A		A	
Approach Delay (s)	33.1			39.3		39.3		9.5		7.3		7.3	
Approach LOS	C			D		D		A		A		A	
Intersection Summary													
HCM 2000 Control Delay	12.3											HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41												
Actuated Cycle Length (s)	90.0											Sum of lost time (s)	15.0
Intersection Capacity Utilization	59.8%											ICU Level of Service	B
Analysis Period (min)	15												
c Critical Lane Group													

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	21.2	35.6		28.7	30.7		10.9	18.4		17.9	25.5	
LOS	C	D		C	C		B	B		B	C	
Approach Delay	32.3			30.1			17.1			23.9		
Approach LOS	C			C			B			C		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	170	480	95	200	390	110	125	500	110	180	580	80
Future Volume (vph)	170	480	95	200	390	110	125	500	110	180	580	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	0.0	32.0	0.0	0.0	72.0	0.0	0.0	163.0	0.0	0.0
Storage Lanes	1	0	0	1	0	0	1	0	0	1	0	0
Taper Length (m)	7.5	3460	0	7.5	3391	0	7.5	3442	0	7.5	3476	0
Satd. Flow (prot)	1745	0.343	0.242	0.289	0.307	0.307	0.289	0.307	0.307	0.307	0.307	0.307
Flt Permitted	620	3460	0	432	3391	0	515	3442	0	555	3476	0
Satd. Flow (perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	27	42	42	60	60	60	31	60	60	18	60	60
Link Speed (k/h)	268.6	217.7	217.7	180.5	180.5	180.5	233.4	180.5	180.5	233.4	180.5	180.5
Link Distance (m)	16.1	26	26	13.1	36	21	10.8	19	19	14.0	21	21
Travel Time (s)	36	26	26	13.1	36	21	10.8	19	19	14.0	21	21
Confl. Peds. (#/hr)	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Confl. Bikes (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	0%	4%
Heavy Vehicles (%)	175	495	98	206	402	113	129	515	113	186	598	82
Adj. Flow (vph)	175	495	98	206	402	113	129	515	113	186	598	82
Shared Lane Traffic (%)	175	593	0	206	515	0	129	628	0	186	680	0
Lane Group Flow (vph)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Turn Type	3	8	7	4	5	2	2	1	6	6	6	6
Protected Phases	3	8	7	4	5	2	2	1	6	6	6	6
Permitted Phases	3	8	7	4	5	2	2	1	6	6	6	6
Detector Phase	3	8	7	4	5	2	2	1	6	6	6	6
Switch Phase	3	8	7	4	5	2	2	1	6	6	6	6
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0	7.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	34.0	10.0	36.0	10.0	36.0	10.0	36.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%	40.0%	11.1%	40.0%	11.1%	40.0%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0	7.0	30.0	7.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Last Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	19.0	9.0	9.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Flesh Dont Walk (s)	12	12	12	12	12	12	12	12	12	12	12	12
Pedestrian Calls (#/hr)	33.7	20.7	35.3	21.5	42.5	31.1	44.4	32.1	44.4	32.1	44.4	32.1
Actuact Green (s)	0.37	0.23	0.39	0.24	0.47	0.35	0.49	0.36	0.49	0.36	0.49	0.36
Actuated g/C Ratio	0.49	0.73	0.64	0.61	0.37	0.52	0.47	0.54	0.47	0.54	0.47	0.54
v/c Ratio	21.2	35.6	28.7	30.7	10.9	18.4	17.9	25.5	17.9	25.5	17.9	25.5
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	7	4	2	6	1	6	6
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%	40.0%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	12	12	12	12	7	7	7	7
90th %ile Green (s)	8.0	28.0	8.0	28.0	7.0	29.0	7.0	29.0
90th %ile Term Code	Max	Ped	Max	Ped	Max	Coord	Max	Coord
70th %ile Green (s)	12.8	22.2	12.9	22.3	10.8	24.2	12.7	26.1
70th %ile Term Code	Gap	Gap	Max	Hold	Gap	Coord	Gap	Coord
50th %ile Green (s)	11.5	20.1	13.0	21.6	9.3	28.0	10.9	29.6
50th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord
30th %ile Green (s)	10.1	18.0	11.4	19.3	7.9	33.5	9.1	34.7
30th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord
10th %ile Green (s)	7.9	15.0	9.0	16.1	7.0	40.9	7.1	41.0
10th %ile Term Code	Gap	Gap	Gap	Hold	Min	Coord	Gap	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBL and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	175	593	206	515	129	628	186	680
v/c Ratio	0.49	0.73	0.64	0.61	0.37	0.52	0.47	0.54
Control Delay	21.2	35.6	28.7	30.7	10.9	18.4	17.9	25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	35.6	28.7	30.7	10.9	18.4	17.9	25.5
Queue Length 50th (m)	19.4	50.8	24.3	44.5	4.9	49.6	18.1	52.3
Queue Length 95th (m)	31.4	61.3	43.7	42.0	9.5	27.0	33.2	71.3
Internal Link Dist (m)	244.6	193.7	72.0	156.5	163.0	209.4	163.0	209.4
Turn Bay Length (m)	70.0	32.0	32.0	108.3	349	1277	396	1291
Base Capacity (vph)	358	1095	323	1083	349	1277	396	1291
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.54	0.64	0.48	0.37	0.49	0.47	0.53

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

12-12-2023
 HCM Signalized Intersection Capacity Analysis
 5. Gordon Street & Clair Road West/Clair Road East

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	170	480	95	200	390	110	125	500	110	180	580	80
Future Volume (vph)	170	480	95	200	390	110	125	500	110	180	580	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost time (s)	3.0	6.0	3.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frbp. ped/bikes	1.00	0.99	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.98	1.00	1.00	0.97	1.00	0.97	1.00	0.97	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1737	3460	1707	3391	1643	3442	1725	3475	1725	3475	1725	3475
Flt Permitted	0.34	1.00	0.24	1.00	0.24	1.00	0.30	1.00	0.31	1.00	0.31	1.00
Satd. Flow (perm)	626	3460	435	3391	518	3442	557	3475	557	3475	557	3475
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	175	495	98	206	402	113	129	515	113	186	598	82
RTOR Reduction (vph)	0	21	0	0	32	0	20	0	20	0	12	0
Lane Group Flow (vph)	175	572	0	206	483	0	129	608	0	186	668	0
Conf. Bikes (#/hr)	36	26	26	26	26	26	21	19	19	19	19	21
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	0%	4%
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	5	2	5	2	6	6
Permitted Phases	8	4	4	4	2	2	4	2	4	2	4	4
Actuated Green, G (s)	30.8	20.7	32.4	21.5	39.4	31.0	41.4	32.0	41.4	32.0	32.0	32.0
Effective Green, g (s)	30.8	20.7	32.4	21.5	39.4	31.0	41.4	32.0	41.4	32.0	32.0	32.0
Actuated g/C Ratio	0.34	0.23	0.36	0.24	0.44	0.34	0.46	0.36	0.46	0.36	0.36	0.36
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	338	795	310	810	331	1185	378	1235	378	1235	378	1235
v/s Ratio Prot	0.06	c0.17	c0.08	0.14	0.04	0.18	c0.05	c0.19	c0.05	c0.19	c0.05	c0.19
v/s Ratio Perm	0.12	0.16	0.16	0.13	0.13	0.17	0.17	0.17	0.17	0.17	0.17	0.17
v/c Ratio	0.52	0.72	0.66	0.60	0.39	0.51	0.49	0.54	0.49	0.54	0.49	0.54
Uniform Delay, d1	21.9	32.0	21.6	30.4	15.8	23.5	15.2	23.1	15.2	23.1	15.2	23.1
Progression Factor	1.00	1.00	1.10	1.01	0.61	0.71	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	3.1	5.0	1.1	0.7	1.5	1.0	1.7	1.0	1.7	1.0	1.7
Delay (s)	23.2	35.1	28.7	31.7	10.4	18.3	16.2	24.8	16.2	24.8	16.2	24.8
Level of Service	C	D	C	C	B	B	B	C	B	B	B	C
Approach Delay (s)	32.4	C	C	C	30.8	C	17.0	C	30.8	C	23.0	C
Approach LOS	C	C	C	C	C	B	B	C	B	B	C	C
Intersection Summary	HCM 2000 Control Delay: 25.7 HCM 2000 Level of Service: C											
HCM 2000 Volume to Capacity ratio	0.61											
Actuated Cycle Length (s)	90.0											
Intersection Capacity Utilization	82.4%											
Analysis Period (min)	15											
c Critical Lane Group	E											

12-12-2023
 Lanes, Volumes, Timings
 6. Farley Drive & Clair Road East

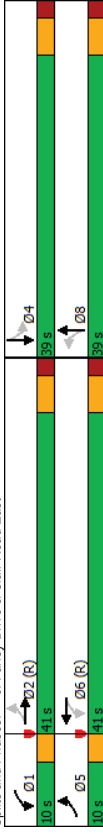
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	125	445	155	40	410	70	130	60	35	90	55	160
Future Volume (vph)	125	445	155	40	410	70	130	60	35	90	55	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Storage Length (m)	131.0	0.0	0.0	64.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	0	1	0	0	1	0	0	0	0	0
Taper Length (m)	7.5	37.6	0	7.5	37.6	0	7.5	37.6	0	7.5	37.6	0
Satd. Flow (prot)	1767	376	0	1785	3353	0	1705	1754	0	1934	0	1934
Flt Permitted	0.414	0.404	0.404	0.404	0.404	0.404	0.413	0.413	0.413	0.413	0.413	0.413
Satd. Flow (perm)	761	3376	0	755	3353	0	732	1754	0	1687	0	1687
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	63	63	0	25	25	0	37	37	0	70	0	70
Link Speed (k/h)	60	60	60	60	60	60	60	60	60	60	60	60
Link Distance (m)	217.7	217.7	160.7	160.7	160.7	63.9	63.9	63.9	63.9	196.5	196.5	196.5
Travel Time (s)	13.1	13.1	9.6	9.6	9.6	7.7	7.7	7.7	7.7	17.7	17.7	17.7
Conf. Peds. (#/hr)	17	17	9	9	9	23	23	23	23	21	21	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	136	484	168	43	446	76	141	65	38	98	60	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	652	0	43	522	0	141	103	0	332	0	332
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6	6	8	8	8	8	4	4	4
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Detector Phase	5	2	2	2	2	2	2	2	2	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	10.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	10.0	41.0	10.0	41.0	10.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	11.1%	45.6%	11.1%	45.6%	11.1%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%
Maximum Green (s)	7.0	35.0	7.0	35.0	7.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	11.0	11.0	11.0	11.0	11.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6	6
Act Effct Green (s)	60.2	51.7	56.5	46.4	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2
Actuated g/C Ratio	0.67	0.57	0.63	0.52	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
v/c Ratio	0.23	0.33	0.08	0.30	0.87	0.24	0.77	0.22	0.22	0.22	0.22	0.22
Control Delay	4.0	7.2	7.1	14.0	74.2	18.4	36.9	18.4	18.4	18.4	18.4	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	7.2	7.1	14.0	74.2	18.4	36.9	18.4	18.4	18.4	18.4	18.4

6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A	A	A	B	B	E	B	B	D	D	D
Approach Delay	6.6			13.5				50.6				36.9
Approach LOS	A			B			D			D		D
Intersection Summary												
Area Type: Other												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 80												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.87												
Intersection Signal Delay: 19.4												
Intersection Capacity Utilization 69.9%												
Analysis Period (min) 15												

Splits and Phases: 6: Farley Drive & Clair Road East



Phasings

6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	2	1	6	6	8	8	8	4	4	4
Permitted Phases	2	5	5	6	1	1	8	8	8	7	7	7
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0
Minimum Split (s)	10.0	35.0	10.0	35.0	10.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	11.1%	45.6%	11.1%	45.6%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%
Maximum Green (s)	7.0	35.0	7.0	35.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0	11.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	6	6	8	8	8	8	8	8	8	8	8	8
90th %ile Green (s)	11.2	38.4	7.6	34.8	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
90th %ile Term Code	Gap	Coord	Gap	Coord	Gap	Coord	Gap	Coord	Gap	Coord	Gap	Coord
70th %ile Green (s)	9.0	44.4	7.0	42.4	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6
70th %ile Term Code	Gap	Coord	Min	Coord	Gap	Coord	Gap	Coord	Gap	Coord	Gap	Coord
50th %ile Green (s)	7.9	48.0	7.0	47.1	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
50th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold
30th %ile Green (s)	7.0	61.5	0.0	51.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
30th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold
10th %ile Green (s)	7.0	66.3	0.0	56.3	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
10th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Control Type: Actuated-Coordinated												

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	136	652	43	522	141	103	332
v/c Ratio	0.23	0.33	0.08	0.30	0.87	0.24	0.77
Control Delay	4.0	7.2	7.1	14.0	74.2	18.4	36.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	7.2	7.1	14.0	74.2	18.4	36.9
Queue Length 50th (m)	2.1	5.3	2.3	25.2	24.9	9.8	45.3
Queue Length 95th (m)	15.0	57.5	7.6	47.4	#44.3	20.2	66.5
Internal Link Dist (m)	131.0	193.7	64.0	136.7	39.9	172.5	
Turn Bay Length (m)	603	1966	555	1742	268	666	662
Base Capacity (vph)	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.33	0.08	0.30	0.53	0.15	0.50

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	←	←	←	←	←	←	←	←
Traffic Volume (vph)	125	445	155	40	410	70	130	60
Future Volume (vph)	125	445	155	40	410	70	130	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.1	3.5	4.8
Total Lost time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.98
Frbp. ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	0.99	0.99
Frt	0.95	1.00	0.95	1.00	0.98	1.00	0.94	0.93
Flt Protected	1759	3377	1781	3354	1685	1753	1924	
Flt Permitted	0.41	1.00	0.40	1.00	0.41	1.00	0.86	
Satd. Flow (perm)	766	3377	758	3354	732	1753	1887	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	484	168	43	446	76	141	65
RTOR Reduction (vph)	0	28	0	12	0	29	0	54
Lane Group Flow (vph)	136	624	0	43	510	0	141	74
Conf. Peds. (#/hr)	17	9	9	9	17	23	21	21
Heavy Vehicles (%)	1%	1%	0%	0%	4%	0%	0%	0%
Turn Type	pm-pt	NA	pm-pt	NA	pm	NA	Perm	NA
Protected Phases	5	2	1	6	8	8	4	4
Permitted Phases	2	6	6	6	8	8	4	4
Actuated Green, G (s)	57.8	50.5	50.7	46.4	20.2	20.2	20.2	20.2
Effective Green, g (s)	57.8	50.5	50.7	46.4	20.2	20.2	20.2	20.2
Actuated g/C Ratio	0.64	0.56	0.56	0.52	0.22	0.22	0.22	0.22
Clearance Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	584	1894	475	1729	164	393	378	
v/s Ratio Prot	c0.02	c0.18	0.00	0.15	0.00	0.04	0.16	
v/s Ratio Perm	0.13	0.05	0.05	c0.19	c0.19	0.16	0.16	
v/c Ratio	0.23	0.33	0.09	0.29	0.86	0.19	0.73	
Uniform Delay, d1	6.4	10.6	8.8	12.5	33.5	28.3	32.4	
Progression Factor	0.50	0.61	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.4	0.1	0.4	33.4	0.2	7.2	
Delay (s)	3.4	6.9	8.9	12.9	67.0	28.5	39.6	
Level of Service	A	A	A	B	E	C	D	
Approach Delay (s)	6.3	6.3	12.6	12.6	50.7	39.6	39.6	
Approach LOS	A	A	B	B	D	D	D	
Intersection Summary								
HCM 2000 Control Delay	19.5				HCM 2000 Level of Service			
HCM 2000 Volume to Capacity ratio	0.47				B			
Actuated Cycle Length (s)	90.0				Sum of lost time (s)			
Intersection Capacity Utilization	69.9%				ICU Level of Service			
Analysis Period (min)	15				C			
c Critical Lane Group								

Lanes, Volumes, Timings
7: Farley Drive & Internal E-W Street

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	25	10	15	20	85	0	45	5	100	20	125
Future Volume (vph)	105	25	10	15	20	85	0	45	5	100	20	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1795	0	0	1688	0	0	1853	0	0	1965	0
Flt Permitted	0.964			0.994								0.980
Satd. Flow (perm)	0	1795	0	0	1688	0	0	1853	0	0	1965	0
Link Speed (k/h)	30			30				30			30	
Link Distance (m)	57.2			91.1				54.0			63.9	
Travel Time (s)	6.9			10.9				6.5			7.7	
Confl. Peds. (#/hr)	6	6	6	6	6	6	26	22	22	22	22	26
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	121	29	11	17	23	98	0	52	6	115	23	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	161	0	0	138	0	0	58	0	0	282	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	43.3%
Analysis Period (min)	15
ICU Level of Service A	

HCM Unsignalized Intersection Capacity Analysis
7: Farley Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	105	25	10	15	20	85	0	45	5	100	20	125
Future Volume (vph)	105	25	10	15	20	85	0	45	5	100	20	125
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	121	29	11	17	23	98	0	52	6	115	23	144
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	161	138	58	282								
Volume Left (vph)	121	17	0	115								
Volume Right (vph)	11	98	6	144								
Head (s)	0.11	-0.40	-0.06	-0.22								
Departure Headway (s)	5.0	4.5	4.9	4.5								
Degree Utilization, x	0.22	0.17	0.08	0.35								
Capacity (veh/h)	668	725	663	754								
Control Delay (s)	9.4	8.5	8.4	9.9								
Approach Delay (s)	9.4	8.5	8.4	9.9								
Approach LOS	A	A	A	A								

Intersection Summary	
Delay	9.3
Level of Service	A
Intersection Capacity Utilization	43.3%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	40	15	5	15	25	25
Future Volume (vph)	40	15	5	15	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1748	0	0	1856	1751	0
Flt Permitted	0.965			0.988		
Satd. Flow (perm)	1748	0	0	1856	1751	0
Link Speed (kph)	30			30	30	
Link Distance (m)	31.6			55.2	54.0	
Travel Time (s)	3.8			6.6	6.5	
Confl. Peds. (#/hr)	5	49	43			43
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	49	18	6	18	30	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	0	0	24	60	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.5%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	40	15	5	15	25	25
Future Volume (vph)	40	15	5	15	25	25
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	49	18	6	18	30	30
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	67	24	60			
Volume Left (vph)	49	6	0			
Volume Right (vph)	18	0	30			
Head (s)	-0.01	0.05	-0.30			
Departure Headway (s)	4.1	4.2	3.8			
Degree Utilization, x	0.08	0.03	0.06			
Capacity (veh/h)	865	840	933			
Control Delay (s)	7.4	7.3	7.0			
Approach Delay (s)	7.4	7.3	7.0			
Approach LOS	A	A	A			
Intersection Summary						
Delay	7.2					
Level of Service	A					
Intersection Capacity Utilization	28.5%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations						
Traffic Volume (vph)	55	0	5	50	30	60
Future Volume (vph)	55	0	5	50	30	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1905	0	0	2082	1902	0
Flt Permitted	0.950			0.996		
Satd. Flow (perm)	1905	0	0	2082	1902	0
Link Speed (kph)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	68	0	6	62	37	74
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	68	111	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.8%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis

9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations						
Traffic Volume (veh/h)	55	0	5	50	30	60
Future Volume (Veh/h)	55	0	5	50	30	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	68	0	6	62	37	74
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)				None	None	
Median type						
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked	148	74	111			
vC, conflicting volume						
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	148	74	111			
iC, single (s)	6.4	6.2	4.1			
iC, 2 stage (s)						
IF (s)	3.5	3.3	2.2			
p0 queue free %	92	100	100			
qM capacity (veh/h)	845	893	1492			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	68	68	111			
Volume Left	68	6	0			
Volume Right	0	0	74			
vSH	845	1492	1700			
Volume to Capacity	0.08	0.00	0.07			
Queue Length 95th (m)	2.1	0.1	0.0			
Control Delay (s)	9.6	0.7	0.0			
Lane LOS	A	A	A			
Approach Delay (s)	9.6	0.7	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	2.8					
Intersection Capacity Utilization	16.8%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	90	20	5	75	0	20	0	15	0	0	45
Future Volume (vph)	55	90	20	5	75	0	20	0	15	0	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	4.5	4.5	4.5	4.5	3.6	3.5	3.6	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1998	0	0	2027	0	1702	0	0	0	0	1593
Flt Permitted	0.984			0.997			0.972					
Satd. Flow (perm)	0	1998	0	0	2027	0	1702	0	0	0	0	1593
Link Speed (k/h)	40			40			30					20
Link Distance (m)	90.5			63.5			67.2					112.0
Travel Time (s)	8.1			5.7			8.1					20.2
Confl. Peds. (#/hr)			1				3				6	
Peak Hour Factor	0.92	0.87	0.87	0.87	0.87	0.92	0.87	0.92	0.87	0.92	0.92	0.92
Heavy Vehicles (%)	2%	1%	0%	0%	3%	2%	4%	2%	0%	2%	2%	2%
Adj. Flow (vph)	60	103	23	6	86	0	23	0	17	0	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	186	0	0	92	0	0	40	0	0	0	49
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.1%
Analysis Period (min)	15
ICU Level of Service A	

HCM Unsignalized Intersection Capacity Analysis

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	90	20	5	75	0	20	0	15	0	0	45
Future Volume (Veh/h)	55	90	20	5	75	0	20	0	15	0	0	45
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.87	0.87	0.87	0.87	0.92	0.87	0.92	0.87	0.92	0.92	0.92
Hourly flow rate (vph)	60	103	23	6	86	0	23	0	17	0	0	49
Pedestrians	3			6			1					
Lane Width (m)	4.5			4.5			3.6					
Walking Speed (m/s)	1.2			1.2			1.2					
Percent Blockage	0			1			0					
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	311											
pX, platoon unblocked												
vC, conflicting volume	86			127			386	334	122	356	345	89
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vC3, unblocked vol	86			127			386	334	122	356	345	89
IC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
IC, 2 stage (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			96	100	98	100	100	95
p0 capacity (veh/h)	1510			1470			520	560	929	565	552	966
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	186	92	40	49								
Volume Left	60	6	23	0								
Volume Right	23	0	17	49								
vSH	1510	1470	640	966								
Volume to Capacity	0.04	0.00	0.06	0.05								
Queue Length 95th (m)	1.0	0.1	1.6	1.3								
Control Delay (s)	2.6	0.5	11.0	8.9								
Lane LOS	A	A	B	A								
Approach Delay (s)	2.6	0.5	11.0	8.9								
Approach LOS	B	A		A								
Intersection Summary												
Average Delay				3.9								
Intersection Capacity Utilization				32.1%								A
Analysis Period (min)				15								

Lanes, Volumes, Timings
11: Internal N-S Street & Internal E-W Street

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	91.1			71.6	112.0	
Travel Time (s)	10.9			8.6	13.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 0.0%	ICU Level of Service A					
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
11: Internal N-S Street & Internal E-W Street

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	0	0	0	0	0	0
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Head (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	917	917	917	917
Control Delay (s)	6.9	6.9	6.9	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A	A	A
Intersection Summary	Other					
Delay	0.0					
Level of Service	A					
Intersection Capacity Utilization	0.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

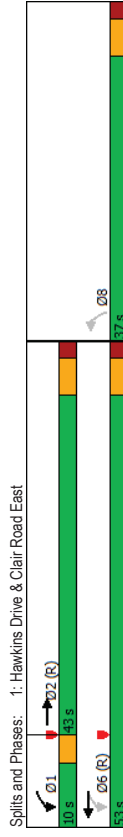
12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	430	10	55	890	25	70
Future Volume (vph)	430	10	55	890	25	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)		7.5		34.33	17.45	0
Satd. Flow (prot)	3364	0	1785	3433	1745	0
Flt Permitted			0.441		0.987	
Satd. Flow (perm)	3364	0	826	3433	1745	0
Right Turn on Red	Yes					Yes
Satd. Flow (RTOR)	3					81
Link Speed (k/h)	60			60	50	
Link Distance (m)	1607			130.4	64.6	
Travel Time (s)	9.6			7.8	4.7	
Confl. Peds. (#/hr)		5				
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	14%	0%	4%	8%	6%
Bus Blockages (#/hr)	2	0	0	0	0	0
Adj. Flow (vph)	500	12	64	1035	29	81
Shared Lane Traffic (%)						
Lane Group Flow (vph)	512	0	64	1035	110	0
Turn Type	NA	pm+pt	NA	Perm	NA	Perm
Protected Phases	2		1		6	
Permitted Phases	2		6		8	
Detector Phase	2		1		6	
Switch Phase						
Minimum Initial (s)	10.0	7.0	10.0	10.0	7.0	
Minimum Split (s)	35.0	10.0	35.0	35.0	35.0	
Total Split (s)	43.0	10.0	53.0	37.0		
Total Split (%)	47.8%	11.1%	58.9%	41.1%		
Maximum Green (s)	37.0	7.0	47.0	31.0		
Yellow Time (s)	4.0	3.0	4.0	4.0		
All-Red Time (s)	2.0	0.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.0	3.0	6.0	6.0		
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	None	C-Min	None	None	
Walk Time (s)	11.0	11.0	11.0	8.0		
Flesh Dont Walk (s)	18.0		18.0	18.0		
Pedestrian Calls (#/hr)	7		7	12		
Act Effect Green (s)	62.4		72.4	70.6	11.2	
Actuated g/C Ratio	0.69		0.80	0.78	0.12	
v/c Ratio	0.22		0.09	0.38	0.38	
Control Delay	4.5		4.2	5.5	15.8	
Queue Delay	0.0		0.0	0.0	0.0	

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	4.5	4.2	5.5	15.8		
LOS	A	A	A	B		
Approach Delay	4.5		5.4	15.8		
Approach LOS	A		A	B		
Intersection Summary						
Area Type:	Other					
Cycle Length:	90					
Actuated Cycle Length:	90					
Offset:	2 (2%), Referenced to phase 2EBT and 6:WBT, Start of Green					
Natural Cycle:	80					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.38					
Intersection Signal Delay:	5.8					
Intersection LOS:	A					
Intersection Capacity Utilization:	49.2%					
Analysis Period (min):	15					



Splits and Phases: 1: Hawkins Drive & Clair Road East

Phasings
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	WBL	WBT	NBL
Lane Group	2	1	6	
Protected Phases				
Permitted Phases	8			
Minimum Initial (s)	10.0	7.0	10.0	7.0
Minimum Split (s)	35.0	10.0	35.0	35.0
Total Split (s)	43.0	10.0	53.0	37.0
Total Split (%)	47.8%	11.1%	58.9%	41.1%
Maximum Green (s)	37.0	7.0	47.0	31.0
Yellow Time (s)	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	0.0	2.0	2.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	C-Min	None	C-Min	None
Walk Time (s)	11.0		11.0	8.0
Flash Dont Walk (s)	18.0		18.0	18.0
Pedestrian Calls (#/hr)	7		7	12
90th %ile Green (s)	40.8	8.2	52.0	26.0
90th %ile Term Code	Coord	Gap	Coord	Ped
70th %ile Green (s)	59.2	7.0	69.2	8.8
70th %ile Term Code	Coord	Min	Coord	Gap
50th %ile Green (s)	61.0	7.0	71.0	7.0
50th %ile Term Code	Coord	Min	Coord	Min
30th %ile Green (s)	61.0	7.0	71.0	7.0
30th %ile Term Code	Coord	Min	Coord	Min
10th %ile Green (s)	84.0	0.0	84.0	0.0
10th %ile Term Code	Coord	Skip	Coord	Skip
Intersection Summary				
Cycle Length: 90				
Actuated Cycle Length: 90				
Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBTL - Start of Green				
Control Type: Actuated-Coordinated				

Queues
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	WBL	WBT	NBL
Lane Group	512	64	1035	110
Lane Group Flow (vph)	0.22	0.09	0.38	0.38
v/c Ratio	4.5	4.2	5.5	15.8
Control Delay	0.0	0.0	0.0	0.0
Queue Delay	4.5	4.2	5.5	15.8
Total Delay	4.5	4.2	5.5	15.8
Queue Length 50th (m)	9.0	1.5	22.5	5.1
Queue Length 95th (m)	16.0	8.8	67.1	13.8
Internal Link Dist (m)	136.7		106.4	40.6
Turn Bay Length (m)		25.0		
Base Capacity (vph)	2333	742	2694	654
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.09	0.38	0.17
Intersection Summary				

12-12-2023
 HCM Signalized Intersection Capacity Analysis
 1: Hawkins Drive & Clair Road East

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Traffic Volume (vph)	430	10	55	890	25	70
Future Volume (vph)	430	10	55	890	25	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Total Lost time (s)	6.0	3.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	0.90	1.00
Flt Protected	1.00	0.95	1.00	0.99		
Satd. Flow (prot)	3365	1782	3433	1744		
Flt Permitted	1.00	0.44	1.00	0.99		
Satd. Flow (perm)	3385	827	3433	1744		
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	500	12	64	1035	29	81
RTOR Reduction (vph)	1	0	0	0	72	0
Lane Group Flow (vph)	511	0	64	1035	38	0
Conf. Peds. (#/hr)	5	5	5	5	5	5
Heavy Vehicles (%)	5%	14%	0%	4%	8%	6%
Bus Blockages (#/hr)	2	0	0	0	0	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2	1	6			
Permitted Phases		6	8			
Actuated Green, G (s)	59.4	68.2	68.2	9.8		
Effective Green, g (s)	59.4	68.2	68.2	9.8		
Actuated g/C Ratio	0.66	0.76	0.76	0.11		
Clearance Time (s)	6.0	3.0	6.0	6.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	2220	688	2601	189		
v/s Ratio Prot	0.15	0.01	c0.30			
v/s Ratio Perm		0.06	c0.02			
v/c Ratio	0.23	0.09	0.40	0.20		
Uniform Delay, d1	6.1	2.8	3.8	36.5		
Progression Factor	0.54	1.00	1.00	1.03		
Incremental Delay, d2	0.2	0.1	0.5	0.5		
Delay (s)	3.5	2.9	4.2	38.2		
Level of Service	A	A	A	D		
Approach Delay (s)	3.5	4.2	38.2			
Approach LOS	A	A	D			
Intersection Summary						
HCM 2000 Control Delay	6.1 HCM 2000 Level of Service A					
HCM 2000 Volume to Capacity ratio	0.39					
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0					
Intersection Capacity Utilization	49.2% ICU Level of Service A					
Analysis Period (min)	15					
c Critical Lane Group						

12-12-2023
 Lanes, Volumes, Timings
 2: Hawkins Drive & Poppy Drive East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	45	45	0	15	75	10	10	30	20	5	20	25
Future Volume (vph)	45	45	0	15	75	10	10	30	20	5	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	1880	0	1806	0	0	1982	0	0	1758	0	0
Flt Permitted	0	0.976	0	0.993	0	0	0.992	0	0	0.995	0	0
Satd. Flow (perm)	0	1880	0	1806	0	0	1982	0	0	1758	0	0
Link Speed (k/h)		40		40			40			40		
Link Distance (m)		63.5		196.8			136.5			121.9		
Travel Time (s)		5.7		17.7			12.3			11.0		
Conf. Peds. (#/hr)	24	15	15	24	15	17	17	17	17	17	17	15
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	9%	8%	0%	0%	4%	0%	0%	0%	0%	0%	0%	20%
Adj. Flow (vph)	57	57	0	19	95	13	38	25	6	25	32	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	114	0	127	0	0	76	0	0	63	0	0
Sign Control		Free		Free			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	28.0%											
Analysis Period (min)	15											
ICU Level of Service A												

2: Hawkins Drive & Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	45	45	0	15	75	10	10	30	20	20	5	20
Traffic Volume (veh/h)	45	45	0	15	75	10	10	30	20	5	20	25
Future Volume (Veh/h)	45	45	0	15	75	10	10	30	20	5	20	25
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	57	57	0	19	95	13	13	38	25	6	25	32
Pedestrians	15	15	0	17	17	17	15	15	15	24	24	24
Lane Width (m)	4.5	4.5	3.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Walking Speed (m/s)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Percent Blockage	2	2	1	2	2	2	2	2	2	2	2	2
Right turn flare (veh)	None	None	None	None	None	None	None	None	None	None	None	None
Median type	None	None	None	None	None	None	None	None	None	None	None	None
Median storage (veh)	375	375	375	375	375	375	375	375	375	375	375	375
Upstream signal (m)	375	375	375	375	375	375	375	375	375	375	375	375
pX platoon unblocked	132	132	72	385	356	89	386	350	140	140	140	140
VC, conflicting volume	132	132	72	385	356	89	386	350	140	140	140	140
VC1, stage 1 conf vol	132	132	72	385	356	89	386	350	140	140	140	140
VC2, stage 2 conf vol	4.2	4.2	4.1	7.1	6.5	6.2	7.1	6.5	6.4	6.4	6.4	6.4
IC, single (s)	2.3	2.3	2.2	3.5	4.0	3.3	3.5	4.0	3.5	4.0	3.5	3.5
IF (s)	96	96	99	97	93	97	99	95	96	96	96	96
p0 queue free %	1376	1376	1517	482	521	946	467	525	827	827	827	827
CM capacity (veh/h)	EB 1	WB 1	NB 1	SB 1	EB 1	WB 1	NB 1	SB 1	EB 1	WB 1	NB 1	SB 1
Direction_Lane #	114	127	76	63	114	127	76	63	114	127	76	63
Volume Total	57	19	13	6	57	19	13	6	57	19	13	6
Volume Left	0	13	25	32	0	13	25	32	0	13	25	32
Volume Right	1376	1517	601	635	1376	1517	601	635	1376	1517	601	635
cSH	0.04	0.01	0.13	0.10	0.04	0.01	0.13	0.10	0.04	0.01	0.13	0.10
Volume to Capacity	1.0	0.3	3.5	2.6	1.0	0.3	3.5	2.6	1.0	0.3	3.5	2.6
Queue Length 95th (m)	4.0	1.2	11.9	11.3	4.0	1.2	11.9	11.3	4.0	1.2	11.9	11.3
Control Delay (s)	A	A	B	B	A	A	B	B	A	A	B	B
Lane LOS	A	A	B	B	A	A	B	B	A	A	B	B
Approach Delay (s)	4.0	1.2	11.9	11.3	4.0	1.2	11.9	11.3	4.0	1.2	11.9	11.3
Approach LOS	B	B	B	B	B	B	B	B	B	B	B	B
Intersection Summary	Other											
Average Delay	5.8											
Intersection Capacity Utilization	28.0%											
ICU Level of Service	A											
Analysis Period (min)	15											

3: Poppy Drive East & Fanley Drive

12-12-2023

Lane Group	EBL	EBT	EBT	WBT	WBR	SBL	SBR
Lane Configurations	10	75	125	10	10	10	10
Traffic Volume (vph)	10	75	125	10	10	10	10
Future Volume (vph)	10	75	125	10	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	1909	1960	0	1547	0	0
Flt Permitted	0.994	0.994	0.994	0.994	0.994	0.994	0.994
Satd. Flow (perm)	0	1909	1960	0	1547	0	0
Link Speed (k/h)	40	40	40	40	40	30	30
Link Distance (m)	220.5	90.5	55.2	55.2	55.2	55.2	55.2
Travel Time (s)	19.8	8.1	6.6	6.6	6.6	6.6	6.6
Confl. Peds. (#/hr)	8	8	8	8	8	8	8
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	30%	6%	0%	9%	12%	11%	11%
Adj. Flow (vph)	11	82	137	11	11	11	11
Shared Lane Traffic (%)	0	93	148	0	22	0	0
Lane Group Flow (vph)	Free	Free	Free	Free	Stop	Stop	Stop
Sign Control	Free	Free	Free	Free	Stop	Stop	Stop
Intersection Summary	Other						
Area Type:	Unsignalized						
Control Type:	Unsignalized						
Intersection Capacity Utilization	22.4%						
ICU Level of Service	A						
Analysis Period (min)	15						

3: Poppy Drive East & Farley Drive

12-12-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	75	125	10	10	10
Future Volume (Veh/h)	10	75	125	10	10	10
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	11	82	137	11	11	11
Pedestrians					8	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)					None	
Median type					None	
Median storage (veh)					220	
Upstream signal (m)					220	
pX platoon unblocked					254	150
VC, conflicting volume					156	
VC1, stage 1 conf vol					156	
VC2, stage 2 conf vol					4.4	
VCU, unblocked vol					2.5	3.4
IC, single (s)					99	99
IC, 2 stage (s)					1262	865
p0 queue free %					98	99
CM capacity (veh/h)					708	865
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	93	148	22			
Volume Left	11	0	11			
Volume Right	0	11	11			
cSH	1262	1700	779			
Volume to Capacity	0.01	0.09	0.03			
Queue Length 95th (m)	0.2	0.0	0.7			
Control Delay (s)	1.0	0.0	9.8			
Lane LOS	A	A	A			
Approach Delay (s)	1.0	0.0	9.8			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			22.4%			
Analysis Period (min)			15			
					ICU Level of Service	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations											
Traffic Volume (vph)	30	15	40	50	10	85	75	910	60	25	630
Future Volume (vph)	30	15	40	50	10	85	75	910	60	25	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0
Taper Length (m)	7.5		7.5			7.5				7.5	
Satd. Flow (prot)	0	1424	0	1747	0	1894	3282	0	1678	3329	0
Flt Permitted		0.782		0.877		0.349			0.267		
Satd. Flow (perm)	0	1131	0	1558	0	695	3282	0	470	3329	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	42		81			10				11	
Link Speed (k/h)	40		40			60				60	
Link Distance (m)	93.0		220.5			196.0				180.5	
Travel Time (s)	8.4		19.8			11.8				10.8	
Conf. Peds. (#/hr)	4		2			3			8	8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	75%	22%	0%	0%	50%	8%	7%	16%	4%	5%	20%
Bus Blockages (#/hr)	0	0	0	2	2	0	0	0	0	0	0
Adj. Flow (vph)	31	16	42	52	10	89	78	948	63	26	656
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	89	0	151	0	78	1011	0	26	703	0
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA
Protected Phases	8	8	4	4	5	2	1	6			
Permitted Phases	8	8	4	4	2	2	6				
Detector Phase	8	8	4	4	5	2	1	6			
Switch Phase											
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	35.0	30.0	35.0	30.0	35.0	30.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	48.0	32.0	48.0	32.0	48.0	32.0
Total Split (%)	35.6%	35.6%	35.6%	35.6%	35.6%	53.3%	35.6%	53.3%	35.6%	53.3%	35.6%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	42.0	26.0	42.0	26.0	42.0	26.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	None	C-Min	None
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	17.0	8.0	17.0	8.0	17.0	8.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	12.0	16.0	12.0	16.0	12.0	16.0
Pedestrian Calls (#/hr)	1	1	1	1	1	3	1	3	1	3	1
Act Effct Green (s)	12.0	12.0	12.0	12.0	12.0	68.1	12.0	68.1	12.0	68.1	12.0
Actuated g/C Ratio	0.13	0.13	0.13	0.13	0.13	0.76	0.13	0.76	0.13	0.76	0.13
v/c Ratio	0.48	0.48	0.48	0.48	0.48	0.13	0.48	0.13	0.48	0.13	0.48
Control Delay	27.7	27.7	24.0	24.0	24.0	4.3	9.2	4.2	10.2	4.2	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

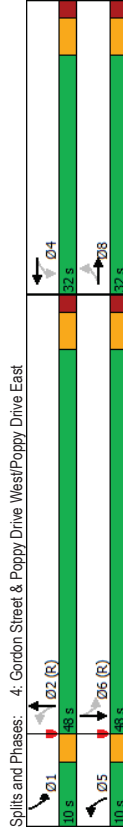
Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	27.7			24.0	4.3	9.2				4.2	10.2	
LOS	C			C	A	A				A	A	B
Approach Delay	27.7			24.0		8.8					9.9	
Approach LOS	C			C		A					A	

Intersection Summary
 Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay: 11.1
 Intersection LOS: B
 Intersection Capacity Utilization: 58.7%
 ICU Level of Service: B
 Analysis Period (min): 15



Phasings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases								
Permitted Phases	8	4	4	5	2	1	6	6
Minimum Initial (s)	7.0	7.0	7.0	7.0	10.0	7.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	10.0	35.0	10.0	35.0
Total Split (s)	32.0	32.0	32.0	32.0	10.0	48.0	10.0	48.0
Total Split (%)	35.6%	35.6%	35.6%	35.6%	11.1%	53.3%	11.1%	53.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	7.0	42.0	7.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0
Pedestrian Calls (#/hr)	1	1	1	1	3	3	1	3
90th %ile Green (s)	24.0	24.0	24.0	24.0	8.3	44.0	7.0	42.7
90th %ile Term Code	Ped	Ped	Ped	Ped	Gap	Coord	Min	Coord
70th %ile Green (s)	12.1	12.1	12.1	12.1	7.0	55.9	7.0	55.9
70th %ile Term Code	Hold	Hold	Gap	Gap	Min	Coord	Min	Coord
50th %ile Green (s)	9.7	9.7	9.7	9.7	7.0	68.3	0.0	58.3
50th %ile Term Code	Hold	Hold	Gap	Gap	Min	Coord	Skip	Coord
30th %ile Green (s)	7.2	7.2	7.2	7.2	7.0	70.8	0.0	60.8
30th %ile Term Code	Hold	Hold	Gap	Gap	Min	Coord	Skip	Coord
10th %ile Green (s)	7.0	7.0	7.0	7.0	0.0	71.0	0.0	71.0
10th %ile Term Code	Hold	Hold	Min	Min	Skip	Coord	Skip	Coord

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	89	151	78	1011	26	703
Lane Group Flow (vph)	0.48	0.55	0.13	0.45	0.06	0.33
v/c Ratio	27.7	24.0	4.3	9.2	4.2	10.2
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	27.7	24.0	4.3	9.2	4.2	10.2
Total Delay	8.1	12.1	2.3	26.5	1.3	39.5
Queue Length 50th (m)	19.1	25.8	10.0	88.5	m2.5	35.1
Queue Length 95th (m)	69.0	196.5	172.0			156.5
Internal Link Dist (m)			91.0		70.0	
Turn Bay Length (m)	356	507	622	2264	440	2139
Base Capacity (vph)	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.30	0.13	0.45	0.06	0.33
Intersection Summary						
m	Volume for 95th percentile queue is metered by upstream signal.					

HCM Signalized Intersection Capacity Analysis

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

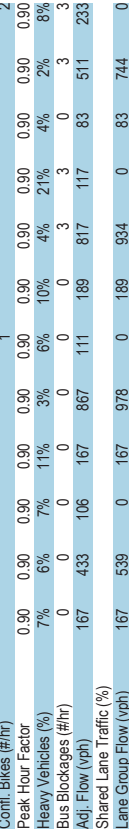
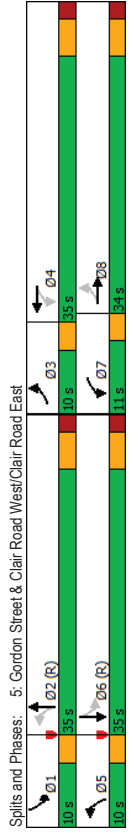
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	15	40	50	10	85	75	910	60	25	630	45
Future Volume (vph)	30	15	40	50	10	85	75	910	60	25	630	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	0.95
Frbp. ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.94	0.94	0.94	0.98	0.98	0.98	0.95	1.00	0.99	1.00	0.99	1.00
Flt Protected	1423	1423	1423	1747	1747	1747	1893	3281	1677	3328	3328	3328
Satd. Flow (prot)	0.78	0.78	0.78	0.88	0.88	0.88	0.35	1.00	0.27	1.00	1.00	1.00
Flt Permitted	1132	1132	1132	1558	1558	1558	696	3281	470	3328	3328	3328
Satd. Flow (perm)	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Peak-hour factor, PHF	81	16	42	52	10	89	78	94.8	62	26	656	47
Adj. Flow (vph)	0	36	0	0	70	0	0	3	0	0	4	0
RTOR Reduction (vph)	0	53	0	0	81	0	78	1008	0	26	699	0
Lane Group Flow (vph)	4	2	2	2	2	4	3	8	8	8	8	8
Conf. Peds. (#/hr)	75%	22%	0%	0%	50%	5%	8%	7%	16%	4%	5%	20%
Heavy Vehicles (%)	0	0	0	2	2	0	0	0	0	0	0	0
Bus Blockages (#/hr)	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA
Turn Type	8	8	8	4	4	4	5	2	2	1	6	6
Protected Phases	8	8	8	4	4	4	5	2	2	1	6	6
Permitted Phases	8	8	8	4	4	4	5	2	2	1	6	6
Actuated Green, G (s)	12.0	12.0	12.0	12.0	12.0	12.0	66.0	60.2	59.9	57.1	57.1	57.1
Effective Green, g (s)	12.0	12.0	12.0	12.0	12.0	12.0	66.0	60.2	59.9	57.1	57.1	57.1
Actuated g/C Ratio	0.13	0.13	0.13	0.13	0.13	0.13	0.73	0.67	0.67	0.63	0.63	0.63
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	150	150	150	207	207	207	588	2194	350	2111	2111	2111
v/s Ratio Prot	c0.01	c0.01	c0.01	c0.01	c0.01	c0.01	c0.31	0.00	0.00	0.21	0.21	0.21
v/s Ratio Perm	0.05	0.05	0.05	0.05	0.05	0.05	0.09	0.05	0.05	0.05	0.05	0.05
v/c Ratio	0.35	0.35	0.35	0.39	0.39	0.39	0.13	0.46	0.07	0.33	0.33	0.33
Uniform Delay, d1	35.5	35.5	35.5	35.7	35.7	35.7	3.5	7.1	5.2	7.6	7.6	7.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Incremental Delay, d2	1.4	1.4	1.4	1.2	1.2	1.2	0.1	0.7	0.1	0.3	0.3	0.3
Delay (s)	36.9	36.9	36.9	36.9	36.9	36.9	3.6	7.8	5.0	8.7	8.7	8.7
Level of Service	D	D	D	D	D	D	A	A	A	A	A	A
Approach Delay (s)	36.9	36.9	36.9	36.9	36.9	36.9	7.5	8.5	8.5	8.5	8.5	8.5
Approach LOS	D	D	D	D	D	D	A	A	A	A	A	A
Intersection Summary												
HCM 2000 Control Delay	11.3 HCM 2000 Level of Service B											
HCM 2000 Volume to Capacity ratio	0.44											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0											
Intersection Capacity Utilization	58.7% ICU Level of Service B											
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	26.1	23.6	45.4	35.0	30.3	18.4	26.9				
LOS	D	C	C	D	D	C	B	C				
Approach Delay	29.7			42.2			31.1			26.0		
Approach LOS	C			D			C			C		
Intersection Summary												
Area Type: Other												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2/NBTL and 6/SBTL, Start of Green, Master Intersection												
Natural Cycle: 90												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.91												
Intersection Signal Delay: 33.1												
Intersection LOS: C												
Intersection Capacity Utilization 83.6%												
Analysis Period (min) 15												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	150	390	95	150	780	100	170	735	105	75	460	210
Future Volume (vph)	150	390	95	150	780	100	170	735	105	75	460	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	7.5	3243	0	7.5	3380	0	1586	3267	0	1678	3231	0
Satd. Flow (prot)	0.144	0.352	0.217	0.152								
Flt Permitted	246	3243	0	577	3380	0	361	3267	0	267	3231	0
Satd. Flow (perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	35	60	16	60	180.5	233.4	180.5	233.4	180.5	233.4	180.5	233.4
Satd. Flow (RTOR)	16.1	22	22	13.1	10.8	14.0	12	21	21	14.0	12	12
Link Speed (k/h)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Link Distance (m)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Travel Time (s)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Confl. Peds. (#/hr)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Confl. Bikes (#/hr)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Bus Blockages (#/hr)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	167	433	106	167	867	111	189	817	117	83	511	233
Shared Lane Traffic (%)	167	539	0	167	978	0	189	934	0	83	744	0
Lane Group Flow (vph)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Turn Type	3	8	7	4	5	2	1	6				
Protected Phases	8	4	2	6								
Permitted Phases	3	8	7	4	5	2	1	6				
Detector Phase	3	8	7	4	5	2	1	6				
Switch Phase	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Initial (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Minimum Split (s)	10.0	34.0	11.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (s)	11.1%	37.8%	12.2%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%
Maximum Green (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Yellow Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Total Lost Time (s)	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead-Lag Optimize?	None	Min	None	Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Vehicle Extension (s)	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0
Recall Mode	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Walk Time (s)	10	10	10	10	10	10	10	10	10	10	10	10
Flash Dont Walk (s)	38.1	27.8	39.3	28.4	39.9	31.3	39.0	29.0	39.0	29.0	39.0	29.0
Pedestrian Calls (#/hr)	0.42	0.31	0.44	0.32	0.44	0.35	0.43	0.32	0.43	0.32	0.43	0.32
Act Effect Green (s)	0.77	0.53	0.49	0.91	0.73	0.81	0.37	0.68	0.37	0.68	0.37	0.68
Actuated g/C Ratio	41.3	26.1	23.6	45.4	35.0	30.3	18.4	26.9				
v/c Ratio	41.3	26.1	23.6	45.4	35.0	30.3	18.4	26.9				
Control Delay												



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	3	8	7	4	5	2	1	6
Protected Phases	8		4		2		6	
Permitted Phases	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Initial (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Minimum Split (s)	10.0	34.0	11.0	35.0	10.0	35.0	10.0	35.0
Total Split (%)	11.1%	37.8%	12.2%	38.9%	11.1%	38.9%	11.1%	38.9%
Maximum Green (s)	7.0	28.0	8.0	29.0	7.0	29.0	7.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	10		10		9		9	
90th %ile Green (s)	7.0	28.0	8.0	29.0	7.0	29.0	7.0	29.0
90th %ile Term Code	Max	Ped	Max	Max	Coord	Coord	Max	Coord
70th %ile Green (s)	7.0	28.0	8.0	29.0	7.0	29.0	7.0	29.0
70th %ile Term Code	Max	Hold	Max	Max	Coord	Coord	Max	Coord
50th %ile Green (s)	7.0	28.0	8.0	29.0	7.0	29.0	7.0	29.0
50th %ile Term Code	Max	Hold	Max	Max	Coord	Coord	Max	Coord
30th %ile Green (s)	7.1	28.0	8.1	29.0	7.0	28.9	7.0	28.9
30th %ile Term Code	Max	Hold	Max	Max	Coord	Coord	Max	Coord
10th %ile Green (s)	8.5	26.8	7.5	25.8	8.5	40.7	0.0	29.2
10th %ile Term Code	Gap	Hold	Gap	Gap	Coord	Coord	Skip	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	167	539	167	978	189	934	83	744
v/c Ratio	0.77	0.53	0.49	0.91	0.73	0.81	0.37	0.68
Control Delay	41.3	26.1	23.6	45.4	35.0	30.3	18.4	26.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	26.1	23.6	45.4	35.0	30.3	18.4	26.9
Queue Length 50th (m)	17.3	39.3	21.4	86.4	22.4	84.1	8.2	54.2
Queue Length 95th (m)	#46.8	55.6	36.4	#129.2	#28.9	#112.0	16.5	74.7
Internal Link Dist (m)	244.6		193.7		156.5		209.4	
Turn Bay Length (m)	70.0	32.0	72.0	72.0	163.0		225	1100
Base Capacity (vph)	216	1033	340	1099	259	1149	225	1100
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.52	0.49	0.89	0.73	0.81	0.37	0.68

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

5. Gordon Street & Clair Road West/Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	390	95	150	780	100	170	735	105	75	460	210
Future Volume (vph)	150	390	95	150	780	100	170	735	105	75	460	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.3	3.3	3.5	3.3	3.3	3.5	3.5
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Frbp. ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97	1.00	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1630	3241	1567	3380	1585	3268	1677	3231	1677	3231	1677	3231
Flt Permitted	0.14	1.00	0.35	1.00	0.22	1.00	0.22	1.00	0.15	1.00	0.15	1.00
Satd. Flow (perm)	247	3241	581	3380	362	3268	289	3231	289	3231	289	3231
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	167	433	106	167	867	111	189	817	117	83	511	233
RTOR Reduction (vph)	0	24	0	0	11	0	12	0	0	58	0	0
Lane Group Flow (vph)	167	515	0	167	967	0	189	922	0	83	686	0
Confl. Peds. (#/hr)	31	22	22	31	12	12	12	21	21	21	21	12
Confl. Bikes (#/hr)	7%	6%	7%	11%	3%	6%	10%	4%	21%	4%	2%	8%
Heavy Vehicles (%)	0	0	0	0	0	0	0	3	3	3	3	3
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	8	7	4	4	5	2	2	1	6	6
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	35.1	27.8	36.3	28.4	38.0	30.7	34.6	30.7	34.6	29.0	34.6	29.0
Effective Green, g (s)	35.1	27.8	36.3	28.4	38.0	30.7	34.6	30.7	34.6	29.0	34.6	29.0
Actuated g/C Ratio	0.39	0.31	0.40	0.32	0.42	0.34	0.38	0.32	0.38	0.32	0.38	0.32
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	208	1001	320	1066	252	1114	191	1041	191	1041	191	1041
v/s Ratio Prot	c0.06	0.16	c0.05	c0.29	0.06	c0.28	0.03	0.21	0.03	0.21	0.03	0.21
v/s Ratio Perm	0.25		0.16		0.26		0.14		0.14		0.14	
v/c Ratio	0.80	0.51	0.52	0.91	0.75	0.83	0.43	0.66	0.43	0.66	0.43	0.66
Uniform Delay, d1	21.0	25.6	18.2	29.5	18.3	27.2	19.3	26.2	19.3	26.2	19.3	26.2
Progression Factor	1.00	1.00	1.27	1.14	1.09	0.87	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	19.6	0.4	1.4	10.0	11.1	6.7	1.6	3.3	1.6	3.3	1.6	3.3
Delay (s)	40.7	26.0	24.5	43.7	31.1	30.3	20.9	29.5	20.9	29.5	20.9	29.5
Level of Service	D	C	C	D	C	D	C	C	C	C	C	C
Approach Delay (s)	29.5	C	40.9	D	30.5	C	28.6	C	28.6	C	28.6	C
Approach LOS	C		D		C		C		C		C	
Intersection Summary												
HCM 2000 Control Delay	33.0											
HCM 2000 Level of Service	C											
HCM 2000 Volume to Capacity ratio	0.87											
Actuated Cycle Length (s)	90.0											
Sum of lost time (s)	18.0											
Intersection Capacity Utilization	83.6%											
ICU Level of Service	E											
Analysis Period (min)	15											
c Critical Lane Group												

6. Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	400	45	10	850	70	25	15	5	45	20	135
Future Volume (vph)	100	400	45	10	850	70	25	15	5	45	20	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	131.0	0.0	64.0	0.0	20.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	0	0	0	0
Taper Length (m)	7.5	3201	0	7.5	3336	0	1639	1723	0	7.5	0	0
Satd. Flow (prot)	1716	3201	0	1785	3336	0	1639	1723	0	1831	0	1831
Flt Permitted	0.220	0.469	0.469	0.220	0.469	0.469	0.220	0.469	0.469	0.220	0.469	0.469
Satd. Flow (perm)	397	3201	0	876	3336	0	696	1723	0	0	1690	0
Right Turn on Red	Yes											
Satd. Flow (RTOR)	18	500	0	11	1034	0	28	23	0	0	225	0
Link Speed (k/h)	60			60			60			60		60
Link Distance (m)	217.7			160.7			63.9			196.5		196.5
Travel Time (s)	13.1			9.6			7.7			17.7		17.7
Confl. Peds. (#/hr)	9	8	8	8	9	14	10	10	10	10	10	14
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	4%	10%	5%	0%	6%	0%	4%	0%	16%	8%	0%	3%
Adj. Flow (vph)	112	449	51	11	955	79	28	17	6	51	22	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	500	0	11	1034	0	28	23	0	0	225	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6		8			4		4
Permitted Phases	5	2		6			8			4		4
Switch Phase												
Detector Phase	5	2		1	6		8			4		4
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0			7.0		7.0
Minimum Split (s)	10.0	35.0		10.0	35.0		32.0			32.0		32.0
Total Split (s)	12.0	48.0		10.0	46.0		32.0			32.0		32.0
Total Split (%)	13.3%	53.3%		11.1%	51.1%		35.6%			35.6%		35.6%
Maximum Green (s)	9.0	42.0		7.0	40.0		26.0			26.0		26.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0			4.0		4.0
All-Red Time (s)	0.0	2.0		0.0	2.0		2.0			2.0		2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0			0.0		0.0
Total Lost Time (s)	3.0	6.0		3.0	6.0		6.0			6.0		6.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag		6.0
Lead-Lag Optimizer?	Yes	Yes		Yes	Yes		Yes			Yes		3.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0			3.0		3.0
Recall Mode	None	C-Min		None	C-Min		None			None		None
Walk Time (s)	11.0	11.0		11.0	11.0		8.0			8.0		8.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		18.0			18.0		18.0
Pedestrian Calls (#/hr)	3			3			5			5		5
Act Effct. Green (s)	67.4	62.6		64.6	56.0		13.4			13.4		13.4
Actuated g/C Ratio	0.75	0.70		0.72	0.62		0.15			0.15		0.15
v/c Ratio	0.28	0.22		0.02	0.50		0.27			0.09		0.64
Control Delay	5.8	6.6		1.1	8.0		36.9			23.7		24.6
Queue Delay	0.0	0.0		0.0	0.0		0.0			0.0		0.0

Lanes, Volumes, Timings

6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	5.8	6.6	1.1	8.1	36.9	23.7						24.6
LOS	A	A	A	A	D	C						C
Approach Delay	6.5			8.0			31.0					24.6
Approach LOS	A			A			C					C

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

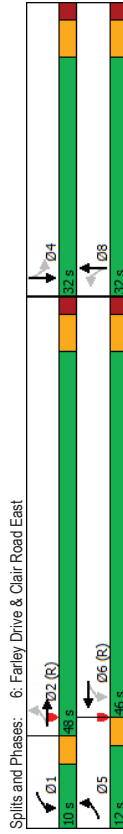
Intersection Signal Delay: 10.0

Intersection LOS: B

Intersection Capacity Utilization 65.2%

ICU Level of Service C

Analysis Period (min) 15



Phasings

6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	2	1	6	8	8	8	8	4	4	4
Permitted Phases	2	1	1	6	8	8	8	8	8	4	4	4
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	12.0	48.0	10.0	46.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	13.3%	53.3%	11.1%	51.1%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%
Maximum Green (s)	9.0	42.0	7.0	40.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0	11.0	8.0	11.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	3	3	3	3	5	5	5	5	5	5	5	5
90th %ile Green (s)	9.0	42.0	7.0	40.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
90th %ile Term Code	Max	Coord	Max	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	7.6	63.8	0.0	53.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2
70th %ile Term Code	Gap	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold
50th %ile Green (s)	7.0	66.6	0.0	56.6	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
50th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold
30th %ile Green (s)	7.0	69.4	0.0	59.4	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
30th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold
10th %ile Green (s)	0.0	71.0	0.0	71.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
10th %ile Term Code	Skip	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Control Type: Actuated-Coordinated

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	112	500	11	1034	28	23	225
v/c Ratio	0.28	0.22	0.02	0.50	0.27	0.09	0.64
Control Delay	5.8	6.6	1.1	8.0	36.9	23.7	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	6.6	1.1	8.1	36.9	23.7	24.6
Queue Length 50th (m)	2.7	7.5	0.4	48.4	4.7	2.8	18.6
Queue Length 95th (m)	m22.4	m47.9	m0.1	98.4	10.7	7.9	33.9
Internal Link Dist (m)	131.0	193.7	64.0	136.7	39.9	172.5	
Turn Bay Length (m)	429	2230	699	2081	201	502	571
Base Capacity (vph)	0	0	0	116	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0.26	0.22	0.02	0.53	0.14	0.05	0.39
Reduced v/c Ratio							
Intersection Summary							
m Volume for 95th percentile queue is metered by upstream signal.							

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBL	SBR
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBL	SBR
Lane Configurations	100	400	45	10	850	70	25	15	5
Traffic Volume (vph)	100	400	45	10	850	70	25	15	5
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8
Lane Width	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	1.00	0.95	1.00	0.95	1.00	1.00	0.99	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.98
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Frt	0.95	1.00	0.95	1.00	0.95	1.00	0.96	1.00	0.99
Flt Protected	1715	3200	1780	3335	1625	1723	1826		
Satd. Flow (prot)	0.22	1.00	0.47	1.00	0.41	1.00	0.92		
Flt Permitted	388	3200	878	3335	695	1723	1690		
Satd. Flow (perm)	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Peak-hour factor, PHF	112	449	51	11	955	79	28	17	6
Adj. Flow (vph)	0	6	0	0	5	0	0	0	0
RTOR Reduction (vph)	112	494	0	11	1029	0	28	18	0
Lane Group Flow (vph)	9	8	8	8	9	14	10	10	14
Confl. Bikes (#/hr)	4%	10%	5%	0%	6%	0%	4%	0%	16%
Heavy Vehicles (%)	pm+pt	NA	NA	NA	NA	NA	NA	NA	8%
Turn Type	5	2	1	6	8	8	8	4	3%
Protected Phases	2	6	6	6	8	8	8	4	
Permitted Phases	64.6	60.2	56.9	55.5	13.4	13.4	13.4	13.4	
Actuated Green, G (s)	64.6	60.2	56.9	55.5	13.4	13.4	13.4	13.4	
Effective Green, g (s)	0.72	0.67	0.63	0.62	0.15	0.15	0.15	0.15	
Actuated g/C Ratio	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	374	2140	569	2056	103	256	251		
Lane Grp Cap (vph)	0.19	0.01	0.01	0.01	0.04	0.01	0.01		
v/s Ratio Prot	0.30	0.23	0.02	0.50	0.27	0.07	0.50		
v/s Ratio Perm	4.9	5.8	6.1	9.6	34.0	32.9	35.2		
Uniform Delay, d1	1.01	0.96	0.20	0.63	1.00	1.00	1.00		
Progression Factor	0.4	0.2	0.0	0.8	1.4	0.1	1.6		
Incremental Delay, d2	5.3	5.8	1.2	6.8	35.4	33.1	36.8		
Delay (s)	A	A	A	A	D	C	D		
Level of Service	5.7	6.8	34.3	36.8					
Approach Delay (s)	A	A	A	A	C	C	D		
Approach LOS	A	A	A	A	C	C	D		
Intersection Summary									
HCM 2000 Control Delay	10.6				HCM 2000 Level of Service				B
HCM 2000 Volume to Capacity ratio	0.48								
Actuated Cycle Length (s)	90.0				Sum of lost time (s)				15.0
Intersection Capacity Utilization	66.2%				ICU Level of Service				C
Analysis Period (min)	15								
c Critical Lane Group									

Lanes, Volumes, Timings
7. Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Future Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1760	0	0	1794	0	0	1773	0	0	1913	0
Flt Permitted		0.960									0.996	
Satd. Flow (perm)	0	1760	0	0	1794	0	0	1773	0	0	1913	0
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		57.2			91.1			54.0			63.9	
Travel Time (s)		6.9			10.9			6.5			7.7	
Confl. Peds. (#/hr)	1		2	2		1	16		5	5		16
Confl. Bikes (#/hr)			1			1						
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	3%	0%	0%	0%	0%	0%	0%	6%	0%	20%	4%	0%
Adj. Flow (vph)	34	7	0	0	14	7	0	21	0	7	27	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	21	0	0	21	0	0	89	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization:	26.1%											
Analysis Period (min):	15											

HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Future Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	34	7	0	0	14	7	0	21	0	7	27	55
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	41	21	21	89								
Volume Left (vph)	34	0	0	7								
Volume Right (vph)	0	7	0	55								
Head (s)	0.21	-0.20	0.10	-0.31								
Departure Headway (s)	4.4	4.0	4.2	3.8								
Degree Utilization, x	0.05	0.02	0.02	0.09								
Capacity (veh/h)	802	877	826	939								
Control Delay (s)	7.6	7.1	7.3	7.1								
Approach Delay (s)	7.6	7.1	7.3	7.1								
Approach LOS	A	A	A	A								

Intersection Summary												
Delay	7.3											
Level of Service	A											
Intersection Capacity Utilization	26.1%											
Analysis Period (min)	15											
ICU Level of Service	A											

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	5	0	5	0	0	5	5	10	5	5	15	0
Traffic Volume (vph)	5	0	5	0	0	5	5	10	5	5	15	0
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lane Width (m)	0	1709	0	0	1625	0	0	1541	0	0	1776	0
Satd. Flow (prot)	0.976						0.987					0.987
Flt Permitted												
Satd. Flow (perm)	0	1709	0	0	1625	0	0	1541	0	0	1776	0
Link Speed (k/h)	30			30			30				30	
Link Distance (m)	31.6			39.2			55.2				54.0	
Travel Time (s)	3.8			4.7			6.6				6.5	
Confl. Peds. (#/hr)	3	18	18	3	36	3	36	6	6	6	36	36
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	12%	40%	0%	6%	0%
Adj. Flow (vph)	7	0	7	0	0	7	7	13	7	7	20	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	7	0	0	27	0	0	27	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	26.3%											
ICU Level of Service A												
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	5	0	5	0	0	5	5	10	5	5	15	0
Traffic Volume (vph)	5	0	5	0	0	5	5	10	5	5	15	0
Future Volume (vph)	5	0	5	0	0	5	5	10	5	5	15	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	7	0	7	0	0	7	7	13	7	7	20	0
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	14	7	27	27								
Volume Left (vph)	7	0	7	7								
Volume Right (vph)	7	7	7	0								
Head (s)	-0.20	-0.60	0.17	0.13								
Departure Headway (s)	3.8	3.4	4.1	4.1								
Degree Utilization, x	0.01	0.01	0.03	0.03								
Capacity (veh/h)	922	1027	852	869								
Control Delay (s)	6.9	6.5	7.3	7.2								
Approach Delay (s)	6.9	6.5	7.3	7.2								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	7.1											
Level of Service	A											
Intersection Capacity Utilization	26.3%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings

9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations						
Traffic Volume (vph)	5	0	0	90	50	15
Future Volume (vph)	5	0	0	90	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1642	0	0	1990	2025	0
Flt Permitted	0.950					
Satd. Flow (perm)	1642	0	0	1990	2025	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6		121.9	64.6		
Travel Time (s)	8.6		11.0	5.8		
Confl. Peds. (#/hr)			12			12
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	16%	100%	0%	5%	0%	0%
Adj. Flow (vph)	6	0	0	115	64	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	115	83	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.0%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis

9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations						
Traffic Volume (veh/h)	5	0	0	90	50	15
Future Volume (Veh/h)	5	0	0	90	50	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	6	0	0	115	64	19
Pedestrians	12					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	
Median type						
Median storage (veh)						
Upstream signal (m)					65	
pX, platoon unblocked						
VC, conflicting volume	200	86	95			
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	200	86	95			
IC, single (s)	6.6	7.2	4.1			
IC, 2 stage (s)						
IF (s)	3.6	4.2	2.2			
p0 queue free %	99	100	100			
GM capacity (veh/h)	749	750	1494			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	6	115	83			
Volume Left	6	0	0			
Volume Right	0	0	19			
cSH	749	1494	1700			
Volume to Capacity	0.01	0.00	0.05			
Queue Length 95th (m)	0.2	0.0	0.0			
Control Delay (s)	9.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.3					
Intersection Capacity Utilization	17.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Traffic Volume (vph)	70	5	5	120	40	15
Future Volume (vph)	70	5	5	120	40	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	1831	0	0	1973	1721	0
Flt Permitted				0.998	0.965	
Satd. Flow (perm)	1831	0	0	1973	1721	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	90.5			63.5	67.2	
Travel Time (s)	8.1			5.7	8.1	
Confl. Peds. (#/hr)						6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	14%	0%	0%	6%	2%	0%
Adj. Flow (vph)	79	6	6	135	45	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	0	0	141	62	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	22.2%					
Analysis Period (min)	15					
	ICU Level of Service A					

HCM Unsignalized Intersection Capacity Analysis
10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Traffic Volume (veh/h)	70	5	5	120	40	15
Future Volume (Veh/h)	70	5	5	120	40	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	79	6	6	135	45	17
Pedestrians						6
Lane Width (m)				4.5		
Walking Speed (m/s)				1.2		
Percent Blockage				1		
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	311					
pX, platoon unblocked						
vC, conflicting volume			85		229	88
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			85		229	88
iC, single (s)			4.1		6.4	6.2
iC, 2 stage (s)						
p0 queue free %			2.2		3.5	3.3
IF (s)			100		94	98
qM capacity (veh/h)			1524		756	970
Direction_Lane #	EB 1	WB 1	NB 1			
Volume Total	85	141	62			
Volume Left	0	6	45			
Volume Right	6	0	17			
ESH	1700	1524	805			
Volume to Capacity	0.05	0.00	0.08			
Queue Length 95th (m)	0.0	0.1	2.0			
Control Delay (s)	0.0	0.3	9.8			
Lane LOS	A	A	A			
Approach Delay (s)	0.0	0.3	9.8			
Approach LOS		A				
Intersection Summary						
Average Delay	2.3					
Intersection Capacity Utilization	22.2%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

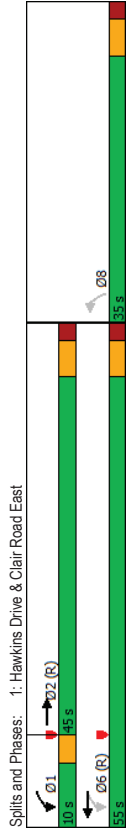
12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Traffic Volume (vph)	900	35	90	605	20	125
Future Volume (vph)	900	35	90	605	20	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)		7.5		7.5		
Satd. Flow (prot)	3462	0	1785	3535	1833	0
Flt Permitted			0.254		0.993	
Satd. Flow (perm)	3462	0	475	3535	1832	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	5				128	
Link Speed (k/h)	60			60	50	
Link Distance (m)	1607			130.4	64.6	
Travel Time (s)	9.6			7.8	4.7	
Confl. Peds. (#/hr)		13	13		1	
Confl. Bikes (#/hr)	1					
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	2	0	0	0	0	0
Adj. Flow (vph)	918	36	92	617	20	128
Shared Lane Traffic (%)						
Lane Group Flow (vph)	954	0	92	617	148	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2		1	6	8	
Permitted Phases			6		8	
Detector Phase	2		1	6	8	
Switch Phase						
Minimum Initial (s)	10.0	7.0	10.0	10.0	7.0	
Minimum Split (s)	35.0	10.0	35.0	35.0	35.0	
Total Split (s)	45.0	10.0	55.0	55.0	35.0	
Total Split (%)	50.0%	11.1%	61.1%	38.9%		
Maximum Green (s)	39.0	7.0	49.0	29.0		
Yellow Time (s)	4.0	3.0	4.0	4.0		
All-Red Time (s)	2.0	0.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.0	3.0	6.0	6.0		
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	C-Min	None	C-Min	None		
Walk Time (s)	11.0	11.0	18.0	8.0		
Flash Don't Walk (s)	18.0	18.0	18.0	18.0		
Pedestrian Calls (#/hr)	7		7	12		
Act Effct Green (s)	58.5	69.9	66.9	11.1		
Actuated g/C Ratio	0.65	0.78	0.74	0.12		
v/c Ratio	0.42	0.19	0.23	0.44		
Control Delay	3.6	4.7	4.8	11.6		

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.6	4.7	4.8	11.6		
LOS	A	A	A	B		
Approach Delay	3.6		4.8	11.6		
Approach LOS	A		A	B		
Intersection Summary	Other					
Area Type:	Other					
Cycle Length:	90					
Actuated Cycle Length:	90					
Offset: 2 (2%):	Referenced to phase 2EBT and 6'WBT. Start of Green					
Natural Cycle:	80					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.44					
Intersection Signal Delay:	4.7					
Intersection Capacity Utilization:	54.0%					
Analysis Period (min):	15					



Phasings
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	WBL	WBT	NBL
Lane Group	2	1	6	
Protected Phases				
Permitted Phases	6	8		
Minimum Initial (s)	10.0	7.0	10.0	7.0
Minimum Split (s)	35.0	10.0	35.0	35.0
Total Split (s)	45.0	10.0	55.0	35.0
Total Split (%)	50.0%	11.1%	61.1%	38.9%
Maximum Green (s)	39.0	7.0	49.0	29.0
Yellow Time (s)	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	0.0	2.0	2.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	C-Min	None	C-Min	None
Walk Time (s)	11.0		11.0	8.0
Flash Dont Walk (s)	18.0		18.0	18.0
Pedestrian Calls (#/hr)	7		7	12
90th %ile Green (s)	39.9	9.1	52.0	26.0
90th %ile Term Code	Coord	Gap	Coord	Ped
70th %ile Green (s)	59.5	7.0	69.5	8.5
70th %ile Term Code	Coord	Min	Coord	Gap
50th %ile Green (s)	61.0	7.0	71.0	7.0
50th %ile Term Code	Coord	Min	Coord	Min
30th %ile Green (s)	61.0	7.0	71.0	7.0
30th %ile Term Code	Coord	Min	Coord	Min
10th %ile Green (s)	71.0	0.0	71.0	7.0
10th %ile Term Code	Coord	Skip	Coord	Min

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBTL - Start of Green
 Control Type: Actuated-Coordinated

Queues
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	WBL	WBT	NBL
Lane Group	954	92	617	148
Lane Group Flow (vph)	0.42	0.19	0.23	0.44
v/c Ratio	3.6	4.7	4.8	11.6
Control Delay	0.0	0.0	0.0	0.0
Queue Delay	3.6	4.7	4.8	11.6
Total Delay	14.4	2.2	11.3	2.7
Queue Length 50th (m)	22.0	12.4	38.0	14.0
Queue Length 95th (m)	136.7		106.4	40.6
Internal Link Dist (m)		25.0		
Turn Bay Length (m)			2251	476
Base Capacity (vph)			2627	677
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.19	0.23	0.22

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: Hawkins Drive & Clair Road East

12-12-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Traffic Volume (vph)	900	35	90	605	20	125
Future Volume (vph)	900	35	90	605	20	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.99	1.00	1.00	1.00	0.88	1.00
Flt Protected	1.00	0.95	1.00	0.99		
Satd. Flow (prot)	3463	1783	3535	1833		
Flt Permitted	1.00	0.25	1.00	0.89		
Satd. Flow (perm)	3463	476	3535	1833		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	918	36	92	617	20	128
RTOR Reduction (vph)	2	0	0	0	112	0
Lane Group Flow (vph)	952	0	92	617	36	0
Confl. Peds. (#/hr)	13	13			1	
Confl. Bikes (#/hr)	1					
Heavy Vehicles (%)	2%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	2	0	0	0	0	0
Turn Type	NA	pm+pt	NA	Perm	Perm	
Protected Phases	2		1	6		
Permitted Phases			6		8	
Actuated Green, G (s)	57.9	66.9	66.9	11.1		
Effective Green, g (s)	57.9	66.9	66.9	11.1		
Actuated g/C Ratio	0.64	0.74	0.74	0.12		
Clearance Time (s)	6.0	3.0	6.0	6.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	2227	440	2627	226		
v/s Ratio Prot	0.27		0.01	0.17		
v/s Ratio Perm			0.14		0.02	
v/c Ratio	0.43	0.21	0.21	0.23	0.16	
Uniform Delay, d1	7.9	3.7	3.6	35.3		
Progression Factor	0.32	1.00	1.00	0.92		
Incremental Delay, d2	0.5	0.2	0.2	0.3		
Delay (s)	3.1	4.0	3.8	32.9		
Level of Service	A	A	A	C		
Approach Delay (s)	3.1		3.8	32.9		
Approach LOS	A		A	C		

Intersection Summary	
HCM 2000 Control Delay	5.8 HCM 2000 Level of Service A
HCM 2000 Volume to Capacity ratio	0.37
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0
Intersection Capacity Utilization	54.0% ICU Level of Service A
Analysis Period (min)	15
c Critical Lane Group	

Lanes, Volumes, Timings
2: Hawkins Drive & Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Traffic Volume (vph)	60	105	10	40	50	5	10	30	15	15	35	35
Future Volume (vph)	60	105	10	40	50	5	10	30	15	15	35	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	2038	0	0	1828	0	0	1985	0	0	1908	0
Flt Permitted	0.983			0.979			0.991				0.991	
Satd. Flow (perm)	0	2038	0	0	1828	0	0	1985	0	0	1908	0
Link Speed (k/h)		40		40			40				40	
Link Distance (m)		63.5		196.8			136.5				121.9	
Travel Time (s)		5.7		17.7			12.3				11.0	
Confl. Peds. (#/hr)	33		13		33		8		4		4	
Confl. Bikes (#/hr)		1										
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	71	125	12	48	60	6	12	36	18	18	42	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	208	0	0	114	0	0	66	0	0	102	0
Sign Control		Free		Free			Stop		Stop		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	27.0%
Analysis Period (min)	15
ICU Level of Service A	

2: Hawkins Drive & Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	105	10	40	50	5	10	30	15	15	35	35
Future Volume (Veh/h)	60	105	10	40	50	5	10	30	15	15	35	35
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	71	125	12	48	60	6	12	36	18	18	42	42
Pedestrians	8			4			13				33	
Lane Width (m)	4.5			3.6			4.5				4.5	
Walking Speed (m/s)	1.2			1.2			1.2				1.2	
Percent Blockage	1			0			1				3	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	375											
pX platoon unblocked												
VC, conflicting volume	99			150			516		481	148	505	484
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCU, unblocked vol	99			150			516		481	148	505	484
IC, single (s)	4.1			4.1			7.1		6.5	6.2	7.1	6.5
IC, 2 stage (s)												
p0 queue free %	2.2			2.2			3.5		4.0	3.3	3.5	4.0
ICF (s)	95			97			97		92	98	95	90
CM capacity (veh/h)	1455			1424			369		427	889	384	425
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	208	114	66	102								
Volume Left	71	48	12	18								
Volume Right	12	6	18	42								
cSH	1455	1424	481	530								
Volume to Capacity	0.05	0.03	0.14	0.19								
Queue Length 95th (m)	1.2	0.8	3.8	5.6								
Control Delay (s)	2.9	3.4	13.7	13.4								
Lane LOS	A	A	B	B								
Approach Delay (s)	2.9	3.4	13.7	13.4								
Approach LOS	B	B	B	B								
Intersection Summary												
Average Delay	6.6											
Intersection Capacity Utilization	27.0%											
ICU Level of Service	A											
Analysis Period (min)	15											

3: Poppy Drive East & Fanley Drive

12-12-2023

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	175	90	15	20	30
Future Volume (vph)	20	175	90	15	20	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	2080	1982	0	1692	0
Flt Permitted	0	995			980	0
Satd. Flow (perm)	0	2080	1982	0	1692	0
Link Speed (k/h)		40	40		30	
Link Distance (m)		220.5	90.5		55.2	
Travel Time (s)		19.8	8.1		6.6	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	4%	0%	0%	0%
Adj. Flow (vph)	23	199	102	17	23	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	222	119	0	57	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	27.0%					
ICU Level of Service A						
Analysis Period (min)	15					

3: Poppy Drive East & Farley Drive

12-12-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	175	90	15	20	30
Future Volume (Veh/h)	20	175	90	15	20	30
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	23	199	102	17	23	34
Pedestrians					15	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)			None	None		
Median type						
Median storage (veh)						
Upstream signal (m)		220				
pX platoon unblocked						
vC, conflicting volume	134				370	126
vC1, stage 1 conf vol						
vC2, stage 2 conf vol	134				370	126
ICU, unblocked vol	4.1				6.4	6.2
IC, single (s)						
IC, 2 stage (s)						
p0 queue free %	2.2				3.5	3.3
ICF (s)	98				96	96
ICM capacity (veh/h)	1445				616	919
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	222	119	57			
Volume Left	23	0	23			
Volume Right	0	17	34			
cSH	1445	1700	767			
Volume to Capacity	0.02	0.07	0.07			
Queue Length 95th (m)	0.4	0.0	1.9			
Control Delay (s)	0.9	0.0	10.1			
Lane LOS	A		B			
Approach Delay (s)	0.9	0.0	10.1			
Approach LOS			B			
Intersection Summary						
Average Delay		1.9				
Intersection Capacity Utilization		27.0%				
Analysis Period (min)		15				
					ICU Level of Service	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	25	65	70	30	60	95	895	125	80	860	35
Future Volume (vph)	40	25	65	70	30	60	95	895	125	80	860	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5		7.5		7.5		7.5		7.5		7.5	
Satd. Flow (prot)	0	1751	0	0	1874	0	2006	3422	0	1728	3478	0
Flt Permitted		0.814			0.781		0.275			0.228		
Satd. Flow (perm)	0	1441	0	0	1493	0	579	3422	0	413	3478	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)		55		34		23				6		6
Link Speed (k/h)		40		40		60		60		60		60
Link Distance (m)		93.0		220.5		196.0		196.0		180.5		180.5
Travel Time (s)		8.4		19.8		11.8		11.8		10.8		10.8
Conf. Peds. (#/hr)	18		3	3		6		6		17		17
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	18%	0%	1%	0%	3%	2%	2%	2%	1%	1%	2%	0%
Bus Blockages (#/hr)	0	0	0	2	2	0	0	0	0	0	0	0
Adj. Flow (vph)	41	26	66	71	31	61	97	913	128	82	878	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	133	0	0	163	0	97	1041	0	82	914	0
Turn Type	Perm	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA
Protected Phases		8		4		4		5		2		1
Permitted Phases	8	8	8	4	4	4	2	2	6	6	6	6
Detector Phase												
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	10.0	48.0	10.0	48.0	10.0	48.0
Total Split (%)	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	11.1%	53.3%	11.1%	53.3%	11.1%	53.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0	7.0	42.0	7.0	42.0	7.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	8.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	16.0	12.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6	6
Act Effct Green (s)	13.9	13.9	13.9	13.9	13.9	13.9	64.7	55.8	64.7	55.8	64.7	55.8
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15	0.15	0.72	0.62	0.72	0.62	0.72	0.62
v/c Ratio	0.50	0.50	0.50	0.63	0.63	0.63	0.18	0.49	0.18	0.49	0.20	0.42
Control Delay	25.8	25.8	25.8	37.7	37.7	37.7	5.1	11.9	5.1	12.1	5.1	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	25.8			37.7			5.1	11.9		5.1	12.1	
LOS	C			D			A	B		A	B	
Approach Delay	25.8			37.7			11.3			11.6		
Approach LOS	C			D			B			B		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 14.0

Intersection Capacity Utilization 65.2%

Analysis Period (min) 15

Splits and Phases: 4: Gordon Street & Poppy Drive West/Poppy Drive East



Phasings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases												
Permitted Phases	8			4			5	2		1	6	
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	7.0	10.0	
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	10.0	35.0	10.0	35.0	35.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	10.0	48.0	10.0	48.0	48.0	
Total Split (%)	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	11.1%	53.3%	11.1%	53.3%	53.3%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0	7.0	42.0	7.0	42.0	42.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	
Lead/Lag							Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	17.0	
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	12.0	
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6	
90th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	8.6	42.3	8.7	42.4	42.4	
90th %ile Term Code	Ped	Ped	Ped	Ped	Ped	Ped	Coord	Coord	Coord	Coord	Coord	
70th %ile Green (s)	15.2	15.2	15.2	15.2	15.2	15.2	7.1	52.7	7.1	52.7	52.7	
70th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Coord	Coord	Coord	Coord	Coord	
50th %ile Green (s)	12.8	12.8	12.8	12.8	12.8	12.8	7.0	55.2	7.0	55.2	55.2	
50th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Min	Coord	Min	Coord	Min	Coord
30th %ile Green (s)	10.4	10.4	10.4	10.4	10.4	10.4	7.0	57.6	7.0	57.6	57.6	
30th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Min	Coord	Min	Coord	Min	Coord
10th %ile Green (s)	7.0	7.0	7.0	7.0	7.0	7.0	0.0	71.0	0.0	71.0	71.0	
10th %ile Term Code	Min	Min	Min	Min	Min	Min	Skip	Coord	Skip	Coord	Skip	Coord

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	133	163	97	1041	82	914
Lane Group Flow (vph)	0.50	0.63	0.18	0.49	0.20	0.42
v/c Ratio	25.8	37.7	5.1	11.9	5.1	12.1
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	25.8	37.7	5.1	11.9	5.1	12.1
Total Delay	13.1	22.4	3.6	49.0	4.6	51.8
Queue Length 50th (m)	26.6	37.1	11.8	92.6	m3/6	m34/6
Queue Length 95th (m)	69.0	196.5	172.0	70.0	156.5	
Internal Link Dist (m)						
Turn Bay Length (m)	455	455	532	2128	404	2158
Base Capacity (vph)	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.36	0.18	0.49	0.20	0.42

Intersection Summary
 m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		+		+			+	+		+	+		
Traffic Volume (vph)	40	25	65	70	30	60	95	895	125	80	860	35	
Future Volume (vph)	40	25	65	70	30	60	95	895	125	80	860	35	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frbp. ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	1.00	0.99	1.00	1.00	1.00	1.00	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.93	0.93	0.93	0.98	0.98	0.98	0.95	1.00	0.98	1.00	0.99	1.00	
Flt Protected	1743	1743	1743	1872	1872	1872	2004	3420	1726	3478	3478	1726	
Satd. Flow (prot)	0.81	0.81	0.81	0.78	0.78	0.78	0.27	1.00	0.23	1.00	0.23	1.00	
Flt Permitted	1441	1441	1441	1494	1494	1494	580	3420	415	3478	415	3478	
Satd. Flow (perm)	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Peak-hour factor, PHF	41	26	66	71	31	61	97	913	128	82	878	36	
Adj. Flow (vph)	0	47	0	0	29	0	9	0	0	0	0	2	
RTOR Reduction (vph)	0	86	0	0	134	0	97	1032	0	82	912	0	
Lane Group Flow (vph)	18	3	3	3	18	6	6	17	17	17	17	6	
Conf. Peds. (#/hr)	18%	0%	0%	1%	0%	3%	2%	2%	1%	1%	2%	0%	
Heavy Vehicles (%)	0	0	0	2	2	2	0	0	0	0	0	0	
Bus Blockages (#/hr)	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA	
Turn Type	8	8	8	4	4	4	5	2	2	1	6	6	
Protected Phases	8	8	8	4	4	4	5	2	2	1	6	6	
Permitted Phases	13.9	13.9	13.9	13.9	13.9	13.9	61.0	55.1	61.2	55.2	55.2	55.2	
Actuated Green, G (s)	13.9	13.9	13.9	13.9	13.9	13.9	61.0	55.1	61.2	55.2	55.2	55.2	
Effective Green, g (s)	0.15	0.15	0.15	0.15	0.15	0.15	0.68	0.61	0.68	0.61	0.61	0.61	
Actuated g/C Ratio	6.0	6.0	6.0	6.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	3.0	
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	222	222	222	230	230	230	486	2093	369	2133	2133	2133	
Lane Grp Cap (vph)	0.06	0.06	0.06	0.09	0.09	0.09	0.01	0.30	0.14	0.26	0.26	0.26	
v/s Ratio Prot	0.39	0.39	0.39	0.58	0.58	0.58	0.20	0.49	0.22	0.43	0.43	0.43	
v/s Ratio Perm	34.2	34.2	34.2	35.4	35.4	35.4	5.2	9.7	5.4	9.1	9.1	9.1	
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.03	1.11	1.11	1.11	
Progression Factor	1.1	1.1	1.1	3.7	3.7	3.7	0.2	0.8	0.2	0.3	0.3	0.3	
Incremental Delay, d2	35.4	35.4	35.4	39.1	39.1	39.1	5.4	10.5	5.8	10.4	10.4	10.4	
Delay (s)	D	D	D	D	D	D	A	B	A	B	B	B	
Level of Service	35.4	35.4	35.4	39.1	39.1	39.1	10.1	10.1	10.1	10.1	10.1	10.1	
Approach Delay (s)	D	D	D	D	D	D	B	B	B	B	B	B	
Approach LOS	D	D	D	D	D	D	B	B	B	B	B	B	
Intersection Summary													
HCM 2000 Control Delay	13.4											HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49												
Actuated Cycle Length (s)	90.0											Sum of lost time (s)	15.0
Intersection Capacity Utilization	66.2%											ICU Level of Service	C
Analysis Period (min)	15												
c Critical Lane Group													

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

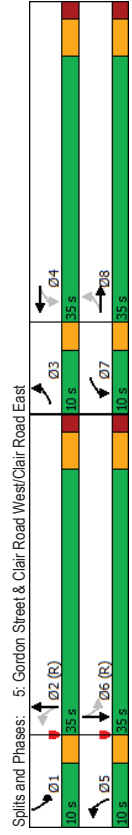
12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	255	870	120	155	495	110	135	710	140	190	750	150
Future Volume (vph)	255	870	120	155	495	110	135	710	140	190	750	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	0.0	32.0	0.0	0.0	72.0	0.0	0.0	163.0	0.0	0.0
Storage Lanes	1	0	0	1	0	0	1	0	0	1	0	0
Taper Length (m)	7.5	3453	0	7.5	3418	0	7.5	3356	0	7.5	3332	0
Satd. Flow (prot)	1745	0.295	0	1711	0.142	0	1646	0.140	0	1728	0.149	0
Flt Permitted	535	3453	0	255	3418	0	242	3356	0	270	3332	0
Satd. Flow (perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	18	60	31	60	217.7	60	27	180.5	27	60	27	60
Satd. Flow (RTOR)	268.6	16.1	21	217.7	13.1	217.7	180.5	180.5	27	60	27	60
Link Speed (k/h)	34	21	21	34	18	34	18	10.8	26	26	14.0	18
Link Distance (m)	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Travel Time (s)	0%	1%	2%	0%	1%	0%	6%	2%	5%	1%	2%	10%
Confl. Peds. (#/hr)	0	0	0	0	0	0	0	0	3	0	3	3
Confl. Bikes (#/hr)	263	897	124	160	510	113	139	732	144	196	773	159
Peak Hour Factor	263	1021	0	160	623	0	139	876	0	196	928	0
Heavy Vehicles (%)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Bus Blockages (#/hr)	3	8	7	4	5	2	1	6	2	1	6	6
Adj. Flow (vph)	8	8	4	4	2	6	6	6	6	6	6	6
Shared Lane Traffic (%)	3	8	7	4	5	2	1	6	2	1	6	6
Lane Group Flow (vph)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Turn Type	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Protected Phases	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Permitted Phases	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%
Detector Phase	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0
Switch Phase	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Minimum Initial (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	Min	None	Min	None	C-Min	None	C-Min	None	10.0
Walk Time (s)	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0
Flash Dont Walk (s)	11	11	11	11	11	11	11	11	11	11	11	11
Pedestrian Calls (#/hr)	39.4	28.5	38.5	28.1	38.6	28.6	39.5	29.0	38.5	28.1	38.5	29.0
Act Effect Green (s)	0.44	0.32	0.43	0.31	0.43	0.32	0.44	0.32	0.43	0.31	0.44	0.32
Actuated g/C Ratio	0.77	0.92	0.70	0.57	0.85	0.81	0.82	0.85	0.77	0.92	0.82	0.85
v/C Ratio	35.2	43.7	35.0	26.8	31.9	27.7	45.3	36.6	35.2	43.7	35.0	26.8
Control Delay												

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	43.7	35.0	26.8	31.9	27.7	45.3	36.6	35.2	43.7	35.0	26.8
LOS	D	D	C	C	C	C	D	D	D	D	D	D
Approach Delay	42.0	28.4	28.3	28.4	28.3	28.3	38.1	28.3	28.3	28.3	28.3	28.3
Approach LOS	D	C	C	C	C	C	D	D	D	D	D	D
Intersection Summary	Other											
Area Type	Other											
Cycle Length	90											
Actuated Cycle Length	90											
Offset: 0 (0%)	Referenced to phase 2:NBT/L and 6:SBT/L, Start of Green, Master Intersection											
Natural Cycle	90											
Control Type	Actuated-Coordinated											
Maximum v/c Ratio	0.92											
Intersection Signal Delay	35.1											
Intersection Capacity Utilization	88.4%											
Analysis Period (min)	15											
Intersection LOS	D											
ICU Level of Service E	D											



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	7	4	2	6			
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (%)	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%
Maximum Green (s)	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	11		11		9		9	
90th %ile Green (s)	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0
90th %ile Term Code	Max	Max	Hold	Max	Coord	Max	Coord	Max
70th %ile Green (s)	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0
70th %ile Term Code	Max	Max	Hold	Max	Coord	Max	Coord	Max
50th %ile Green (s)	7.0	29.0	7.0	29.0	7.0	29.0	7.0	29.0
50th %ile Term Code	Max	Max	Hold	Max	Coord	Max	Coord	Max
30th %ile Green (s)	8.0	29.0	8.0	29.0	7.0	28.0	7.0	28.0
30th %ile Term Code	Max	Max	Hold	Max	Coord	Max	Coord	Max
10th %ile Green (s)	10.4	26.7	8.1	24.4	7.0	27.9	9.3	30.2
10th %ile Term Code	Gap	Gap	Gap	Hold	Min	Coord	Gap	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	263	1021	160	623	139	876	196	928
v/c Ratio	0.77	0.92	0.70	0.57	0.65	0.81	0.82	0.85
Control Delay	35.2	43.7	35.0	26.8	31.9	27.7	45.3	36.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	43.7	35.0	26.8	31.9	27.7	45.3	36.6
Queue Length 50th (m)	29.0	91.4	21.7	59.8	11.0	75.3	20.6	80.1
Queue Length 95th (m)	#61.0	#131.1	#40.9	60.1	#34.4	45.2	#55.2	#113.9
Internal Link Dist (m)		244.6		193.7		156.5		209.4
Turn Bay Length (m)	70.0		32.0		72.0		163.0	
Base Capacity (vph)	340	1124	228	1122	213	1099	239	1100
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.91	0.70	0.56	0.65	0.80	0.82	0.84

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

6. Farley Drive & Clair Road East

12-12-2023

5. Gordon Street & Clair Road West/Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑	↑	↑
Traffic Volume (vph)	255	870	120	155	495	110	135	710	140	190	750	150
Future Volume (vph)	255	870	120	155	495	110	135	710	140	190	750	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	0.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.99	1.00	0.95	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	0.97	1.00	0.98	1.00	0.97	1.00	0.97	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Sat'd Flow (prot)	1740	3452	1710	3417	1646	3357	1727	3332	1727	3332	1727	3332
Flt Permitted	0.30	1.00	0.14	1.00	0.14	1.00	0.14	1.00	0.15	1.00	0.15	1.00
Sat'd Flow (perm)	541	3452	256	3417	243	3357	271	3332	271	3332	271	3332
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	263	897	124	160	510	113	139	732	144	186	773	155
RTOR Reduction (vph)	0	12	0	0	21	0	0	18	0	0	18	0
Lane Group Flow (vph)	263	1009	0	160	602	0	139	858	0	186	910	0
Confl. Peds. (#/hr)	34	21	21	34	21	21	34	21	26	26	34	18
Confl. Bikes (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Heavy Vehicles (%)	0%	1%	2%	2%	1%	0%	6%	2%	5%	1%	2%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	1	6	1	6	6	6
Permitted Phases	8	8	4	4	2	2	6	6	6	6	6	6
Actuated Green, G (s)	36.5	28.6	35.5	28.1	35.5	28.5	36.5	29.0	36.5	29.0	36.5	29.0
Effective Green, g (s)	36.5	28.6	35.5	28.1	35.5	28.5	36.5	29.0	36.5	29.0	36.5	29.0
Actuated g/C Ratio	0.41	0.32	0.39	0.31	0.39	0.32	0.41	0.32	0.41	0.32	0.41	0.32
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	324	1096	220	1066	204	1063	231	1073	231	1073	231	1073
v/s Ratio Prot	0.07	0.29	0.06	0.18	0.05	0.26	0.07	0.27	0.07	0.27	0.07	0.27
v/s Ratio Perm	0.26	0.81	0.23	0.73	0.56	0.68	0.81	0.85	0.85	0.85	0.85	0.85
Uniform Delay, d1	20.8	29.6	20.8	25.8	20.0	28.2	20.0	28.4	20.0	28.4	20.0	28.4
Progression Factor	1.00	1.00	1.19	1.01	1.19	0.79	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.3	12.3	10.6	0.6	8.1	5.9	24.0	8.3	24.0	8.3	24.0	8.3
Delay (s)	35.0	41.9	35.5	26.6	32.0	28.1	44.0	36.8	44.0	36.8	44.0	36.8
Level of Service	D	D	D	D	C	C	D	D	D	D	D	D
Approach Delay (s)	40.5	D	28.4	D	28.7	C	38.0	D	38.0	D	38.0	D
Approach LOS	D	D	D	D	C	C	D	D	D	D	D	D
Intersection Summary												
HCM 2000 Control Delay			34.7				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			88.4%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑	↑	↑
Traffic Volume (vph)	200	800	150	45	505	85	85	55	30	105	65	150
Future Volume (vph)	200	800	150	45	505	85	85	55	30	105	65	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Storage Length (m)	131.0	0.0	0.0	64.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	0	1	0	0	1	0	0	0	0	0
Taper Length (m)	7.5	3376	0	7.5	3403	0	1705	1753	0	7.5	0	0
Sat'd Flow (prot)	1785	3376	0	1785	3403	0	1705	1753	0	1785	0	1924
Flt Permitted	0.359			0.255			0.435			0.857		
Sat'd Flow (perm)	667	3376	0	477	3403	0	766	1763	0	1661	0	1661
Right Turn on Red		Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Sat'd Flow (RTOR)	30			25			31			52		52
Link Speed (k/h)	60			60			30			40		40
Link Distance (m)	217.7			160.7			63.9			196.5		196.5
Travel Time (s)	13.1			9.6			7.7			17.7		17.7
Confl. Peds. (#/hr)	20	13	13	20	36	29	29	36	29	29	36	36
Confl. Bikes (#/hr)	2			2								
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	0%	0%	2%	1%	0%
Adj. Flow (vph)	208	833	156	47	526	89	89	57	31	109	68	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	208	989	0	47	615	0	89	88	0	333	0	333
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	2	1	6	8	8	8	8	4	4	4
Permitted Phases	5	2	2	1	6	8	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	10.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	13.0	45.0	10.0	42.0	11.0	46.7%	38.9%	38.9%	38.9%	38.9%	38.9%	38.9%
Total Split (%)	14.4%	50.0%	11.1%	46.7%	11.1%	46.7%	38.9%	38.9%	38.9%	38.9%	38.9%	38.9%
Maximum Green (s)	10.0	39.0	7.0	36.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	7			7			12		12		12	12
Act Effct Green (s)	60.0	51.1		55.0	45.0		20.9		20.9		20.9	20.9
Actuated g/C Ratio	0.67	0.57		0.61	0.50		0.23		0.23		0.23	0.23
v/c Ratio	0.37	0.51		0.12	0.36		0.50		0.20		0.78	0.78
Control Delay	5.2	11.7		5.1	11.1		38.4		18.2		39.8	39.8
Queue Delay	0.0	0.0		0.0	0.0		0.0		0.0		0.0	0.0

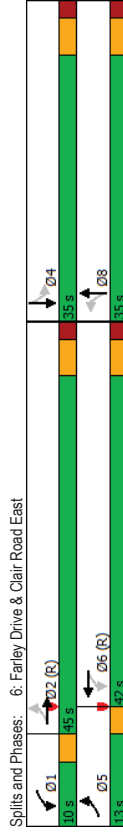
Lanes, Volumes, Timings

6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	5.2	11.7		5.1	11.1		38.4	18.2				39.8
LOS	A	B		A	B		D	B				D
Approach Delay	10.6			10.7			28.4			39.8		
Approach LOS	B			B			C			D		

Intersection Summary
 Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 16.1
 Intersection LOS: B
 Intersection Capacity Utilization: 75.1%
 ICU Level of Service: D
 Analysis Period (min): 15



Phasings

6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		8					4
Permitted Phases	2			6			8			4		
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0		7.0
Minimum Split (s)	10.0	35.0		10.0	35.0		32.0	32.0		32.0		32.0
Total Split (s)	13.0	45.0		10.0	42.0		35.0	35.0		35.0		35.0
Total Split (%)	14.4%	50.0%		11.1%	46.7%		38.9%	38.9%		38.9%		38.9%
Maximum Green (s)	10.0	39.0		7.0	36.0		29.0	29.0		29.0		29.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	0.0	2.0		0.0	2.0		2.0	2.0		2.0		2.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0		0.0
Recall Mode	None	C-Min		None	C-Min		None	None		None		None
Walk Time (s)	11.0			11.0			8.0	8.0		8.0		8.0
Flash Dont Walk (s)	18.0			18.0			18.0	18.0		18.0		18.0
Pedestrian Calls (#/hr)	7			7			12	12		12		12
90th %ile Green (s)	10.3	39.0		7.3	36.0		28.7	28.7		28.7		28.7
90th %ile Term Code	Max	Coord		Max	Coord		Hold	Hold		Gap		Gap
70th %ile Green (s)	11.0	43.7		7.0	39.7		24.3	24.3		24.3		24.3
70th %ile Term Code	Gap	Coord		Min	Coord		Hold	Hold		Gap		Gap
50th %ile Green (s)	9.4	47.0		7.0	44.6		21.0	21.0		21.0		21.0
50th %ile Term Code	Gap	Coord		Min	Coord		Hold	Hold		Gap		Gap
30th %ile Green (s)	8.1	60.4		0.0	49.3		17.6	17.6		17.6		17.6
30th %ile Term Code	Gap	Coord		Skip	Coord		Hold	Hold		Gap		Gap
10th %ile Green (s)	7.0	65.2		0.0	55.2		12.8	12.8		12.8		12.8
10th %ile Term Code	Min	Coord		Skip	Coord		Hold	Hold		Gap		Gap

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	208	989	47	615	89	88	333
v/c Ratio	0.37	0.51	0.12	0.36	0.50	0.20	0.78
Control Delay	5.2	11.7	5.1	11.1	38.4	18.2	39.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.2	11.7	5.1	11.1	38.4	18.2	39.8
Queue Length 50th (m)	4.0	46.7	0.8	33.1	14.1	8.3	48.4
Queue Length 95th (m)	m22.8	m101.8	2.7	55.9	26.5	18.1	71.0
Internal Link Dist (m)	193.7			136.7		39.9	172.5
Turn Bay Length (m)	131.0		64.0		20.0		
Base Capacity (vph)	572	1928	394	1712	246	585	570
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.51	0.12	0.36	0.36	0.15	0.58
Intersection Summary							
m	Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	→	→	→	←	←	←	←	←	←	←	←	←	
Traffic Volume (vph)	200	800	150	45	505	85	85	55	30	105	65	150	
Future Volume (vph)	200	800	150	45	505	85	85	55	30	105	65	150	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
Total Lost time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	
Frbp. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.98	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.98	1.00	0.99	0.94	
Frt	0.95	1.00	0.98	1.00	0.98	1.00	0.95	1.00	0.95	1.00	0.98	0.98	
Flt Protected	1778	3377	1783	3404	1674	1754	1754	1754	1754	1754	1754	1754	
Satd. Flow (perm)	671	3377	478	3404	767	1754	1754	1754	1754	1754	1754	1754	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	208	833	156	47	526	89	89	57	31	109	68	156	
RTOR Reduction (vph)	0	13	0	0	13	0	0	24	0	0	40	0	
Lane Group Flow (vph)	208	976	0	47	602	0	89	64	0	0	293	0	
Conf. Peds. (#/hr)	20	13	13	13	20	36	29	29	29	29	29	36	
Conf. Bikes (#/hr)			2										
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	0%	0%	2%	1%	0%	
Turn Type	pm+pt	NA	NA	pm+pt	NA	NA	NA	NA	NA	NA	NA	NA	
Protected Phases	5	2		1	6		8				4		
Permitted Phases	2			6			8				4		
Actuated Green, G (s)	57.1	49.8		49.2	44.9		20.9				20.9		
Effective Green, g (s)	57.1	49.8		49.2	44.9		20.9				20.9		
Actuated g/C Ratio	0.63	0.55		0.55	0.50		0.23				0.23		
Clearance Time (s)	3.0	6.0		3.0	6.0		6.0				6.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0				3.0		
Lane Grp Cap (vph)	538	1868		323	1698		178				407		
v/s Ratio Prot	c0.04	c0.29		0.01	0.18		0.04				0.04		
v/s Ratio Perm	0.21			0.07			0.12				0.18		
v/c Ratio	0.39	0.52		0.15	0.35		0.50				0.76		
Uniform Delay, d1	7.2	12.6		9.7	13.7		30.0				27.5		
Progression Factor	0.63	0.82		0.64	0.72		1.00				1.00		
Incremental Delay, d2	0.2	0.5		0.2	0.6		2.2				0.2		
Delay (s)	4.8	10.8		6.4	10.4		32.2				27.7		
Level of Service	A	B		A	B		C				D		
Approach Delay (s)	9.7			10.1			30.0				40.8		
Approach LOS	A			B			C				D		
Intersection Summary													
HCM 2000 Control Delay	15.7											HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59												
Actuated Cycle Length (s)	90.0											Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.1%											ICU Level of Service	D
Analysis Period (min)	15												
c Critical Lane Group													

Lanes, Volumes, Timings
7: Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Future Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1797	0	0	1722	0	0	1834	0	0	1956	0
Flt Permitted	0.963			0.993			0.996					0.990
Satd. Flow (perm)	0	1797	0	0	1722	0	0	1834	0	0	1956	0
Link Speed (k/h)		30		30			30				30	
Link Distance (m)		57.2		91.1			54.0				63.9	
Travel Time (s)		6.9		10.9			6.5				7.7	
Confl. Peds. (#/hr)	5		5	5		5	26		22	22		26
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%
Adj. Flow (vph)	94	22	6	11	22	44	6	56	11	56	61	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	122	0	0	77	0	0	73	0	0	273	0
Sign Control		Stop		Stop			Stop				Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	41.8%
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
7: Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop		Stop			Stop		Stop		Stop	
Traffic Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Future Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	94	22	6	11	22	44	6	56	11	56	61	156
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	122	77	73	273								
Volume Left (vph)	94	11	6	56								
Volume Right (vph)	6	44	11	156								
Head (s)	0.12	-0.31	-0.07	-0.29								
Departure Headway (s)	4.9	4.5	4.6	4.2								
Degree Utilization, x	0.17	0.10	0.09	0.32								
Capacity (veh/h)	680	725	728	816								
Control Delay (s)	8.9	8.0	8.1	9.1								
Approach Delay (s)	8.9	8.0	8.1	9.1								
Approach LOS	A	A	A	A								

Intersection Summary	
Delay	8.8
Level of Service	A
Intersection Capacity Utilization	41.8%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Future Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1766	0	0	1723	0	0	1795	0	0	1804	0
Flt Permitted	0.968			0.984			0.988				0.979	
Satd. Flow (perm)	0	1766	0	0	1723	0	0	1795	0	0	1804	0
Link Speed (k/h)	30			30			30				30	
Link Distance (m)	31.6			39.2			55.2				54.0	
Travel Time (s)	3.8			4.7			6.6				6.5	
Confl. Peds. (#/hr)	13		45	45		13	45		15	15		45
Confl. Bikes (#/hr)			2			5						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	34	6	11	11	6	17	11	23	11	34	34	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	34	0	0	45	0	0	79	0
Sign Control		Stop		Stop			Stop				Stop	

Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	30.2%											
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop		Stop			Stop		Stop		Stop	
Traffic Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Future Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	34	6	11	11	6	17	11	23	11	34	34	11
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	51	34	45	79								
Volume Left (vph)	34	11	11	34								
Volume Right (vph)	11	17	11	11								
Head (s)	0.00	-0.24	-0.10	0.00								
Departure Headway (s)	4.2	4.0	4.1	4.1								
Degree Utilization, x	0.06	0.04	0.05	0.09								
Capacity (veh/h)	827	870	854	849								
Control Delay (s)	7.5	7.1	7.3	7.5								
Approach Delay (s)	7.5	7.1	7.3	7.5								
Approach LOS	A	A	A	A								

Intersection Summary												
Delay	7.4											
Level of Service	A											
Intersection Capacity Utilization	30.2%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings
9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	55	5	0	90	80	45
Traffic Volume (vph)	55	5	0	90	80	45
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.1	4.1	4.5	4.5	4.5	4.5
Lane Width (m)	1851	0	0	2090	1988	0
Flt Permitted	0.956					
Satd. Flow (perm)	1851	0	0	2090	1988	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Confl. Peds. (#/hr)			8			8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	16%	0%	0%	0%	0%
Adj. Flow (vph)	62	6	0	101	90	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	101	141	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	18.7%					
ICU Level of Service A						
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations	55	5	0	90	80	45
Traffic Volume (veh/h)	55	5	0	90	80	45
Future Volume (Veh/h)	55	5	0	90	80	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	62	6	0	101	90	51
Pedestrians	8					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	
Median type						
Median storage (veh)						
Upstream signal (m)					65	
pX platoon unblocked						
vC, conflicting volume	224	124	149			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	224	124	149			
iC, single (s)	6.4	6.4	4.1			
iC, 2 stage (s)						
p0 queue free %	3.5	3.4	2.2			
ICM capacity (veh/h)	92	99	100			
ICM capacity (veh/h)	760	884	1434			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	68	101	141			
Volume Left	62	0	0			
Volume Right	6	0	51			
vSH	770	1434	1700			
Volume to Capacity	0.09	0.00	0.08			
Queue Length 95th (m)	2.3	0.0	0.0			
Control Delay (s)	10.1	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.1	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay	2.2					
Intersection Capacity Utilization	18.7%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	150	30	10	100	30	10
Traffic Volume (vph)	150	30	10	100	30	10
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.5	4.5	4.5	4.5	3.5	3.5
Lane Width (m)	2042	0	0	2042	1750	0
Satd. Flow (prot)	0.995	0.964				
Flt Permitted	2042	0	0	2042	1750	0
Satd. Flow (perm)	40			40	30	
Link Speed (k/h)	90.5			63.5	67.2	
Link Distance (m)	8.1			5.7	8.1	
Travel Time (s)		1	1		2	17
Confl. Peds. (#/hr)	0.92	0.92	0.92	0.92	0.92	0.92
Peak Hour Factor	0%	0%	0%	2%	0%	0%
Heavy Vehicles (%)	163	33	11	109	33	11
Adj. Flow (vph)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)	196	0	0	120	44	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	27.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	150	30	10	100	30	10
Traffic Volume (veh/h)	150	30	10	100	30	10
Future Volume (Veh/h)	1500	1900	1900	1900	1900	1900
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	163	33	11	109	33	11
Pedestrians	2			17	1	
Lane Width (m)	4.5			4.5	3.5	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			2	0	
Right turn flare (veh)						
Median type	None					
Median storage (veh)	None					
Upstream signal (m)	311					
pX, platoon unblocked						
VC, conflicting volume	197					
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	197					
IC, single (s)	4.1					
IC, 2 stage (s)	2.2					
p0 queue free %	99					
ICM capacity (veh/h)	1387					
Direction_Lane #	EB 1	WB 1	NB 1			
Volume Total	196	120	44			
Volume Left	0	11	33			
Volume Right	33	0	11			
cSH	1700	1387	709			
Volume to Capacity	0.12	0.01	0.06			
Queue Length 95th (m)	0.0	0.2	1.6			
Control Delay (s)	0.0	0.8	10.4			
Lane LOS	A	A	B			
Approach Delay (s)	0.0	0.8	10.4			
Approach LOS	B	B	B			
Intersection Summary						
Average Delay	1.5					
Intersection Capacity Utilization	27.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

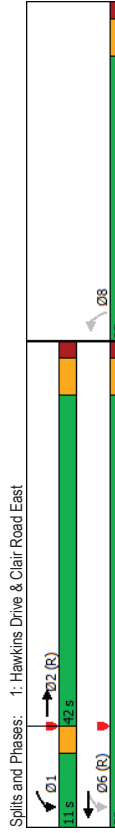
12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	610	30	120	515	25	105
Future Volume (vph)	610	30	120	515	25	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	4.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)	3493	0	1767	3466	1844	0
Satd. Flow (prot)	0.364			0.990		
Flt Permitted	3493	0	675	3466	1844	0
Satd. Flow (perm)	6	Yes			109	Yes
Right Turn on Red	60			60	50	
Satd. Flow (RTOR)	1607			130.4	64.6	
Link Speed (k/h)	9.6			7.8	4.7	
Link Distance (m)						
Travel Time (s)						
Conf. Peds. (#/hr)	0.96	0.96	0.96	0.96	0.96	0.96
Peak Hour Factor	1%	0%	1%	3%	0%	0%
Heavy Vehicles (%)	2	2	0	0	0	0
Bus Blockages (#/hr)	635	31	125	536	26	109
Adj. Flow (vph)						
Shared Lane Traffic (%)	666	0	125	536	135	0
Lane Group Flow (vph)	NA	pm+pt	NA	Perm	NA	Perm
Turn Type	2	1	6	6	8	8
Protected Phases	2	1	6	6	8	8
Permitted Phases	2	1	6	6	8	8
Detector Phase						
Switch Phase						
Minimum Initial (s)	10.0	7.0	10.0	10.0	7.0	7.0
Minimum Split (s)	35.0	10.0	35.0	35.0	35.0	35.0
Total Split (s)	42.0	11.0	53.0	37.0	41.1%	41.1%
Total Split (%)	46.7%	12.2%	68.9%	41.1%		
Maximum Green (s)	36.0	8.0	47.0	31.0	4.0	4.0
Yellow Time (s)	4.0	3.0	4.0	2.0	2.0	2.0
All-Red Time (s)	2.0	0.0	2.0	0.0	0.0	0.0
Lost Time Adjust (s)	6.0	3.0	6.0	6.0	6.0	6.0
Total Lost Time (s)						
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Min	None	C-Min	None	None	None
Walk Time (s)	11.0	11.0	18.0	18.0	18.0	18.0
Flesh Dont Walk (s)	7	7	7	12	12	12
Pedestrian Calls (#/hr)	56.2	69.9	66.9	11.1	11.1	11.1
Act Effect Green (s)	0.62	0.78	0.74	0.12	0.12	0.12
Actuated g/C Ratio	0.31	0.20	0.21	0.42	0.42	0.42
v/c Ratio	5.2	4.5	4.7	13.1	13.1	13.1
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay						

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	5.2	4.5	4.7	13.1		
LOS	A	A	A	B		
Approach Delay	5.2		4.7	13.1		
Approach LOS	A		A	B		
Intersection Summary						
Area Type:	Other					
Cycle Length:	90					
Actuated Cycle Length:	90					
Offset:	2 (2%), Referenced to phase 2EBT and 6:WBT, Start of Green					
Natural Cycle:	80					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.42					
Intersection Signal Delay:	5.7					
Intersection LOS:	A					
Intersection Capacity Utilization:	52.0%					
Analysis Period (min):	15					



Phasings
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	WBL	WBT	NBL
Lane Group	2	1	6	
Protected Phases				
Permitted Phases	6	8		
Minimum Initial (s)	10.0	7.0	10.0	7.0
Minimum Split (s)	35.0	10.0	35.0	35.0
Total Split (s)	42.0	11.0	53.0	37.0
Total Split (%)	46.7%	12.2%	58.9%	41.1%
Maximum Green (s)	36.0	8.0	47.0	31.0
Yellow Time (s)	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	0.0	2.0	2.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	C-Min	None	C-Min	None
Walk Time (s)	11.0	11.0	11.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	7	7	12	
90th %ile Green (s)	38.7	10.3	52.0	26.0
90th %ile Term Code	Coord	Gap	Coord	Ped
70th %ile Green (s)	59.1	7.2	69.3	8.7
70th %ile Term Code	Coord	Gap	Coord	Gap
50th %ile Green (s)	61.0	7.0	71.0	7.0
50th %ile Term Code	Coord	Min	Coord	Min
30th %ile Green (s)	61.0	7.0	71.0	7.0
30th %ile Term Code	Coord	Min	Coord	Min
10th %ile Green (s)	61.0	7.0	71.0	7.0
10th %ile Term Code	Coord	Min	Coord	Min

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBTL - Start of Green
Control Type: Actuated-Coordinated

Queues
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	WBL	WBT	NBL
Lane Group	666	125	536	135
Lane Group Flow (vph)	0.31	0.20	0.21	0.42
v/c Ratio	5.2	4.5	4.7	13.1
Control Delay	0.0	0.0	0.0	0.0
Queue Delay	5.2	4.5	4.7	13.1
Total Delay	5.2	4.5	4.7	13.1
Queue Length 50th (m)	13.2	3.0	9.6	4.0
Queue Length 95th (m)	25.3	16.0	32.7	15.4
Internal Link Dist (m)	136.7	106.4	40.6	
Turn Bay Length (m)		25.0		
Base Capacity (vph)	2181	626	2574	706
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.31	0.20	0.21	0.19

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: Hawkins Drive & Clair Road East

12-12-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←↑	←↑	←	←	←	←
Traffic Volume (vph)	610	30	120	515	25	105
Future Volume (vph)	610	30	120	515	25	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Total Lost time (s)	6.0	3.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.99	1.00	1.00	1.00	0.89	1.00
Flt/Protected	1.00	0.95	1.00	0.99		
Sat'd. Flow (prot)	3493	1765	3466	1844		
Flt/Permitted	1.00	0.36	1.00	0.99		
Sat'd. Flow (perm)	3493	676	3466	1844		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	635	31	125	536	26	109
RTOR Reduction (vph)	2	0	0	0	96	0
Lane Group Flow (vph)	684	0	125	536	39	0
Confl. Peds. (#/hr)	6	6				
Heavy Vehicles (%)	1%	0%	1%	3%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2	1	6			
Permitted Phases		6	8			
Actuated Green, G (s)	56.2	66.9	66.9	11.1		
Effective Green, g (s)	56.2	66.9	66.9	11.1		
Actuated g/C Ratio	0.62	0.74	0.74	0.12		
Clearance Time (s)	6.0	3.0	6.0	6.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	2181	595	2576	227		
v/s Ratio Prot	c0.19	0.02	c0.15			
v/s Ratio Perm		0.14		c0.02		
v/c Ratio	0.30	0.21	0.21	0.17		
Uniform Delay, d1	7.8	3.4	3.5	35.3		
Progression Factor	0.51	1.00	1.00	0.97		
Incremental Delay, d2	0.3	0.2	0.2	0.4		
Delay (s)	4.4	3.5	3.7	34.5		
Level of Service	A	A	A	C		
Approach Delay (s)	4.4	3.7	34.5			
Approach LOS	A	A	A	C		
Intersection Summary						
HCM 2000 Control Delay	6.8 HCM 2000 Level of Service A					
HCM 2000 Volume to Capacity ratio	0.28					
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0					
Intersection Capacity Utilization	52.0% ICU Level of Service A					
Analysis Period (min)	15					
c Critical Lane Group						

Lanes, Volumes, Timings
2: Hawkins Drive & Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	35	60	5	40	60	10	5	25	15	5	45	30
Future Volume (vph)	35	60	5	40	60	10	5	25	15	5	45	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Sat'd. Flow (prot)	0	2042	0	1804	0	0	1986	0	0	1913	0	0
Flt/Permitted	0.983			0.982			0.985			0.997		
Sat'd. Flow (perm)	0	2042	0	1804	0	0	1986	0	0	1913	0	0
Link Speed (k/h)		40		40			40			40		
Link Distance (m)		63.5		196.8			136.5			121.9		
Travel Time (s)		5.7		17.7			12.3			11.0		
Confl. Peds. (#/hr)	12	11	11	12	6	3	3	3	3	3	3	3
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	9%
Adj. Flow (vph)	38	65	5	43	65	11	5	27	16	5	48	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	0	119	0	0	48	0	0	85	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	23.4%											
Analysis Period (min)	15											
ICU Level of Service A												

2: Hawkins Drive & Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	60	5	40	60	10	5	25	15	5	45	30
Future Volume (Veh/h)	35	60	5	40	60	10	5	25	15	5	45	30
Sign Control	Free											
Grade	0%											
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	38	65	5	43	65	11	5	27	16	5	48	32
Pedestrians	6											
Lane Width (m)	4.5											
Walking Speed (m/s)	1.2											
Percent Blockage	1											
Right turn flare (veh)	None											
Median type	None											
Median storage (veh)	None											
Upstream signal (m)	375											
pX platoon unblocked	88											
VC, conflicting volume	81											
VC1, stage 1 conf vol	373											
VC2, stage 2 conf vol	328											
VCu, unblocked vol	88											
IC, single (s)	4.1											
IC, 2 stage (s)	7.1											
p0 queue free %	2.2											
ICF (s)	2.2											
p0 queue free %	97											
CM capacity (veh/h)	1501											
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	108	119	48	85								
Volume Left	38	43	5	5								
Volume Right	5	11	16	32								
cSH	1501	1512	633	650								
Volume to Capacity	0.03	0.03	0.08	0.13								
Queue Length 95th (m)	0.6	0.7	2.0	3.6								
Control Delay (s)	2.8	2.8	11.2	11.4								
Lane LOS	A	A	B	B								
Approach Delay (s)	2.8	2.8	11.2	11.4								
Approach LOS	B	B	B	B								
Intersection Summary												
Average Delay	5.9											
Intersection Capacity Utilization	23.4%											
Analysis Period (min)	15											

3: Poppy Drive East & Fanley Drive

12-12-2023

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	105	90	15	15	35
Future Volume (vph)	25	105	90	15	15	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	2071	1966	0	1675	0
Flt Permitted	0.991					
Satd. Flow (perm)	0	2071	1966	0	1675	0
Link Speed (k/h)	40					
Link Distance (m)	220.5					
Travel Time (s)	19.8					
Confl. Peds. (#/hr)	15					
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%					
Adj. Flow (vph)	27	115	99	16	16	38
Shared Lane Traffic (%)	0					
Lane Group Flow (vph)	0	142	115	0	54	0
Sign Control	Free					
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	23.6%					
Analysis Period (min)	15					

3: Poppy Drive East & Farley Drive

12-12-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	105	90	15	15	35
Future Volume (Veh/h)	25	105	90	15	15	35
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	115	99	16	16	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (m)						
pX platoon unblocked						
VC conflicting volume	130				291	122
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCU unblocked vol	130				291	122
IC, single (s)	4.1				6.4	6.2
IC, 2 stage (s)	2.2				3.5	3.3
p0 queue free %	98				98	96
CM capacity (veh/h)	1450				682	923
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	142	115	54			
Volume Left	27	0	16			
Volume Right	0	16	38			
cSH	1450	1700	836			
Volume to Capacity	0.02	0.07	0.06			
Queue Length 95th (m)	0.5	0.0	1.7			
Control Delay (s)	1.6	0.0	9.6			
Lane LOS	A	A	A			
Approach Delay (s)	1.6	0.0	9.6			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay		2.4				
Intersection Capacity Utilization		23.6%				
Analysis Period (min)		15				
						A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	20	45	70	25	65	75	720	80	60	815	25
Future Volume (vph)	35	20	45	70	25	65	75	720	80	60	815	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	0	0	0	0	0	0	0	91.0	0	0	70.0	0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5	0	0	7.5	0	0	7.5	0	0	7.5	0	0
Satd. Flow (prot)	0	1717	0	0	1865	0	2046	3504	0	1745	3552	0
Flt Permitted		0.791			0.822		0.270			0.287		
Satd. Flow (perm)	0	1377	0	0	1563	0	579	3504	0	525	3552	0
Right Turn on Red		Yes			Yes		Yes		Yes			Yes
Satd. Flow (RTOR)	47			39			17					4
Link Speed (k/h)	40			40			60					60
Link Distance (m)	93.0			220.5			196.0					180.5
Travel Time (s)	8.4			6			11.8					10.8
Conf. Peds. (#/hr)	14			6			14					10
Conf. Bikes (#/hr)												1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	23%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0
Adj. Flow (vph)	38	22	49	77	27	71	82	791	88	66	896	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	0	0	175	0	82	879	0	66	923	0
Turn Type	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8	8		4	4		2	2	1	6		6
Permitted Phases	8	8		4	4		5	2	1	6		6
Detector Phase												
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	10.0		7.0		10.0
Minimum Split (s)	30.0	30.0		30.0	30.0		10.0	35.0		10.0		35.0
Total Split (s)	33.0	33.0		33.0	33.0		10.0	47.0		10.0		47.0
Total Split (%)	36.7%	36.7%		36.7%	36.7%		11.1%	52.2%		11.1%		52.2%
Maximum Green (s)	27.0	27.0		27.0	27.0		7.0	41.0		7.0		41.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0		2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		3.0	6.0		3.0		6.0
Lead/Lag							Lead	Lag		Lead		Lag
Lead-Lag Optimize?							Yes	Yes		Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0		3.0
Recall Mode	None	None		None	None		None	C-Min		None		C-Min
Walk Time (s)	8.0	8.0		8.0	8.0		17.0			17.0		17.0
Flash Dont Walk (s)	16.0	16.0		16.0	16.0		12.0			12.0		12.0
Pedestrian Calls (#/hr)	5	5		5	5		3			3		3
Act Effct Green (s)	14.3	14.3		14.3	14.3		64.3	55.5		64.3		55.5
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.71	0.62		0.71		0.62
v/c Ratio	0.42	0.42		0.62	0.62		0.15	0.41		0.14		0.42
Control Delay	23.9			36.0			5.1	11.0		4.4		10.4

Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

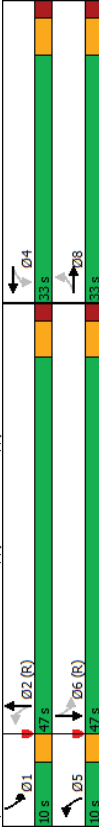
12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	36.0	36.0	5.1	11.0	4.4	10.4					
LOS	C	D	D	A	B	A	B	A	B	A	B	B
Approach Delay	23.9	36.0	36.0				10.5					10.0
Approach LOS	C	D	D				B					B

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay:	12.9
Intersection Capacity Utilization:	59.4%
Analysis Period (min):	15

Splits and Phases: 4: Gordon Street & Poppy Drive West/Poppy Drive East



Phasings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases												
Permitted Phases	8	4	4	4	5	2	1	2	1	6	6	
Minimum Initial (s)	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	7.0	10.0	10.0	
Minimum Split (s)	30.0	30.0	30.0	30.0	33.0	33.0	30.0	35.0	30.0	35.0	35.0	
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	
Total Split (%)	36.7%	36.7%	36.7%	36.7%	11.1%	11.1%	52.2%	11.1%	52.2%	11.1%	52.2%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)	5	5	5	5	5	5	5	5	5	5	5	
90th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
90th %ile Term Code	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped	
70th %ile Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	
70th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	
50th %ile Green (s)	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	
50th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	
30th %ile Green (s)	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	
30th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	
10th %ile Green (s)	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	
10th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold	

Intersection Summary

Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Control Type:	Actuated-Coordinated

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	109	175	82	879	66	923
Lane Group Flow (vph)	0.42	0.62	0.15	0.41	0.14	0.42
v/c Ratio	23.9	36.0	5.1	11.0	4.4	10.4
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	23.9	36.0	5.1	11.0	4.4	10.4
Total Delay	10.2	23.5	3.1	39.4	1.4	33.4
Queue Length 50th (m)	22.4	38.9	10.3	72.6	m4.9	50.3
Queue Length 95th (m)	69.0	196.5	172.0			156.5
Internal Link Dist (m)			91.0		70.0	
Turn Bay Length (m)						
Base Capacity (vph)	446	496	531	2167	473	2191
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.35	0.15	0.41	0.14	0.42
Intersection Summary						
m	Volume for 95th percentile queue is metered by upstream signal.					

HCM Signalized Intersection Capacity Analysis

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

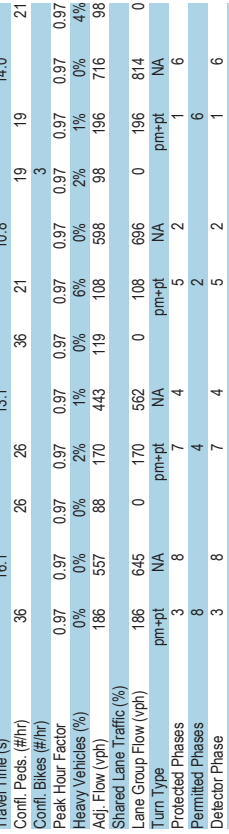
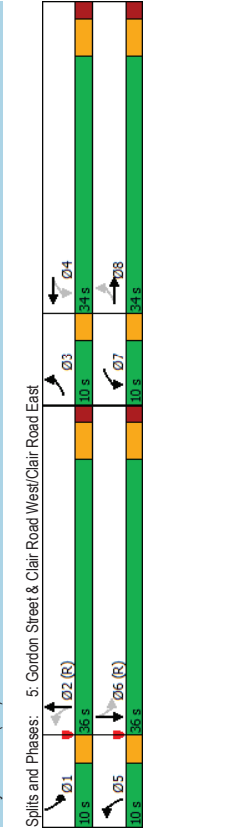
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔			↔	↔		↔	↔	↔
Traffic Volume (vph)	35	20	45	70	25	65	75	720	80	60	60	815
Future Volume (vph)	35	20	45	70	25	65	75	720	80	60	60	815
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.3	3.5
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95
Frbp. ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.94	0.94	0.94	0.98	0.98	0.98	1.00	0.98	1.00	0.95	1.00	1.00
Flt Protected	0.98	0.98	0.98	0.98	0.98	0.98	1.00	0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1711	1711	1711	1861	1861	1861	2044	3504	1743	3651	3651	3651
Flt Permitted	0.79	0.79	0.79	0.82	0.82	0.82	0.27	1.00	0.29	1.00	1.00	1.00
Satd. Flow (perm)	1377	1377	1377	1563	1563	1563	581	3504	527	3551	3551	3551
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	38	22	49	77	27	71	82	791	88	66	896	27
RTOR Reduction (vph)	0	40	0	0	33	0	0	7	0	0	2	0
Lane Group Flow (vph)	0	69	0	0	142	0	82	872	0	66	921	0
Confl. Peds. (#/hr)	14	6	6	6	6	14	10	10	10	10	10	10
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	23%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0
Turn Type	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases		8		4		4		5		2		1
Permitted Phases		8		4		4		2		2		6
Actuated Green, G (s)		14.3		14.3		14.3		60.7		54.9		60.7
Effective Green, g (s)		14.3		14.3		14.3		60.7		54.9		60.7
Actuated g/C Ratio		0.16		0.16		0.16		0.67		0.61		0.67
Clearance Time (s)		6.0		6.0		6.0		3.0		6.0		3.0
Vehicle Extension (s)		3.0		3.0		3.0		3.0		3.0		3.0
Lane Grp Cap (vph)		218		248		248		486		2137		433
v/s Ratio Prot		0.05		0.09		0.09		0.01		0.01		0.01
v/c Ratio Perm		0.32		0.57		0.57		0.17		0.17		0.09
Uniform Delay, d1		33.5		35.0		35.0		5.3		9.1		5.2
Progression Factor		1.00		1.00		1.00		1.00		1.00		0.86
Incremental Delay, d2		0.8		3.2		3.2		0.2		0.6		0.1
Delay (s)		34.4		38.2		38.2		5.4		9.7		4.6
Level of Service		C		D		D		A		A		A
Approach Delay (s)		34.4		38.2		38.2		9.3		8.7		8.7
Approach LOS		C		D		D		A		A		A
Intersection Summary												
HCM 2000 Control Delay	12.6											
HCM 2000 Volume to Capacity ratio	0.43											
Actuated Cycle Length (s)	90.0											
Sum of lost time (s)	15.0											
Intersection Capacity Utilization	59.4%											
ICU Level of Service	B											
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	25.1	35.9		28.0	31.9		9.9	18.1		19.5	25.2	
LOS	C	D		C	C		A	B		B	C	
Approach Delay	33.5			31.0			17.0			24.1		
Approach LOS	C			C			B			C		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	180	540	85	165	430	115	105	580	95	190	695	95
Traffic Volume (vph)	180	540	85	165	430	115	105	580	95	190	695	95
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	70.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	0.0	163.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	7.5	3481	0	1711	3395	0	1646	3470	0	1728	3476	0
Satd. Flow (prot)	0.287			0.226			0.249			0.260		
Flt Permitted	520	3481	0	403	3395	0	429	3470	0	470	3476	0
Satd. Flow (perm)	20	Yes		Yes		Yes	Yes	Yes		Yes		Yes
Right Turn on Red	20			39			22			18		
Satd. Flow (RTOR)	60			60			60			60		
Link Speed (k/h)	268.6			217.7			180.5			233.4		
Link Distance (m)	16.1			13.1			10.8			14.0		
Travel Time (s)	36			26			21			19		
Confl. Peds. (#/hr)	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Confl. Bikes (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	0%	4%
Heavy Vehicles (%)	186	557	88	170	443	119	108	598	98	196	716	98
Adj. Flow (vph)	186	645	0	170	562	0	108	696	0	196	814	0
Shared Lane Traffic (%)	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA
Lane Group Flow (vph)	3	8	8	7	4	5	2	2	1	6	6	6
Turn Type	3	8	8	7	4	5	2	2	1	6	6	6
Protected Phases	3	8	8	7	4	5	2	2	1	6	6	6
Permitted Phases	3	8	8	7	4	5	2	2	1	6	6	6
Detector Phase	7.0	10.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0
Switch Phase	10.0	34.0	34.0	10.0	34.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0
Minimum Initial (s)	10.0	34.0	34.0	10.0	34.0	34.0	10.0	36.0	36.0	10.0	36.0	36.0
Minimum Split (s)	11.1%	37.8%	37.8%	11.1%	37.8%	37.8%	11.1%	40.0%	40.0%	11.1%	40.0%	40.0%
Total Split (s)	7.0	28.0	28.0	7.0	28.0	28.0	7.0	30.0	30.0	7.0	30.0	30.0
Total Split (%)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
Maximum Green (s)	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Yellow Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All-Red Time (s)	3.0	6.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0
Lost Time Adjust (s)	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Total Lost Time (s)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead/Lag	None	Min	None	None	Min	None	None	C-Min	C-Min	None	C-Min	C-Min
Recall Mode	19.0	19.0	19.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	12	12	12	12	12	12	7	7	7	7	7	7
Pedestrian Calls (#/hr)	34.1	21.9	21.7	33.7	21.7	21.7	42.9	32.0	32.0	45.8	35.1	35.1
Act Effect Green (s)	0.38	0.24	0.37	0.24	0.37	0.24	0.48	0.36	0.36	0.51	0.39	0.39
Actuated g/C Ratio	0.68	0.75	0.60	0.66	0.66	0.66	0.35	0.56	0.56	0.64	0.60	0.60
v/c Ratio	25.1	35.9	28.0	31.9	9.9	18.1	19.5	25.2	25.2	19.5	25.2	25.2
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay												



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	7	4	2	6			
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	36.0	10.0	36.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%	40.0%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	12	12	12	12	7	7	7	7
90th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
90th %ile Term Code	Max	Ped	Max	Ped	Max	Coord	Max	Coord
70th %ile Green (s)	9.0	24.3	9.0	24.3	9.8	28.0	10.7	28.9
70th %ile Term Code	Max	Gap	Max	Hold	Gap	Coord	Max	Coord
50th %ile Green (s)	11.8	21.5	11.3	21.0	8.6	28.0	11.2	30.6
50th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord
30th %ile Green (s)	10.3	19.4	10.0	19.1	7.4	33.2	9.4	35.2
30th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord
10th %ile Green (s)	8.1	16.2	7.9	16.0	0.0	40.7	7.2	50.9
10th %ile Term Code	Gap	Gap	Gap	Hold	Skip	Coord	Gap	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	186	645	170	562	108	696	196	814
v/c Ratio	0.58	0.75	0.60	0.66	0.35	0.56	0.54	0.60
Control Delay	25.1	35.9	28.0	31.9	9.9	18.1	19.5	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	35.9	28.0	31.9	9.9	18.1	19.5	25.2
Queue Length 50th (m)	20.9	55.9	20.5	54.0	4.4	56.8	19.1	64.7
Queue Length 95th (m)	33.9	68.1	#33.2	45.7	8.0	20.6	#34.5	86.8
Internal Link Dist (m)	244.6		193.7		156.5		209.4	
Turn Bay Length (m)	70.0		32.0		72.0		163.0	
Base Capacity (vph)	322	1096	282	1083	312	1277	366	1375
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.59	0.60	0.52	0.35	0.55	0.54	0.59

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

5. Gordon Street & Clair Road West/Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	180	540	85	165	430	115	105	580	95	190	695	95
Future Volume (vph)	180	540	85	165	430	115	105	580	95	190	695	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	6.0	3.0	3.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98	1.00	1.00	0.97	1.00	0.98	1.00	0.98	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Sat'd. Flow (prot)	1739	3479	1708	3396	1644	3469	1725	3476				
Flt Permitted	0.29	1.00	0.23	1.00	0.25	1.00	0.26	1.00				
Sat'd. Flow (perm)	526	3479	407	3396	407	3469	472	3476				
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	166	557	88	170	443	119	108	598	98	186	716	98
RTOR Reduction (vph)	0	15	0	0	30	0	0	14	0	0	11	0
Lane Group Flow (vph)	186	630	0	170	532	0	108	682	0	196	803	0
Conf. Peds. (#/hr)	36	26	26	36	21	19	19	19				
Conf. Bikes (#/hr)												
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	0%	4%
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	5	2	1	6		
Permitted Phases	8		4		2		6		6			
Actuated Green, G (s)	31.1	21.9	30.7	21.7	38.6	32.0	32.0	43.6	34.5			
Effective Green, g (s)	31.1	21.9	30.7	21.7	38.6	32.0	32.0	43.6	34.5			
Actuated g/C Ratio	0.35	0.24	0.34	0.24	0.43	0.36	0.48	0.48	0.38			
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	305	846	268	818	274	1233	355	1332				
v/s Ratio Prot	0.06	c0.18	c0.06	0.16	0.03	0.20	c0.06	c0.23				
v/s Ratio Perm	0.15		0.15		0.14		0.21					
v/c Ratio	0.61	0.74	0.63	0.65	0.39	0.55	0.55	0.60				
Uniform Delay, d1	22.0	31.5	22.4	30.7	16.2	23.3	14.5	22.3				
Progression Factor	1.00	1.00	1.09	1.00	0.56	0.69	1.00	1.00				
Incremental Delay, d2	3.4	3.6	4.5	1.7	0.9	1.7	1.9	2.0				
Delay (s)	25.4	35.0	28.9	32.6	10.0	17.8	16.3	24.3				
Level of Service	C	D	C	C	B	B	B	C				
Approach Delay (s)	32.9		31.7		16.8		22.7					
Approach LOS	C		C		B		C					
Intersection Summary												
HCM 2000 Control Delay	25.8 HCM 2000 Level of Service C											
HCM 2000 Volume to Capacity ratio	0.66											
Actuated Cycle Length (s)	90.0											
Intersection Capacity Utilization	82.5%											
Analysis Period (min)	15											
c Critical Lane Group												

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6. Farley Drive & Clair Road East

12-12-2023

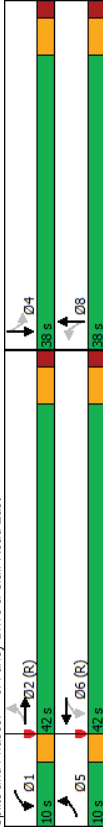
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	125	500	160	35	425	85	125	70	35	110	65	155
Future Volume (vph)	125	500	160	35	425	85	125	70	35	110	65	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	3.5	4.8	4.8
Storage Length (m)	131.0	0.0	64.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	0	0	0	0
Taper Length (m)	7.5	3388	0	7.5	3343	0	1705	1765	0	7.5	0	1952
Sat'd. Flow (prot)	1767	3388	0	1785	3343	0	1765	1765	0	1765	0	1952
Flt Permitted	0.389			0.373			0.432			0.844		
Sat'd. Flow (perm)	715	3388	0	698	3343	0	766	1765	0	1664	0	1664
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sat'd. Flow (RTOR)	57			31			31			55		
Link Speed (k/h)	60			60			60			40		
Link Distance (m)	217.7			160.7			63.9			196.5		
Travel Time (s)	13.1			9.6			7.7			17.7		
Conf. Peds. (#/hr)	17			9			23			21		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	136	543	174	38	462	92	136	76	38	120	71	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	717	0	38	554	0	136	114	0	359	0	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6			8			4		
Permitted Phases	2		6		1	6	8			4		
Detector Phase	5	2			1	6	8			4		
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	10.0	42.0	10.0	42.0	10.0	42.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	11.1%	46.7%	11.1%	46.7%	11.1%	46.7%	42.2%	42.2%	42.2%	42.2%	42.2%	42.2%
Maximum Green (s)	7.0	36.0	7.0	36.0	7.0	36.0	32.0	32.0	32.0	32.0	32.0	32.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)	11.0		11.0		11.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0		18.0		18.0		18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	6		6		6		8	8	8	8	8	8
Act Effct Green (s)	58.2	49.6	54.2	44.1	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3
Actuated g/C Ratio	0.65	0.55	0.60	0.49	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
v/c Ratio	0.24	0.38	0.08	0.34	0.72	0.25	0.72	0.25	0.79			
Control Delay	4.8	9.2	5.4	11.6	50.8	19.1	38.9					
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	9.2	5.4	11.6	50.8	19.1	38.9					

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A	A	A	B	B	D	B	B	D	D	D
Approach Delay	8.5			11.2				36.3				38.9
Approach LOS	A			B			D			D		D
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green											
Natural Cycle:	80											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.79											
Intersection Signal Delay:	18.0											
Intersection Capacity Utilization:	71.1%											
Analysis Period (min):	15											

Splits and Phases: 6: Farley Drive & Clair Road East



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	2	1	6	6	8	8	8	4	4	4
Permitted Phases	2	5	5	6	1	1	6	6	6	8	8	8
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	32.0	32.0	32.0	32.0	32.0	32.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (s)	10.0	42.0	10.0	42.0	38.0	38.0	42.2%	42.2%	42.2%	42.2%	42.2%	42.2%
Total Split (%)	11.1%	46.7%	11.1%	46.7%	42.2%	42.2%	42.2%	42.2%	42.2%	42.2%	42.2%	42.2%
Maximum Green (s)	7.0	36.0	7.0	36.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0	11.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6	6
90th %ile Green (s)	11.4	37.0	7.5	33.1	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
90th %ile Term Code	Gap	Coord	Gap	Coord	Coord	Hold	Hold	Hold	Hold	Gap	Gap	Gap
70th %ile Green (s)	9.3	42.1	7.0	39.8	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9
70th %ile Term Code	Gap	Coord	Min	Coord	Min	Coord	Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	8.1	45.5	7.0	44.4	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
50th %ile Term Code	Gap	Coord	Min	Coord	Min	Coord	Hold	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	7.1	59.1	0.0	49.0	18.9	18.9	18.9	18.9	18.9	18.9	18.9	18.9
30th %ile Term Code	Gap	Coord	Skip	Coord	Skip	Coord	Hold	Hold	Hold	Gap	Gap	Gap
10th %ile Green (s)	7.0	64.2	0.0	54.2	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
10th %ile Term Code	Min	Coord	Skip	Coord	Skip	Coord	Hold	Hold	Hold	Gap	Gap	Gap
Intersection Summary												
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green											
Control Type:	Actuated-Coordinated											

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	136	717	38	554	136	114	359
Lane Group Flow (vph)	0.24	0.38	0.08	0.34	0.72	0.25	0.79
v/c Ratio	4.8	9.2	5.4	11.6	50.8	19.1	38.9
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	4.8	9.2	5.4	11.6	50.8	19.1	38.9
Total Delay	2.7	7.2	2.0	28.8	22.6	11.9	52.1
Queue Length 50th (m)	19.8	67.6	2.5	52.5	39.3	22.7	74.6
Queue Length 95th (m)	131.0	193.7	64.0	136.7	39.9	172.5	
Internal Link Dist (m)							
Turn Bay Length (m)	562	1892	506	1675	272	647	627
Base Capacity (vph)	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.38	0.08	0.33	0.50	0.18	0.57
Intersection Summary							

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Movement													
Lane Configurations													
Traffic Volume (vph)	125	500	160	35	425	85	125	70	35	110	65	155	
Future Volume (vph)	125	500	160	35	425	85	125	70	35	110	65	155	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8	
Total Lost time (s)	3.0	6.0	3.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	0.99	1.00	0.98	0.98	
Frbp. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	0.99	0.99	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	0.99	0.99	
Frt	0.95	1.00	0.96	1.00	0.98	1.00	0.95	1.00	0.95	1.00	0.98	0.98	
Flt Protected	1760	3386	1782	3343	1686	1765	1686	1765	1686	1765	1686	1765	
Satd. Flow (prot)	0.39	1.00	0.37	1.00	0.43	1.00	0.43	1.00	0.43	1.00	0.43	1.00	
Flt Permitted	721	3386	699	3343	768	1765	768	1765	768	1765	768	1765	
Satd. Flow (perm)	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Peak-hour factor, PHF	136	543	174	38	462	92	136	76	38	120	71	168	
Adj. Flow (vph)	0	26	0	0	16	0	23	0	0	0	41	0	
RTOR Reduction (vph)	136	691	0	38	538	0	136	91	0	0	318	0	
Lane Group Flow (vph)	17	9	9	9	17	23	21	21	21	21	23	23	
Conf. Peds. (#/hr)	1%	1%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	
Heavy Vehicles (%)	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	
Turn Type	5	2	1	6	8	8	8	8	8	8	8	8	
Protected Phases	2	6	6	6	8	8	8	8	8	8	8	8	
Permitted Phases	55.7	48.4	48.4	44.1	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	
Actuated Green, G (s)	55.7	48.4	48.4	44.1	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	
Effective Green, g (s)	0.62	0.54	0.54	0.49	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
Actuated g/C Ratio	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	545	1820	427	1638	190	437	190	437	190	437	190	437	
Lane Grp Cap (vph)	c0.02	c0.20	0.00	0.16	0.18	0.05	0.18	0.05	0.18	0.05	0.18	0.05	
v/s Ratio Prot	0.13	0.04	0.04	0.04	0.18	0.05	0.18	0.05	0.18	0.05	0.18	0.05	
v/s Ratio Perm	0.25	0.38	0.09	0.33	0.72	0.21	0.72	0.21	0.72	0.21	0.72	0.21	
v/c Ratio	7.3	12.1	9.8	14.0	31.0	26.8	31.0	26.8	31.0	26.8	31.0	26.8	
Uniform Delay, d1	0.54	0.69	0.68	0.74	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Progression Factor	0.2	0.5	0.1	0.5	12.1	0.2	12.1	0.2	12.1	0.2	12.1	0.2	
Incremental Delay, d2	4.1	8.8	6.7	10.9	43.0	27.1	43.0	27.1	43.0	27.1	43.0	27.1	
Delay (s)	A	A	A	B	D	C	D	C	D	C	D	C	
Level of Service	A	A	A	B	D	C	D	C	D	C	D	C	
Approach Delay (s)	8.1	8.1	10.6	10.6	35.8	40.1	35.8	40.1	35.8	40.1	35.8	40.1	
Approach LOS	A	A	B	B	D	D	D	D	D	D	D	D	
Intersection Summary													
HCM 2000 Control Delay	17.8											HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49												
Actuated Cycle Length (s)	90.0											Sum of lost time (s)	15.0
Intersection Capacity Utilization	71.1%											ICU Level of Service	C
Analysis Period (min)	15												
c. Critical Lane Group													

Lanes, Volumes, Timings
7. Farley Drive & Internal E-W Street

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Future Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1789	0	0	1722	0	0	1853	0	0	1979	0
Flt Permitted	0.962			0.990							0.986	
Satd. Flow (perm)	0	1789	0	0	1722	0	0	1853	0	0	1979	0
Link Speed (k/h)	30			30				30			30	
Link Distance (m)	57.2			91.1				54.0			63.9	
Travel Time (s)	6.9			10.9				6.5			7.7	
Confl. Peds. (#/hr)	6	6	6	6	6	6	26	22	22	22	26	26
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	121	23	11	23	29	63	0	92	11	80	63	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	155	0	0	115	0	0	103	0	0	287	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	43.2%											
ICU Level of Service A												
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Future Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	121	23	11	23	29	63	0	92	11	80	63	144
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	155	115	103	287								
Volume Left (vph)	121	23	0	80								
Volume Right (vph)	11	63	11	144								
Head (s)	0.11	-0.29	-0.06	-0.25								
Departure Headway (s)	5.1	4.8	4.9	4.5								
Degree Utilization, x	0.22	0.15	0.14	0.36								
Capacity (veh/h)	649	683	678	757								
Control Delay (s)	9.5	8.6	8.7	10.0								
Approach Delay (s)	9.5	8.6	8.7	10.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	9.4											
Level of Service	A											
Intersection Capacity Utilization	43.2%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	10	15	10	5	35	5	20	20	35	25	25
Future Volume (vph)	40	10	15	10	5	35	5	20	20	35	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1766	0	0	1683	0	0	1756	0	0	1769	0
Flt Permitted	0.970			0.990			0.994				0.980	
Satd. Flow (perm)	0	1766	0	0	1683	0	0	1756	0	0	1769	0
Link Speed (kph)	30			30			30				30	
Link Distance (m)	31.6			39.2			55.2				54.0	
Travel Time (s)	3.8			4.7			6.6				6.5	
Confl. Peds. (#/hr)	5	49	49	49	5	43	8	8	8	8	43	43
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	49	12	18	12	6	43	6	24	24	43	30	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	79	0	0	61	0	0	54	0	0	103	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.5%
ICU Level of Service A	
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	40	10	15	10	5	35	5	20	20	35	25	25
Future Volume (vph)	40	10	15	10	5	35	5	20	20	35	25	25
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	49	12	18	12	6	43	6	24	24	43	30	30
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	79	61	54	103								
Volume Left (vph)	49	12	6	43								
Volume Right (vph)	18	43	24	30								
Head (s)	-0.01	-0.38	-0.24	-0.09								
Departure Headway (s)	4.3	3.9	4.1	4.2								
Degree Utilization, x	0.09	0.07	0.06	0.12								
Capacity (veh/h)	804	871	842	833								
Control Delay (s)	7.7	7.2	7.3	7.7								
Approach Delay (s)	7.7	7.2	7.3	7.7								
Approach LOS	A	A	A	A								

Intersection Summary

Delay	7.5
Level of Service	A
Intersection Capacity Utilization	32.5%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings

9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations						
Traffic Volume (vph)	65	0	5	70	80	70
Future Volume (vph)	65	0	5	70	80	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1905	0	0	2084	1958	0
Flt Permitted	0.950			0.997		
Satd. Flow (perm)	1905	0	0	2084	1958	0
Link Speed (kph)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	80	0	6	86	99	86
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	0	92	185	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization:	18.8%					
Analysis Period (min):	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis

9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations						
Traffic Volume (veh/h)	65	0	5	70	80	70
Future Volume (Veh/h)	65	0	5	70	80	70
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	80	0	6	86	99	86
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)				None	None	
Median type						
Median storage (veh)						
Upstream signal (m)					65	
pX, platoon unblocked						
vC, conflicting volume	240	142	185			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	240	142	185			
iC, single (s)	6.4	6.2	4.1			
iC, 2 stage (s)						
p0 queue free %	3.5	3.3	2.2			
p0 queue free %	89	100	100			
qM capacity (veh/h)	749	911	1402			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	80	92	185			
Volume Left	80	6	0			
Volume Right	0	0	86			
vSH	749	1402	1700			
Volume to Capacity	0.11	0.00	0.11			
Queue Length 95th (m)	2.9	0.1	0.0			
Control Delay (s)	10.4	0.5	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.4	0.5	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay	2.5					
Intersection Capacity Utilization	18.8%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Traffic Volume (veh/h)	100	20	5	95	20	15
Future Volume (veh/h)	100	20	5	95	20	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	2025	0	0	2026	1683	0
Flt Permitted				0.997	0.972	
Satd. Flow (perm)	2025	0	0	2026	1683	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	90.5			63.5	67.2	
Travel Time (s)	8.1			5.7	8.1	
Confl. Peds. (#/hr)		1	1		3	6
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	1%	0%	0%	3%	4%	0%
Adj. Flow (vph)	115	23	6	109	23	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	138	0	0	115	40	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	20.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Traffic Volume (veh/h)	100	20	5	95	20	15
Future Volume (veh/h)	100	20	5	95	20	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	115	23	6	109	23	17
Pedestrians	3			6	1	
Lane Width (m)	4.5			4.5	3.5	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type	None					
Median storage (veh)	None					
Upstream signal (m)	311					
pX, platoon unblocked						
VC, conflicting volume	139					
VC1, stage 1 conf vol	252					
VC2, stage 2 conf vol	134					
VCu, unblocked vol	139					
IC, single (s)	4.1					
IC, 2 stage (s)	2.2					
p0 queue free %	100					
ICU	97					
ICU capacity (veh/h)	727					
914						
Direction_Lane #	EB 1	WB 1	NB 1			
Volume Total	138	115	40			
Volume Left	0	6	23			
Volume Right	23	0	17			
ESH	1700	1456	796			
Volume to Capacity	0.08	0.00	0.05			
Queue Length 95th (m)	0.0	0.1	1.3			
Control Delay (s)	0.0	0.4	9.8			
Lane LOS	A	A	A			
Approach Delay (s)	0.0	0.4	9.8			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay	1.5					
Intersection Capacity Utilization	20.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

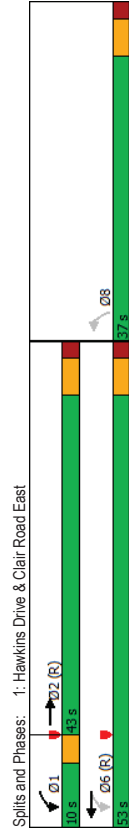
12-13-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	430	10	65	895	25	90
Future Volume (vph)	430	10	65	895	25	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	4.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)	3364	0	1785	3433	1736	0
Satd. Flow (prot)	0.440			0.989		
Flt Permitted						
Satd. Flow (perm)	3364	0	824	3433	1736	0
Right Turn on Red	Yes					Yes
Satd. Flow (RTOR)	3			105		
Link Speed (k/h)	60			60		50
Link Distance (m)	1607			130.4		64.6
Travel Time (s)	9.6			7.8		4.7
Confl. Peds. (#/hr)		5				
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	14%	0%	4%	8%	6%
Bus Blockages (#/hr)	2	0	0	0	0	0
Adj. Flow (vph)	500	12	76	1041	29	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	512	0	76	1041	134	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2		1	6		
Permitted Phases	2	6	6	8	8	
Detector Phase	2	1	6	8		
Switch Phase						
Minimum Initial (s)	10.0	7.0	10.0	7.0		
Minimum Split (s)	35.0	10.0	35.0	35.0		
Total Split (s)	43.0	10.0	53.0	37.0		
Total Split (%)	47.8%	11.1%	58.9%	41.1%		
Maximum Green (s)	37.0	7.0	47.0	31.0		
Yellow Time (s)	4.0	3.0	4.0	4.0		
All-Red Time (s)	2.0	0.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.0	3.0	6.0	6.0		
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	C-Min	None	C-Min	None		
Walk Time (s)	11.0	11.0	8.0			
Flesh Dont Walk (s)	18.0	18.0	18.0			
Pedestrian Calls (#/hr)	7		7	12		
Act Effect Green (s)	58.5	69.8	66.8	11.2		
Actuated g/C Ratio	0.65	0.78	0.74	0.12		
v/c Ratio	0.23	0.11	0.41	0.44		
Control Delay	5.0	4.2	6.0	16.2		
Queue Delay	0.0	0.0	0.0	0.0		

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-13-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	5.0	4.2	6.0	16.2		
LOS	A	A	A	B		
Approach Delay	5.0	5.9	5.9	16.2		
Approach LOS	A	A	A	B		
Intersection Summary						
Area Type:	Other					
Cycle Length:	90					
Actuated Cycle Length:	90					
Offset:	2 (2%), Referenced to phase 2EBT and 6:WBT, Start of Green					
Natural Cycle:	80					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.44					
Intersection Signal Delay:	6.4					
Intersection LOS:	A					
Intersection Capacity Utilization:	50.3%					
Analysis Period (min):	15					



Phasings
1: Hawkins Drive & Clair Road East

12-13-2023

	EBT	WBL	WBT	NBL
Lane Group	2	1	6	
Protected Phases				
Permitted Phases	6	8		
Minimum Initial (s)	10.0	7.0	10.0	7.0
Minimum Split (s)	35.0	10.0	35.0	35.0
Total Split (s)	43.0	10.0	53.0	37.0
Total Split (%)	47.8%	11.1%	58.9%	41.1%
Maximum Green (s)	37.0	7.0	47.0	31.0
Yellow Time (s)	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	0.0	2.0	2.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	C-Min	None	C-Min	None
Walk Time (s)	11.0		11.0	8.0
Flash Dont Walk (s)	18.0		18.0	18.0
Pedestrian Calls (#/hr)	7		7	12
90th %ile Green (s)	40.4	8.6	52.0	26.0
90th %ile Term Code	Coord	Gap	Coord	Ped
70th %ile Green (s)	58.9	7.0	68.9	9.1
70th %ile Term Code	Coord	Min	Coord	Gap
50th %ile Green (s)	61.0	7.0	71.0	7.0
50th %ile Term Code	Coord	Min	Coord	Min
30th %ile Green (s)	61.0	7.0	71.0	7.0
30th %ile Term Code	Coord	Min	Coord	Min
10th %ile Green (s)	71.0	0.0	71.0	7.0
10th %ile Term Code	Coord	Skip	Coord	Min

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBTL - Start of Green
 Control Type: Actuated-Coordinated

Queues
1: Hawkins Drive & Clair Road East

12-13-2023

	EBT	WBL	WBT	NBL
Lane Group	512	76	1041	134
Lane Group Flow (vph)	0.23	0.11	0.41	0.44
v/c Ratio	5.0	4.2	6.0	16.2
Control Delay	0.0	0.0	0.0	0.0
Queue Delay	5.0	4.2	6.0	16.2
Total Delay	136.7	25.0	2547	666
Queue Length 50th (m)	9.5	1.8	22.8	4.2
Queue Length 95th (m)	15.8	10.1	67.7	14.7
Internal Link Dist (m)	136.7	25.0	2547	666
Turn Bay Length (m)	2186	717	2547	666
Base Capacity (vph)	0	0	0	0
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.23	0.11	0.41	0.20

Intersection Summary

12-13-2023
 HCM Signalized Intersection Capacity Analysis
 1: Hawkins Drive & Clair Road East

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	←	←	←	←
Traffic Volume (vph)	430	10	65	895	25	90
Future Volume (vph)	430	10	65	895	25	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Total Lost time (s)	6.0	3.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	0.89	1.00
Flt Protected	1.00	0.95	1.00	0.99		
Satd. Flow (prot)	3365	1782	3433	1737		
Flt Permitted	1.00	0.44	1.00	0.99		
Satd. Flow (perm)	3385	826	3433	1737		
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	500	12	76	1041	29	105
RTOR Reduction (vph)	1	0	0	0	92	0
Lane Group Flow (vph)	511	0	76	1041	42	0
Confl. Peds. (#/hr)	5	5				
Heavy Vehicles (%)	5%	14%	0%	4%	8%	6%
Bus Blockages (#/hr)	2	0	0	0	0	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2	1	6			
Permitted Phases		6	8			
Actuated Green, G (s)	57.9	66.8	66.8	11.2		
Effective Green, g (s)	57.9	66.8	66.8	11.2		
Actuated g/C Ratio	0.64	0.74	0.74	0.12		
Clearance Time (s)	6.0	3.0	6.0	6.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	2164	675	2548	216		
v/s Ratio Prot	0.15	0.01	c0.30			
v/s Ratio Perm		0.08	c0.02			
v/c Ratio	0.24	0.11	0.41	0.19		
Uniform Delay, d1	6.7	3.2	4.3	35.4		
Progression Factor	0.56	1.00	1.00	1.18		
Incremental Delay, d2	0.3	0.1	0.5	0.4		
Delay (s)	4.1	3.3	4.8	42.2		
Level of Service	A	A	A	D		
Approach Delay (s)	4.1	4.7	42.2			
Approach LOS	A	A	A	D		
Intersection Summary						
HCM 2000 Control Delay	7.3 HCM 2000 Level of Service A					
HCM 2000 Volume to Capacity ratio	0.39					
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0					
Intersection Capacity Utilization	50.3% ICU Level of Service A					
Analysis Period (min)	15					
c Critical Lane Group						

12-13-2023
 Lanes, Volumes, Timings
 2: Hawkins Drive & Poppy Drive East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	50	45	0	15	75	10	10	30	20	5	20	25
Future Volume (vph)	50	45	0	15	75	10	10	30	20	5	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	1876	0	1806	0	0	1982	0	0	1758	0	0
Flt Permitted	0	0.974		0.993			0.992			0.995		
Satd. Flow (perm)	0	1876	0	1806	0	0	1982	0	0	1758	0	0
Link Speed (k/h)		40		40			40			40		
Link Distance (m)		63.5		196.9			136.5			121.9		
Travel Time (s)		5.7		17.7			12.3			11.0		
Confl. Peds. (#/hr)	24	15	15	24	15	15	17	17	17	17	17	15
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	9%	8%	0%	0%	4%	0%	0%	0%	0%	0%	0%	20%
Adj. Flow (vph)	63	57	0	19	95	13	38	25	6	25	32	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	120	0	127	0	0	76	0	0	63	0	0
Sign Control		Free		Free			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	28.2%											
Analysis Period (min)	15											
ICU Level of Service A												

2: Hawkins Drive & Poppy Drive East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	45	0	15	75	10	10	30	20	5	20	25
Future Volume (Veh/h)	50	45	0	15	75	10	10	30	20	5	20	25
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	63	57	0	19	95	13	13	38	25	6	25	32
Pedestrians	15	15	0	17	17	17	15	15	15	24	24	24
Lane Width (m)	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Walking Speed (m/s)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Percent Blockage	2	2	1	1	1	2	2	2	2	3	3	3
Right turn flare (veh)												
Median type	None	None	None	None	None	None	None	None	None	None	None	None
Median storage (veh)												
Upstream signal (m)	375	375	375	375	375	375	375	375	375	375	375	375
pX platoon unblocked												
VC, conflicting volume	132	72	72	397	368	89	408	362	140			
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCU, unblocked vol	132	72	72	397	368	89	408	362	140			
IC, single (s)	4.2	4.1	4.1	7.1	6.5	6.2	7.1	6.5	6.4			
IC, 2 stage (s)												
p0 queue free %	2.3	2.2	2.2	3.5	4.0	3.3	3.5	4.0	3.5			
IF (s)	95	99	99	97	93	97	99	95	96			
CM capacity (veh/h)	1376	1517	1517	471	510	946	457	515	827			
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	120	127	76	63								
Volume Left	63	19	13	6								
Volume Right	0	13	25	32								
cSH	1376	1517	591	627								
Volume to Capacity	0.05	0.01	0.13	0.10								
Queue Length 95th (m)	1.2	0.3	3.5	2.7								
Control Delay (s)	4.2	1.2	12.0	11.4								
Lane LOS	A	A	B	B								
Approach Delay (s)	4.2	1.2	12.0	11.4								
Approach LOS	B	B	B	B								
Intersection Summary												
Average Delay	5.9											
Intersection Capacity Utilization	28.2%											
ICU Level of Service	A											
Analysis Period (min)	15											

3: Poppy Drive East & Fanley Drive

12-13-2023

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	105	220	10	10	30
Future Volume (vph)	15	105	220	10	10	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	1907	1965	0	1500	0
Flt Permitted	0.994	0.994	0.994	0.994	0.988	0.988
Satd. Flow (perm)	0	1907	1965	0	1500	0
Link Speed (k/h)	40	40	40	40	30	30
Link Distance (m)	220.5	90.5	55.2	55.2	55.2	55.2
Travel Time (s)	19.8	8.1	6.6	6.6	6.6	6.6
Confl. Peds. (#/hr)	8	8	8	8	8	8
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	30%	6%	0%	9%	12%	12%
Adj. Flow (vph)	16	115	242	11	11	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	131	253	0	44	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	28.2%					
ICU Level of Service A						
Analysis Period (min)	15					

3: Poppy Drive East & Farley Drive

12-13-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	105	220	10	10	30
Future Volume (Veh/h)	15	105	220	10	10	30
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	16	115	242	11	11	33
Pedestrians						8
Lane Width (m)						3.5
Walking Speed (m/s)						1.2
Percent Blockage						1
Right turn flare (veh)			None	None		
Median type						
Median storage (veh)						
Upstream signal (m)		220				
pX platoon unblocked						
vC, conflicting volume		261			402	256
vC1, stage 1 conf vol						
vC2, stage 2 conf vol		261			402	256
vCn, unblocked vol		4.4			6.5	6.3
IC, single (s)						
IC, 2 stage (s)		2.5			3.6	3.4
p0 queue free %		99			98	96
CM capacity (veh/h)		1150			578	754
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	131	253	44			
Volume Left	16	0	11			
Volume Right	0	11	33			
cSH	1150	1700	701			
Volume to Capacity	0.01	0.15	0.06			
Queue Length 95th (m)	0.3	0.0	1.6			
Control Delay (s)	1.1	0.0	10.5			
Lane LOS	A	B	B			
Approach Delay (s)	1.1	0.0	10.5			
Approach LOS	B	B	B			
Intersection Summary						
Average Delay		1.4				
Intersection Capacity Utilization		28.2%			ICU Level of Service	A
Analysis Period (min)		15				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	15	40	105	10	145	75	910	80	40	630	45
Future Volume (vph)	30	15	40	105	10	145	75	910	80	40	630	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5		7.5		7.5		7.5		7.5		7.5	
Satd. Flow (prot)	0	1424	0	1778	0	1894	3266	0	1678	3329	0	0
Flt Permitted		0.775		0.852		0.344			0.233			
Satd. Flow (perm)	0	1122	0	1544	0	685	3266	0	411	3329	0	0
Right Turn on Red		Yes		Yes		Yes	Yes		Yes		Yes	
Satd. Flow (RTOR)	42		71		71		14		11		11	
Link Speed (k/h)	40		40		40		60		60		60	
Link Distance (m)	93.0		220.5		220.5		196.0		180.5		180.5	
Travel Time (s)	8.4		19.8		19.8		11.8		8		10.8	
Conf. Peds. (#/hr)	4		2		2		4		3		8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	75%	22%	0%	50%	8%	7%	16%	4%	5%	20%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	2	0	0	0	0	0	0	0
Adj. Flow (vph)	31	16	42	109	10	151	78	948	83	42	656	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	0	270	0	78	1031	0	42	703	0	0
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8	8	4	4	5	2	1	6				
Permitted Phases	8	8	4	4	2	2	6					
Detector Phase	8	8	4	4	5	2	1	6				
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	35.0	30.0	35.0	30.0	35.0	30.0	35.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	48.0	32.0	48.0	32.0	48.0	32.0	48.0
Total Split (%)	35.6%	35.6%	35.6%	35.6%	35.6%	53.3%	35.6%	53.3%	35.6%	53.3%	35.6%	53.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	42.0	26.0	42.0	26.0	42.0	26.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	17.0	8.0	17.0	8.0	17.0	8.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	12.0	16.0	12.0	16.0	12.0	16.0	12.0
Pedestrian Calls (#/hr)	1	1	1	1	1	3	1	3	1	3	1	3
Act Effct Green (s)	17.6	17.6	17.6	17.6	17.6	61.8	17.6	61.8	17.6	61.8	17.6	61.8
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.60	0.20	0.60	0.20	0.60	0.20	0.60
v/c Ratio	0.35	0.35	0.35	0.35	0.35	0.14	0.35	0.14	0.35	0.14	0.35	0.14
Control Delay	20.4	20.4	20.4	20.4	20.4	37.6	20.4	37.6	20.4	37.6	20.4	37.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

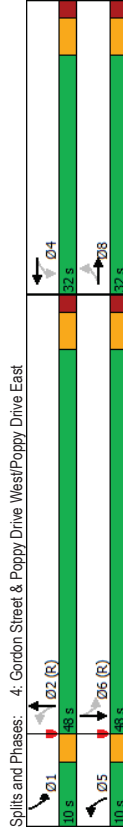
Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	20.4	37.6	37.6	6.0	13.6					5.1	11.2	
LOS	C	D	D	A	B					A	B	
Approach Delay	20.4	37.6									10.9	
Approach LOS	C	D			B						B	

Intersection Summary
 Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 15.6
 Intersection LOS: B
 Intersection Capacity Utilization: 66.2%
 ICU Level of Service: C
 Analysis Period (min): 15



Phasings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases												
Permitted Phases	8	4	4	4	5	2	1	6				
Minimum Initial (s)	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	7.0	7.0	10.0	
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	35.0	30.0	30.0	35.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	32.0	48.0	32.0	32.0	48.0	
Total Split (%)	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	53.3%	35.6%	35.6%	53.3%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0	26.0	42.0	26.0	26.0	42.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	17.0	8.0	8.0	17.0	
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	12.0	16.0	16.0	12.0	
Pedestrian Calls (#/hr)	1	1	1	1	1	1	1	3	1	1	3	
90th %ile Green (s)	25.5	25.5	25.5	25.5	25.5	25.5	25.5	42.0	25.5	25.5	42.0	
90th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Gap	Coord	Gap	Coord	Coord	
70th %ile Green (s)	21.0	21.0	21.0	21.0	21.0	21.0	21.0	47.0	21.0	21.0	46.8	
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Gap	Coord	Min	Coord	Coord	
50th %ile Green (s)	17.6	17.6	17.6	17.6	17.6	17.6	17.6	50.4	17.6	17.6	50.4	
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Coord	Min	Coord	Coord	
30th %ile Green (s)	14.3	14.3	14.3	14.3	14.3	14.3	14.3	63.7	14.3	14.3	63.7	
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Coord	Skip	Coord	Coord	
10th %ile Green (s)	9.5	9.5	9.5	9.5	9.5	9.5	9.5	68.5	9.5	9.5	68.5	
10th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Skip	Coord	Skip	Coord	Coord	

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated

Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	89	270	78	1031	42	703
Lane Group Flow (vph)	0.35	0.75	0.14	0.52	0.11	0.36
v/c Ratio	20.4	37.6	6.0	13.6	5.1	11.2
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	20.4	37.6	6.0	13.6	5.1	11.2
Total Delay	7.2	34.5	3.8	58.2	1.4	33.3
Queue Length 50th (m)	18.7	55.9	10.6	95.5	m4.3	33.7
Queue Length 95th (m)	69.0	196.5	172.0	156.5		156.5
Internal Link Dist (m)						
Turn Bay Length (m)	354	496	569	1976	377	1938
Base Capacity (vph)	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.54	0.14	0.52	0.11	0.36
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	30	15	40	105	10	145	75	910	80	40	630	45	
Future Volume (vph)	30	15	40	105	10	145	75	910	80	40	630	45	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.99	0.99	0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.94	0.94	0.94	0.98	0.98	0.98	0.95	1.00	0.95	1.00	0.99	1.00	
Flt Protected	1423	1423	1423	1778	1778	1778	1893	3265	1677	3328	3328	3328	
Satd. Flow (prot)	0.77	0.77	0.77	0.85	0.85	0.85	0.34	1.00	0.23	1.00	1.00	1.00	
Flt Permitted	1122	1122	1122	1544	1544	1544	686	3265	411	3328	3328	3328	
Satd. Flow (perm)	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Peak-hour factor, PHF	31	16	42	109	10	151	78	948	83	42	656	47	
Adj. Flow (vph)	0	34	0	0	57	0	6	0	0	0	5	0	
RTOR Reduction (vph)	0	55	0	0	213	0	78	1025	0	42	698	0	
Lane Group Flow (vph)	4	2	2	2	2	4	3	8	8	8	8	3	
Conf. Peds. (#/hr)	75%	22%	0%	0%	50%	5%	8%	7%	16%	4%	5%	20%	
Heavy Vehicles (%)	0	0	0	2	2	0	0	0	0	0	0	0	
Bus Blockages (#/hr)	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA	
Turn Type	8	8	8	4	4	4	5	2	2	1	6	6	
Protected Phases	8	8	8	4	4	4	5	2	2	1	6	6	
Permitted Phases	8	8	8	4	4	4	5	2	2	1	6	6	
Actuated Green, G (s)	17.6	17.6	17.6	17.6	17.6	17.6	59.0	53.1	55.8	51.5	51.5	51.5	
Effective Green, g (s)	17.6	17.6	17.6	17.6	17.6	17.6	59.0	53.1	55.8	51.5	51.5	51.5	
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.20	0.66	0.59	0.62	0.57	0.62	0.57	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	219	219	219	301	301	301	528	1926	315	1904	1904	1904	
v/s Ratio Prot	0.01	0.01	0.01	c0.01	c0.01	c0.01	c0.01	c0.31	0.01	0.01	0.21	0.21	
v/s Ratio Perm	0.05	0.05	0.05	c0.14	c0.14	c0.14	0.09	0.53	0.08	0.13	0.37	0.37	
v/c Ratio	0.25	0.25	0.25	0.71	0.71	0.71	0.15	0.53	0.13	0.13	0.37	0.37	
Uniform Delay, d1	30.6	30.6	30.6	33.8	33.8	33.8	5.8	11.0	7.1	10.4	10.4	10.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.91	0.91	0.91	
Incremental Delay, d2	0.6	0.6	0.6	7.4	7.4	7.4	0.1	1.1	0.2	0.4	0.4	0.4	
Delay (s)	31.2	31.2	31.2	41.2	41.2	41.2	5.9	12.1	6.0	9.9	9.9	9.9	
Level of Service	C	C	C	D	D	D	A	B	A	A	A	A	
Approach Delay (s)	31.2	31.2	31.2	41.2	41.2	41.2	11.7	11.7	9.7	9.7	9.7	9.7	
Approach LOS	C	C	C	D	D	D	B	B	A	A	A	A	
Intersection Summary													
HCM 2000 Control Delay	15.4											HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55												
Actuated Cycle Length (s)	90.0											Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.2%											ICU Level of Service	C
Analysis Period (min)	15												
c Critical Lane Group													

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

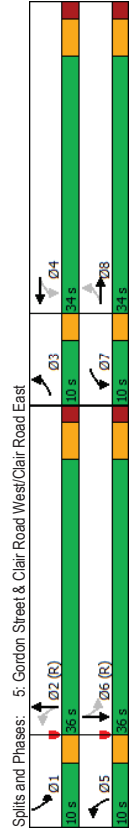
12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	150	400	95	150	810	140	195	770	105	80	475	210
Traffic Volume (vph)	150	400	95	150	810	140	195	770	105	80	475	210
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	7.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	1631	3244	0	1572	3354	0	1586	3274	0	1678	3236	0
Satd. Flow (prot)	0.137	0.363		0.206						0.140		
Flt Permitted	234	3244	0	595	3354	0	343	3274	0	246	3236	0
Satd. Flow (perm)	34	Yes		Yes		Yes		Yes		Yes		Yes
Right Turn on Red	60	23		60	18		60	18		60		83
Satd. Flow (RTOR)	268.6	217.7		180.5		180.5		180.5		233.4		60
Link Speed (k/h)	16.1	22		13.1		13.1		10.8		14.0		14.0
Link Distance (m)	31	22		31	12		31	12		21		21
Travel Time (s)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Confl. Peds. (#/hr)	7%	7%	11%	3%	6%	10%	4%	21%	4%	2%	8%	8%
Confl. Bikes (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Peak Hour Factor	167	444	106	167	900	156	217	856	117	89	528	233
Heavy Vehicles (%)	167	550	0	167	1056	0	217	973	0	89	761	0
Bus Blockages (#/hr)	3	8		7	4		5	2		1	6	
Adj. Flow (vph)	3	8		4	2		2	6		6		6
Shared Lane Traffic (%)	3	8		7	4		5	2		1	6	
Lane Group Flow (vph)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Turn Type	10.0	34.0	10.0	34.0	10.0	34.0	10.0	34.0	10.0	34.0	10.0	34.0
Protected Phases	10.0	34.0	10.0	34.0	10.0	34.0	10.0	34.0	10.0	34.0	10.0	34.0
Permitted Phases	11.1%	37.8%	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%	40.0%	11.1%	40.0%
Detector Phase	7.0	28.0	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0	7.0	30.0
Switch Phase	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Minimum Initial (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	Min	None	Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Flash Dont Walk (s)	10	10		10		10		9		9		9
Pedestrian Calls (#/hr)	39.6	29.3	39.1	29.1	39.2	30.6	38.6	28.6		38.6		28.6
Act Effect Green (s)	0.44	0.33	0.43	0.32	0.44	0.34	0.43	0.32		0.43		0.32
Actuated g/C Ratio	0.77	0.51	0.50	0.96	0.88	0.86	0.41	0.70		0.41		0.70
v/C Ratio	42.0	25.4	24.5	53.5	54.1	32.0	19.1	27.5		19.1		27.5
Control Delay												

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	25.4	24.5	53.5	54.1	32.0	19.1	27.5		19.1	27.5	
LOS	D	C	C	D	D	C	D	D	C	B	C	C
Approach Delay	29.2		49.6			36.0				26.7		
Approach LOS	C		D			D				D		
Intersection Summary	Other											
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset: 0 (0%):	Referenced to phase 2/NBTL and 6/SBTL, Start of Green, Master Intersection											
Natural Cycle:	90											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.96											
Intersection Signal Delay:	37.0											
Intersection LOS:	D											
Intersection Capacity Utilization:	87.2%											
Analysis Period (min):	15											



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Protected Phases	3	8	7	4	5	2	6
Permitted Phases	8	4	4	2	2	6	1
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	36.0	10.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	10	10	10	10	9	9	9
90th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0
90th %ile Term Code	Max	Ped	Max	Max	Coord	Max	Coord
70th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0
70th %ile Term Code	Max	Hold	Max	Max	Coord	Max	Coord
50th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0
50th %ile Term Code	Max	Hold	Max	Max	Coord	Max	Coord
30th %ile Green (s)	7.2	28.0	7.2	28.0	7.0	29.8	7.0
30th %ile Term Code	Max	Hold	Max	Max	Coord	Max	Coord
10th %ile Green (s)	8.3	34.4	7.2	33.3	7.0	33.4	0.0
10th %ile Term Code	Gap	Hold	Gap	Max	Coord	Skip	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	167	550	167	1056	217	973	89
v/c Ratio	0.77	0.51	0.50	0.96	0.88	0.86	0.41
Control Delay	42.0	25.4	24.5	53.5	54.1	32.0	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	25.4	24.5	53.5	54.1	32.0	19.1
Queue Length 50th (m)	17.8	40.4	25.6	109.0	8.5	88.1	8.6
Queue Length 95th (m)	#48.4	56.8	36.3	#148.3	#46.6	#117.2	17.0
Internal Link Dist (m)	244.6		193.7		156.5		209.4
Turn Bay Length (m)	70.0		32.0		72.0		163.0
Base Capacity (vph)	216	1078	335	1098	246	1128	216
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.51	0.50	0.96	0.88	0.86	0.41

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

5. Gordon Street & Clair Road West/Clair Road East

12-13-2023

6. Farley Drive & Clair Road East

12-13-2023

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	150	400	95	150	810	140	195	770	105	80	475	210
Future Volume (vph)	150	400	95	150	810	140	195	770	105	80	475	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost time (s)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frb. ped/bikes	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.99	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	0.98	1.00	0.98	1.00	0.95	1.00	0.95	1.00
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1630	3244	1567	3354	1585	3274	1677	3236	1677	3236	1677	3236
Flt Permitted	0.14	1.00	0.36	1.00	0.21	1.00	0.14	1.00	0.14	1.00	0.14	1.00
Satd. Flow (perm)	234	3244	599	3354	344	3274	247	3236	247	3236	247	3236
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	167	444	106	167	900	156	217	856	117	89	528	233
RTOR Reduction (vph)	0	23	0	0	16	0	0	12	0	0	57	0
Lane Group Flow (vph)	167	527	0	167	1040	0	217	961	0	89	704	0
Confl. Peds. (#/hr)	31	22	22	31	12	31	12	21	21	21	21	12
Confl. Bikes (#/hr)	7%	6%	7%	11%	3%	6%	10%	4%	21%	4%	2%	8%
Heavy Vehicles (%)	0	0	0	0	0	0	0	0	3	3	0	3
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	1	6				
Permitted Phases	8		4		2		6					
Actuated Green, G (s)	36.6	29.3	36.2	29.1	37.0	30.0	34.2	28.6				
Effective Green, g (s)	36.6	29.3	36.2	29.1	37.0	30.0	34.2	28.6				
Actuated g/C Ratio	0.41	0.33	0.40	0.32	0.41	0.33	0.38	0.32				
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	208	1056	317	1084	237	1091	182	1028				
v/s Ratio Prot	0.06	0.16	0.04	0.31	0.07	0.29	0.03	0.22				
v/s Ratio Perm	0.26	0.80	0.17	0.80	0.30	0.88	0.15	0.69				
Uniform Delay, d1	20.8	24.4	18.2	29.9	21.7	28.3	20.0	26.8				
Progression Factor	1.00	1.00	1.26	1.18	1.22	0.84	1.00	1.00				
Incremental Delay, d2	19.6	0.4	1.4	16.7	33.3	9.2	2.1	3.7				
Delay (s)	40.4	24.8	24.4	52.0	59.8	33.1	22.1	30.5				
Level of Service	D	C	C	D	E	C	C	C				
Approach Delay (s)	28.5		48.2		36.0		29.6					
Approach LOS	C		D		D		C					
Intersection Summary												
HCM 2000 Control Delay	37.6 HCM 2000 Level of Service D											
HCM 2000 Volume to Capacity ratio	0.94											
Actuated Cycle Length (s)	90.0 Sum of lost time (s)											
Intersection Capacity Utilization	87.2% ICU Level of Service E											
Analysis Period (min)	15											
c Critical Lane Group												

2033_FT_AM

HBR - BA Group

Synchro 11 Report

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	100	400	60	15	850	70	95	15	5	45	20	135
Future Volume (vph)	100	400	60	15	850	70	95	15	5	45	20	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Storage Length (m)	131.0	0.0	0.0	64.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1			1			0	1				0
Taper Length (m)	7.5	3189	0	7.5	3336	0	1639	1723	0	7.5	0	1831
Satd. Flow (prot)	1716	3189	0	1785	3336	0	1639	1723	0	1831	0	1831
Flt Permitted	0.212			0.461			0.457			0.915		0.915
Satd. Flow (perm)	382	3189	0	861	3336	0	781	1723	0	1690	0	1690
Right Turn on Red		Yes		Yes			Yes		Yes		Yes	117
Satd. Flow (RTOR)	25			12			6			6		117
Link Speed (k/h)	60			60			30			40		40
Link Distance (m)	217.7			160.7			63.9			196.5		196.5
Travel Time (s)	13.1			9.6			7.7			10		14
Confl. Peds. (#/hr)	9		8	8		9	14		10	10		10
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	4%	10%	5%	0%	0%	4%	0%	16%	8%	0%	3%	0%
Adj. Flow (vph)	112	449	67	17	955	79	107	17	6	51	22	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	516	0	17	1034	0	107	23	0	225	0	225
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	2	1	6		8		8		4	
Permitted Phases	5	2	2	1	6		8		8		4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	12.0	48.0	10.0	46.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	13.3%	53.3%	11.1%	51.1%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%
Maximum Green (s)	9.0	42.0	7.0	40.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	11.0		18.0	18.0		18.0	18.0	18.0	18.0	18.0	18.0	18.0
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)	3			3		5	5	5	5	5	5	5
Act Effct Green (s)	64.4	58.0		62.0	53.4		16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.72	0.64		0.69	0.59		0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.29	0.25		0.03	0.52		0.78	0.07	0.78	0.07	0.57	0.57
Control Delay	6.1	8.5		2.0	10.1		67.7	22.1	22.1	20.7	20.7	20.7
Queue Delay	0.0	0.0		0.0	0.1		0.0	0.0	0.0	0.0	0.0	0.0

2033_FT_AM

HBR - BA Group

Synchro 11 Report

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Lanes, Volumes, Timings

6: Farley Drive & Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	6.1	8.5	2.0	10.1	67.7	22.1						20.7
LOS	A	A	A	B	E	C						C
Approach Delay	8.1			10.0			59.6					20.7
Approach LOS	A			A			E					C

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

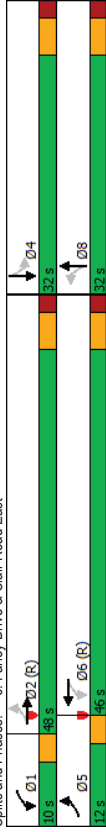
Intersection Signal Delay: 13.8

Intersection LOS: B

Intersection Capacity Utilization 65.2%

Analysis Period (min) 15

Splits and Phases: 6: Farley Drive & Clair Road East



Phasings

6: Farley Drive & Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		8				4	
Permitted Phases	2			6			8				4	
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	12.0	48.0	10.0	46.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	13.3%	53.3%	11.1%	51.1%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%
Maximum Green (s)	9.0	42.0	7.0	40.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0			11.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0			18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	3			3	5	5	5	5	5	5	5	5
90th %ile Green (s)	9.0	42.0	7.0	40.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
90th %ile Term Code	Max	Coord	Max	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	8.0	49.4	7.0	48.4	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6
70th %ile Term Code	Gap	Coord	Min	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	7.2	62.6	0.0	52.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
50th %ile Term Code	Gap	Coord	Skip	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	7.0	65.8	0.0	55.8	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
30th %ile Term Code	Min	Coord	Skip	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	0.0	70.4	0.0	70.4	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
10th %ile Term Code	Skip	Coord	Skip	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord	Coord

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Control Type: Actuated-Coordinated

Queues
6: Farley Drive & Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	112	516	17	1034	107	23	225
Lane Group Flow (vph)	0.29	0.25	0.03	0.52	0.78	0.07	0.57
v/c Ratio	6.1	8.5	2.0	10.1	67.7	22.1	20.7
Control Delay	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Queue Delay	6.1	8.5	2.0	10.1	67.7	22.1	20.7
Total Delay	2.7	6.7	0.6	58.1	18.9	2.6	17.6
Queue Length 50th (m)	m22.4	m48.0	m0.2	98.3	32.6	7.9	33.9
Queue Length 95th (m)	193.7		136.7		39.9	172.5	
Internal Link Dist (m)	131.0		64.0		20.0		
Turn Bay Length (m)	407	2065	665	1984	225	502	571
Base Capacity (vph)	0	0	0	122	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.25	0.03	0.56	0.48	0.05	0.39
Intersection Summary							
m	Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	100	400	60	15	850	70	95	15	5	45	20	135
Future Volume (vph)	100	400	60	15	850	70	95	15	5	45	20	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Total Lost time (s)	3.0	6.0	3.0	3.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.99	1.00	1.00	0.98
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	0.99
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	0.99
Flt	0.95	1.00	0.98	1.00	0.99	1.00	0.95	1.00	0.96	1.00	0.99	0.91
Flt Protected	1716	3188	1780	3335	1780	3335	1625	1723	1826	1826	1826	1826
Satd. Flow (prot)	0.21	1.00	0.46	1.00	0.46	1.00	0.46	1.00	0.92	0.92	0.92	0.92
Satd. Flow (perm)	383	3188	865	3335	865	3335	782	1723	1690	1690	1690	1690
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	112	449	67	17	955	79	107	17	6	51	22	152
RTOR Reduction (vph)	0	9	0	0	5	0	0	5	0	0	0	96
Lane Group Flow (vph)	112	507	0	17	1029	0	107	18	0	0	129	0
Confl. Peds. (#/hr)	9	8	8	8	9	14	10	10	10	10	10	14
Confl. Bikes (#/hr)							2					
Heavy Vehicles (%)	4%	10%	5%	0%	6%	0%	4%	0%	16%	8%	0%	3%
Turn Type	pm+pt	NA	NA	pm+pt	NA	NA	Perm	NA	Perm	Perm	NA	NA
Protected Phases	5	2		1	6		8				4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	62.0	56.2		55.6	52.8		16.0	16.0		16.0		16.0
Effective Green, g (s)	62.0	56.2		55.6	52.8		16.0	16.0		16.0		16.0
Actuated g/C Ratio	0.69	0.62		0.62	0.59		0.18	0.18		0.18		0.18
Clearance Time (s)	3.0	6.0		3.0	6.0		6.0	6.0		6.0		6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0		3.0
Lane Grp Cap (vph)	355	1990		562	1956		139	306		300		300
v/s Ratio Prot	c0.02	0.16		0.00	c0.31		0.01					
v/s Ratio Perm	0.20			0.02			c0.14			0.08		
v/c Ratio	0.32	0.25		0.03	0.53		0.77	0.06		0.43		
Uniform Delay, d1	5.9	7.5		6.6	11.1		35.2	30.7		32.9		
Progression Factor	0.90	0.97		0.35	0.70		1.00	1.00		1.00		
Incremental Delay, d2	0.4	0.3		0.0	0.9		22.2	0.1		1.0		
Delay (s)	5.7	7.6		2.3	8.8		57.5	30.8		33.9		
Level of Service	A	A		A	A		E	C		C		
Approach Delay (s)	7.3			8.7			52.8			33.9		
Approach LOS	A			A			D			C		
Intersection Summary												
HCM 2000 Control Delay	13.8 HCM 2000 Level of Service B											
HCM 2000 Volume to Capacity ratio	0.56											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0											
Intersection Capacity Utilization	66.2% ICU Level of Service C											
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings
7: Farley Drive & Internal E-W Street

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	5	0	20	10	80	0	10	10	30	15	40
Future Volume (vph)	25	5	0	20	10	80	0	10	10	30	15	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1760	0	0	1680	0	0	1700	0	0	1841	0
Flt Permitted	0.960			0.991							0.983	
Satd. Flow (perm)	0	1760	0	0	1680	0	0	1700	0	0	1841	0
Link Speed (k/h)	30			30				30			30	
Link Distance (m)	57.2			91.1				54.0			63.9	
Travel Time (s)	6.9			10.9				6.5			7.7	
Confl. Peds. (#/hr)	1		2	2		1	16		5	5		16
Confl. Bikes (#/hr)			1			1						
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	3%	0%	0%	0%	0%	0%	0%	6%	0%	20%	4%	0%
Adj. Flow (vph)	34	7	0	27	14	110	0	14	14	41	21	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	151	0	0	28	0	0	117	0
Sign Control	Stop			Stop			Stop		Stop		Stop	

Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	25.9%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis
7: Farley Drive & Internal E-W Street

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop		Stop		Stop	
Traffic Volume (vph)	25	5	0	20	10	80	0	10	10	30	15	40
Future Volume (vph)	25	5	0	20	10	80	0	10	10	30	15	40
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	34	7	0	27	14	110	0	14	14	41	21	55
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	41	151	28	117								
Volume Left (vph)	34	27	0	41								
Volume Right (vph)	0	110	14	55								
Head (s)	0.21	-0.40	-0.25	-0.08								
Departure Headway (s)	4.6	3.9	4.2	4.3								
Degree Utilization, x	0.05	0.16	0.03	0.14								
Capacity (veh/h)	762	895	808	799								
Control Delay (s)	7.8	7.6	7.3	7.9								
Approach Delay (s)	7.8	7.6	7.3	7.9								
Approach LOS	A	A	A	A								

Intersection Summary												
Delay	7.7											
Level of Service	A											
Intersection Capacity Utilization	25.9%											
Analysis Period (min)	15											
ICU Level of Service	A											

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	5	5	5	20	35	0
Future Volume (vph)	5	5	5	20	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1709	0	0	1698	1773	0
Flt Permitted	0.976			0.990		
Satd. Flow (perm)	1709	0	0	1698	1773	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	31.6			55.2	54.0	
Travel Time (s)	3.8			6.6	6.5	
Confl. Peds. (#/hr)	3	18	36			36
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	0%	0%	12%	6%	0%
Adj. Flow (vph)	7	7	7	27	47	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	34	47	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	24.8%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	5	5	5	20	35	0
Future Volume (vph)	5	5	5	20	35	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	7	7	7	27	47	0
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	14	34	47			
Volume Left (vph)	7	7	0			
Volume Right (vph)	7	0	0			
Head (s)	-0.20	0.20	0.10			
Departure Headway (s)	3.9	4.2	4.1			
Degree Utilization, x	0.02	0.04	0.05			
Capacity (veh/h)	904	845	877			
Control Delay (s)	6.9	7.3	7.3			
Approach Delay (s)	6.9	7.3	7.3			
Approach LOS	A	A	A			
Intersection Summary						
Delay	7.3					
Level of Service	A					
Intersection Capacity Utilization	24.8%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

9: Hawkins Drive & Internal E-W Street

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations						
Traffic Volume (vph)	20	0	0	95	50	25
Future Volume (vph)	20	0	0	95	50	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1642	0	0	1990	1996	0
Flt Permitted	0.950					
Satd. Flow (perm)	1642	0	0	1990	1996	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6		121.9	64.6		
Travel Time (s)	8.6		11.0	5.8		
Confl. Peds. (#/hr)			12			12
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	16%	100%	0%	5%	0%	0%
Adj. Flow (vph)	26	0	0	122	64	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	0	122	96	0
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.5%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis

9: Hawkins Drive & Internal E-W Street

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations						
Traffic Volume (veh/h)	20	0	0	95	50	25
Future Volume (Veh/h)	20	0	0	95	50	25
Sign Control	Stop	Free	Free	Free	Free	Free
Grade	0%			0%	0%	0%
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	26	0	0	122	64	32
Pedestrians	12					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	None
Median type						
Median storage (veh)						
Upstream signal (m)					65	
pX, platoon unblocked						
VC, conflicting volume	214	92	108			
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	214	92	108			
IC, single (s)	6.6	7.2	4.1			
IC, 2 stage (s)						
IF (s)	3.6	4.2	2.2			
p0 queue free %	96	100	100			
GM capacity (veh/h)	736	743	1478			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	26	122	96			
Volume Left	26	0	0			
Volume Right	0	0	32			
ESH	736	1478	1700			
Volume to Capacity	0.04	0.00	0.06			
Queue Length 95th (m)	0.9	0.0	0.0			
Control Delay (s)	10.1	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.1	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay	1.1					
Intersection Capacity Utilization	17.5%					
Analysis Period (min)	15					
ICU Level of Service A						

Lanes, Volumes, Timings

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	70	5	5	120	0	40	0	15	5	0	95
Future Volume (vph)	30	70	5	5	120	0	40	0	15	5	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	4.5	4.5	4.5	4.5	3.6	3.5	3.6	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1861	0	0	1973	0	1740	0	0	1601	0	0
Flt Permitted	0	0.986	0	0	0.998	0	0.965	0	0	0.998	0	0
Satd. Flow (perm)	0	1861	0	0	1973	0	1740	0	0	1601	0	0
Link Speed (k/h)		40			40		30			50		
Link Distance (m)		90.5			63.5		67.2			112.0		
Travel Time (s)		8.1			5.7		8.1			8.1		
Confl. Peds. (#/hr)									6			
Peak Hour Factor	0.92	0.89	0.89	0.89	0.89	0.92	0.89	0.92	0.89	0.92	0.92	0.92
Heavy Vehicles (%)	2%	14%	0%	0%	6%	2%	2%	0%	0%	2%	2%	2%
Adj. Flow (vph)	33	79	6	6	135	0	45	0	17	5	0	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	118	0	0	141	0	0	62	0	0	108	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	29.6%
Analysis Period (min)	15
ICU Level of Service A	

HCM Unsignalized Intersection Capacity Analysis

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	70	5	5	120	0	40	0	15	5	0	95
Future Volume (Veh/h)	30	70	5	5	120	0	40	0	15	5	0	95
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.89	0.89	0.89	0.89	0.92	0.89	0.92	0.89	0.92	0.92	0.92
Hourly flow rate (vph)	33	79	6	6	135	0	45	0	17	5	0	103
Pedestrians					6							
Lane Width (m)					4.5							
Walking Speed (m/s)					1.2							
Percent Blockage					1							
Right turn flare (veh)												
Median type					None							
Median storage (veh)												
Upstream signal (m)					311							
pX platoon unblocked												
vC, conflicting volume	135					85	398	295	88	318	298	135
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vC1, unblocked vol	135					85	398	295	88	318	298	135
IC, single (s)	4.1					4.1	7.1	6.5	6.2	7.1	6.5	6.2
IC, 2 stage (s)	2.2					2.2	3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98					100	91	100	98	99	100	89
qM capacity (veh/h)	1449					1524	489	600	970	607	598	914
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	118	141	62	108								
Volume Left	33	6	45	5								
Volume Right	6	0	17	103								
CSH	1449	1524	566	893								
Volume to Capacity	0.02	0.00	0.11	0.12								
Queue Length 95th (m)	0.6	0.1	2.9	3.3								
Control Delay (s)	2.2	0.3	12.1	9.6								
Lane LOS	A	A	B	A								
Approach Delay (s)	2.2	0.3	12.1	9.6								
Approach LOS	B	A	A	A								
Intersection Summary												
Average Delay					4.9							
Intersection Capacity Utilization					29.6%							A
Analysis Period (min)					15							

Lanes, Volumes, Timings
11: Internal N-S Street & Internal E-W Street

12-13-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	91.1			71.6	112.0	
Travel Time (s)	6.6			5.2	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization	0.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
11: Internal N-S Street & Internal E-W Street

12-13-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	91.1			71.6	112.0	
Travel Time (s)	6.6			5.2	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization	0.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

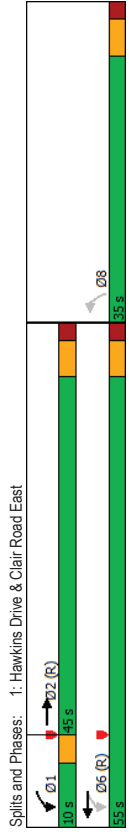
12-13-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Traffic Volume (vph)	900	35	95	615	20	120
Future Volume (vph)	900	35	95	615	20	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)		7.5		7.5		
Satd. Flow (prot)	3462	0	1785	3535	1835	0
Flt Permitted			0.253		0.993	
Satd. Flow (perm)	3462	0	474	3535	1834	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	5				122	
Link Speed (k/h)	60			60	50	
Link Distance (m)	1607			130.4	64.6	
Travel Time (s)	9.6			7.8	4.7	
Confl. Peds. (#/hr)		13	13		1	
Confl. Bikes (#/hr)	1					
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Adj. Flow (vph)	918	36	97	628	20	122
Shared Lane Traffic (%)						
Lane Group Flow (vph)	954	0	97	628	142	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2	1	6	8		
Permitted Phases	2	1	6	8		
Detector Phase	2	1	6	8		
Switch Phase						
Minimum Initial (s)	10.0	7.0	10.0	10.0	7.0	
Minimum Split (s)	35.0	10.0	35.0	35.0	35.0	
Total Split (s)	45.0	10.0	55.0	55.0	35.0	
Total Split (%)	50.0%	11.1%	61.1%	38.9%		
Maximum Green (s)	39.0	7.0	49.0	29.0		
Yellow Time (s)	4.0	3.0	4.0	4.0		
All-Red Time (s)	2.0	0.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.0	3.0	6.0	6.0		
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	C-Min	None	C-Min	None		
Walk Time (s)	11.0	18.0	11.0	8.0		
Flash Don't Walk (s)	18.0	18.0	18.0	18.0		
Pedestrian Calls (#/hr)	7		7	12		
Act Effct Green (s)	58.4	69.9	66.9	11.1		
Actuated g/C Ratio	0.65	0.78	0.74	0.12		
v/C Ratio	0.42	0.20	0.24	0.43		
Control Delay	3.6	4.7	4.9	12.8		

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-13-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.6	4.7	4.9	12.8		
LOS	A	A	A	B		
Approach Delay	3.6		4.8	12.8		
Approach LOS	A		A	B		
Intersection Summary						
Area Type:	Other					
Cycle Length:	90					
Actuated Cycle Length:	90					
Offset: 2 (2%):	Referenced to phase 2EBT and 6'WBTL Start of Green					
Natural Cycle:	80					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.43					
Intersection Signal Delay:	4.8					
Intersection Capacity Utilization:	53.7%					
Analysis Period (min):	15					



Phasings
1: Hawkins Drive & Clair Road East

12-13-2023

	EBT	WBL	WBT	NBL
Lane Group	2	1	6	
Protected Phases				
Permitted Phases	6	8		
Minimum Initial (s)	10.0	7.0	10.0	7.0
Minimum Split (s)	35.0	10.0	35.0	35.0
Total Split (s)	45.0	10.0	55.0	35.0
Total Split (%)	50.0%	11.1%	61.1%	38.9%
Maximum Green (s)	39.0	7.0	49.0	29.0
Yellow Time (s)	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	0.0	2.0	2.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	C-Min	None	C-Min	None
Walk Time (s)	11.0		11.0	8.0
Flash Dont Walk (s)	18.0		18.0	18.0
Pedestrian Calls (#/hr)	7		7	12
90th %ile Green (s)	39.7	9.3	52.0	26.0
90th %ile Term Code	Coord	Gap	Coord	Ped
70th %ile Green (s)	59.5	7.0	69.5	8.5
70th %ile Term Code	Coord	Min	Coord	Gap
50th %ile Green (s)	61.0	7.0	71.0	7.0
50th %ile Term Code	Coord	Min	Coord	Min
30th %ile Green (s)	61.0	7.0	71.0	7.0
30th %ile Term Code	Coord	Min	Coord	Min
10th %ile Green (s)	71.0	0.0	71.0	7.0
10th %ile Term Code	Coord	Skip	Coord	Min

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBTL - Start of Green
 Control Type: Actuated-Coordinated

Queues
1: Hawkins Drive & Clair Road East

12-13-2023

	EBT	WBL	WBT	NBL
Lane Group	954	97	628	142
Lane Group Flow (vph)	0.42	0.20	0.24	0.43
v/c Ratio	3.6	4.7	4.9	12.8
Control Delay	0.0	0.0	0.0	0.0
Queue Delay	3.6	4.7	4.9	12.8
Total Delay	14.4	2.3	11.6	2.1
Queue Length 50th (m)	21.8	12.8	38.6	14.3
Queue Length 95th (m)	136.7		106.4	40.6
Internal Link Dist (m)		25.0		
Turn Bay Length (m)				
Base Capacity (vph)	2249	476	2627	673
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.20	0.24	0.21

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: Hawkins Drive & Clair Road East

12-13-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	900	35	95	615	20	120
Future Volume (vph)	900	35	95	615	20	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Total Lost time (s)	6.0	3.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	0.95	1.00	0.99	1.00	0.99
Flt Permitted	3463	1783	3535	1834	1834	1834
Satd. Flow (perm)	3463	476	3535	1834	1834	1834
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	918	36	97	628	20	122
RTOR Reduction (vph)	2	0	0	0	107	0
Lane Group Flow (vph)	952	0	97	628	35	0
Confl. Bikes (#/hr)	13	13	13	13	1	1
Heavy Vehicles (%)	2%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Turn Type	NA	pm+pt	NA	Perm	Perm	Perm
Protected Phases	2	1	6	6	8	8
Permitted Phases	57.8	66.9	66.9	11.1	11.1	11.1
Actuated Green, G (s)	57.8	66.9	66.9	11.1	11.1	11.1
Effective Green, g (s)	0.64	0.74	0.74	0.12	0.12	0.12
Actuated g/C Ratio	6.0	3.0	6.0	6.0	6.0	6.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	2224	442	2627	226	226	226
Lane Grp Cap (vph)	c0.27	0.01	c0.18	c0.02	c0.02	c0.02
v/s Ratio Perm	0.43	0.22	0.24	0.16	0.16	0.16
v/s Ratio	7.9	3.7	3.6	35.3	35.3	35.3
Uniform Delay, d1	0.32	1.00	1.00	1.07	1.07	1.07
Progression Factor	0.5	0.3	0.2	0.3	0.3	0.3
Incremental Delay, d2	3.1	4.0	3.8	37.9	37.9	37.9
Delay (s)	A	A	A	A	D	D
Level of Service	3.1	3.8	37.9	A	D	D
Approach Delay (s)	A	A	A	A	D	D
Approach LOS	A	A	A	A	D	D

Intersection Summary	
HCM 2000 Control Delay	6.1 HCM 2000 Level of Service A
HCM 2000 Volume to Capacity ratio	0.37
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0
Intersection Capacity Utilization	53.7% ICU Level of Service A
Analysis Period (min)	15
c Critical Lane Group	

Lanes, Volumes, Timings
2: Hawkins Drive & Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	60	105	10	40	50	5	10	30	15	15	35	35
Future Volume (vph)	60	105	10	40	50	5	10	30	15	15	35	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	2038	0	1828	0	1828	0	1995	0	0	1908	0
Flt Permitted	0.983	0.983	0.979	0.979	0.991	0.991	0.991	0.991	0.991	0.991	0.991	0.991
Satd. Flow (perm)	0	2038	0	1828	0	1828	0	1995	0	0	1908	0
Link Speed (k/h)	40	40	40	40	40	40	40	40	40	40	40	40
Link Distance (m)	63.5	63.5	196.9	196.9	136.5	136.5	121.9	121.9	121.9	121.9	121.9	121.9
Travel Time (s)	5.7	5.7	17.7	17.7	12.3	12.3	11.0	11.0	11.0	11.0	11.0	11.0
Confl. Peds. (#/hr)	33	13	13	33	8	8	4	4	4	4	4	4
Confl. Bikes (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	71	125	12	48	60	6	12	36	18	18	42	42
Shared Lane Traffic (%)	0	208	0	114	0	114	0	66	0	0	102	0
Lane Group Flow (vph)	0	208	0	114	0	114	0	66	0	0	102	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	27.0%
Analysis Period (min)	15
ICU Level of Service A	

2: Hawkins Drive & Poppy Drive East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	105	10	40	50	5	10	30	15	15	35	35
Future Volume (Veh/h)	60	105	10	40	50	5	10	30	15	15	35	35
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	71	125	12	48	60	6	12	36	18	18	42	42
Pedestrians	8			4			13				33	
Lane Width (m)	4.5			3.6			4.5				4.5	
Walking Speed (m/s)	1.2			1.2			1.2				1.2	
Percent Blockage	1			0			1				3	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	375											
pX platoon unblocked												
VC, conflicting volume	99			150			516		481	148	505	484
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCU, unblocked vol	99			150			516		481	148	505	484
IC, single (s)	4.1			4.1			7.1		6.5	6.2	7.1	6.5
IC, 2 stage (s)												
p0 queue free %	2.2			2.2			3.5		4.0	3.3	3.5	4.0
IF (s)	95			97			97		92	98	95	90
CM capacity (veh/h)	1455			1424			369		427	889	384	425
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	208	114	66	102								
Volume Left	71	48	12	18								
Volume Right	12	6	18	42								
cSH	1455	1424	481	530								
Volume to Capacity	0.05	0.03	0.14	0.19								
Queue Length 95th (m)	1.2	0.8	3.8	5.6								
Control Delay (s)	2.9	3.4	13.7	13.4								
Lane LOS	A	A	B	B								
Approach Delay (s)	2.9	3.4	13.7	13.4								
Approach LOS	B	B	B	B								
Intersection Summary												
Average Delay	6.6											
Intersection Capacity Utilization	27.0%											
ICU Level of Service	A											
Analysis Period (min)	15											

3: Poppy Drive East & Fanley Drive

12-13-2023

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	240	140	15	20	35
Future Volume (vph)	15	240	140	15	20	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	2084	1991	0	1686	0
Flt Permitted	0	997			982	
Satd. Flow (perm)	0	2084	1991	0	1686	0
Link Speed (k/h)		40	40		30	
Link Distance (m)		220.5	90.5		55.2	
Travel Time (s)		19.8	8.1		6.6	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	4%	0%	0%	0%
Adj. Flow (vph)	17	273	159	17	23	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	290	176	0	63	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

3: Poppy Drive East & Farley Drive

12-13-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	240	140	15	20	35
Future Volume (Veh/h)	15	240	140	15	20	35
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	17	273	159	17	23	40
Pedestrians					15	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)					None	
Median type					None	
Median storage (veh)					220	
Upstream signal (m)					220	
pX platoon unblocked					490	182
VC, conflicting volume					191	
VC1, stage 1 conf vol					191	
VC2, stage 2 conf vol					490	182
VCU, unblocked vol					4.1	6.2
IC, single (s)					2.2	3.3
IC, 2 stage (s)					99	96
p0 queue free %					1378	528
CM capacity (veh/h)					1378	855
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	290	176	63			
Volume Left	17	0	23			
Volume Right	0	17	40			
cSH	1378	1700	697			
Volume to Capacity	0.01	0.10	0.09			
Queue Length 95th (m)	0.3	0.0	2.4			
Control Delay (s)	0.6	0.0	10.7			
Lane LOS	A	B	B			
Approach Delay (s)	0.6	0.0	10.7			
Approach LOS	B					
Intersection Summary						
Average Delay		1.6				
Intersection Capacity Utilization		34.9%				A
Analysis Period (min)		15				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	25	65	90	30	95	95	895	155	110	860	35
Future Volume (vph)	40	25	65	90	30	95	95	895	155	110	860	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5			7.5			7.5			7.5		
Satd. Flow (prot)	0	1751	0	0	1851	0	2006	3405	0	1728	3478	0
Flt Permitted		0.788			0.796		0.270			0.209		
Satd. Flow (perm)	0	1395	0	0	1502	0	569	3405	0	378	3478	0
Right Turn on Red		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)		55		44		29				6		
Link Speed (k/h)		40		40		60				60		
Link Distance (m)		93.0		220.5		196.0				180.5		
Travel Time (s)		8.4		19.8		11.8				10.8		
Conf. Peds. (#/hr)	18		3	3		6		17		17		6
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	18%	0%	1%	0%	3%	2%	2%	1%	1%	2%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	2	0	0	0	0	0	0	0
Adj. Flow (vph)	41	26	66	92	31	97	97	913	158	112	878	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	133	0	0	220	0	97	1071	0	112	914	0
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases		8		4	4	5	2	1		6		
Permitted Phases	8	8	4	4	4	2	2	6		6		
Detector Phase												
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	35.0	30.0	35.0	30.0	35.0	30.0	35.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	48.0	31.0	48.0	31.0	49.0	31.0	49.0
Total Split (%)	34.4%	34.4%	34.4%	34.4%	34.4%	53.3%	34.4%	53.3%	34.4%	54.4%	34.4%	54.4%
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	42.0	25.0	42.0	25.0	43.0	25.0	43.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0
Lead/Lag						Lead	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	17.0	8.0	17.0	8.0	17.0	8.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	12.0	16.0	12.0	16.0	12.0	16.0	12.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6	6
Act Efect Green (s)	16.1	16.1	16.1	16.1	16.1	53.1	16.1	53.1	16.1	53.1	16.1	53.1
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18	0.69	0.18	0.69	0.18	0.69	0.18	0.69
v/c Ratio	0.45	0.45	0.45	0.45	0.45	0.29	0.45	0.29	0.45	0.29	0.45	0.29
Control Delay	23.4	23.4	23.4	23.4	23.4	13.8	23.4	13.8	23.4	13.8	23.4	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	23.4			40.6			5.7	13.8		6.3	12.0	
LOS	C			D			A	B		A	B	
Approach Delay	23.4			40.6			13.1			11.4		
Approach LOS	C			D			B			B		

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

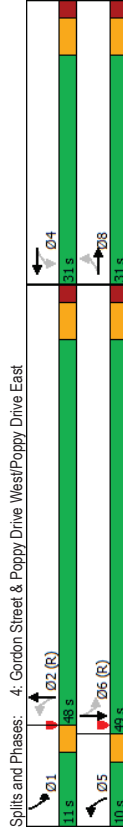
Intersection Signal Delay: 15.3

Intersection LOS: B

Intersection Capacity Utilization 69.0%

ICU Level of Service C

Analysis Period (min) 15



4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases												
Permitted Phases	8			4			5	2		1	6	
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	7.0	10.0	
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	35.0	35.0	30.0	35.0	30.0	
Total Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	48.0	48.0	31.0	48.0	31.0	
Total Split (%)	34.4%	34.4%	34.4%	34.4%	34.4%	34.4%	53.3%	53.3%	34.4%	54.4%	34.4%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	42.0	42.0	25.0	42.0	25.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	0.0	2.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min	
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	8.0	
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	16.0	
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6	
90th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	41.3	41.3	24.0	41.3	24.0	
90th %ile Term Code	Ped	Ped	Ped	Ped	Ped	Ped	Coord	Coord	Coord	Coord	Coord	
70th %ile Green (s)	18.8	18.8	18.8	18.8	18.8	18.8	34.2	34.2	18.8	34.2	18.8	
70th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Coord	Coord	Coord	Coord	Coord	
50th %ile Green (s)	15.9	15.9	15.9	15.9	15.9	15.9	25.9	25.9	15.9	25.9	15.9	
50th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Coord	Coord	Coord	Coord	Coord	
30th %ile Green (s)	13.0	13.0	13.0	13.0	13.0	13.0	20.0	20.0	13.0	20.0	13.0	
30th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Coord	Coord	Coord	Coord	Coord	
10th %ile Green (s)	8.7	8.7	8.7	8.7	8.7	8.7	12.0	12.0	8.7	12.0	8.7	
10th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Skip	Skip	Skip	Skip	Skip	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	133	220	97	1071	112	914
Lane Group Flow (vph)	0.45	0.72	0.19	0.53	0.29	0.44
v/c Ratio	23.4	40.6	5.7	13.8	6.3	12.0
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	23.4	40.6	5.7	13.8	6.3	12.0
Total Delay	12.5	30.5	4.3	56.8	5.6	48.9
Queue Length 50th (m)	26.7	49.6	11.8	98.6	m5.2	m32.1
Queue Length 95th (m)	69.0	196.5	172.0	70.0	0.0	156.5
Internal Link Dist (m)	427	449	510	2027	390	2075
Turn Bay Length (m)	0	0	0	0	0	0
Base Capacity (vph)	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.49	0.19	0.53	0.29	0.44
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

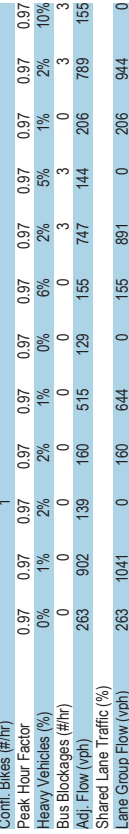
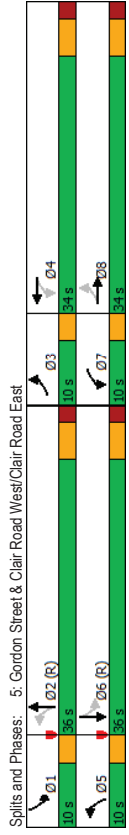
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		+											
Traffic Volume (vph)	40	25	65	90	30	95	95	895	155	110	860	35	
Future Volume (vph)	40	25	65	90	30	95	95	895	155	110	860	35	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frbp. ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	1.00	0.99	1.00	1.00	1.00	1.00	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.93	0.93	0.93	0.94	0.94	0.94	1.00	0.98	1.00	0.95	1.00	0.99	
Flt Protected	0.98	0.98	0.98	0.98	0.98	0.98	0.95	1.00	1.00	0.95	1.00	0.99	
Satd. Flow (prot)	1744	1744	1849	1849	2004	2004	3404	3404	1726	3478	3478	1000	
Flt Permitted	0.79	0.79	0.80	0.80	0.80	0.80	0.27	1.00	0.21	1.00	1.00	0.00	
Satd. Flow (perm)	1396	1396	1503	1503	1503	1503	569	3404	380	3478	3478	1000	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	41	26	66	92	31	97	97	913	158	112	878	36	
RTOR Reduction (vph)	0	45	0	0	36	0	0	12	0	0	2	0	
Lane Group Flow (vph)	0	88	0	0	184	0	97	1059	0	112	912	0	
Conf. Peds. (#/hr)	18	3	3	3	18	6	6	17	17	17	6	6	
Heavy Vehicles (%)	18%	0%	0%	1%	0%	3%	2%	2%	1%	1%	2%	0%	
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0	
Turn Type	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	NA	pm+pt	NA	NA	
Protected Phases	8	8	4	4	4	4	5	2	2	1	6	6	
Permitted Phases	8	8	4	4	4	4	2	2	2	6	6	6	
Actuated Green, G (s)	16.1	16.1	16.1	16.1	16.1	16.1	58.5	52.5	59.3	52.9	52.9	52.9	
Effective Green, g (s)	16.1	16.1	16.1	16.1	16.1	16.1	58.5	52.5	59.3	52.9	52.9	52.9	
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18	0.18	0.65	0.58	0.66	0.66	0.59	0.59	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	249	249	268	268	268	268	465	1985	346	2044	2044	2044	
v/s Ratio Prot	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.31	0.02	0.26	0.26	0.26	
v/s Ratio Perm	0.06	0.06	0.12	0.12	0.12	0.12	0.12	0.31	0.19	0.32	0.45	0.45	
v/c Ratio	0.35	0.35	0.69	0.69	0.69	0.69	1.13	0.53	0.32	0.45	0.45	0.45	
Uniform Delay, d1	32.4	32.4	34.6	34.6	34.6	34.6	6.1	11.3	6.6	10.4	10.4	10.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.08	0.98	0.98	0.98	
Incremental Delay, d2	0.9	0.9	7.1	7.1	7.1	7.1	0.2	1.0	0.3	0.4	0.4	0.4	
Delay (s)	33.2	33.2	41.7	41.7	41.7	41.7	6.3	12.4	7.4	10.6	10.6	10.6	
Level of Service	C	C	D	D	D	D	A	B	A	B	B	B	
Approach Delay (s)	33.2	33.2	41.7	41.7	41.7	41.7	11.9	10.2	10.2	10.2	10.2	10.2	
Approach LOS	C	C	D	D	D	D	B	B	B	B	B	B	
Intersection Summary													
HCM 2000 Control Delay	14.9											HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55												
Actuated Cycle Length (s)	90.0											Sum of lost time (s)	15.0
Intersection Capacity Utilization	69.0%											ICU Level of Service	C
Analysis Period (min)	15												
c Critical Lane Group													

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	49.3	34.9	28.6	39.5	27.9	51.2	36.8				
LOS	D	D	C	C	D	C	D	D	D	D	D	D
Approach Delay	47.2			29.9			29.7			39.4		
Approach LOS	D			C			C			D		
Intersection Summary												
Area Type: Other												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2/NBTL and 6/SBTL, Start of Green, Master Intersection												
Natural Cycle: 90												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.96												
Intersection Signal Delay: 37.6												
Intersection LOS: D												
Intersection Capacity Utilization 90.0%												
Analysis Period (min) 15												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	255	875	135	155	500	125	150	725	140	200	765	150
Future Volume (vph)	255	875	135	155	500	125	150	725	140	200	765	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	32.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	7.5	3444	0	7.5	3405	0	1646	3360	0	1728	3333	0
Satd. Flow (prot)	1745	0.275	0.145	0.139	0.144							
Flt Permitted	499	3444	0	260	3405	0	240	3360	0	261	3333	0
Satd. Flow (perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red												
Satd. Flow (RTOR)	20	60	60	217.7	180.5							
Link Speed (k/h)	16.1	21	21	13.1	13.1	34	18	10.8	26	26	14.0	18
Link Distance (m)												
Travel Time (s)												
Confl. Peds. (#/hr)	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Confl. Bikes (#/hr)	0%	1%	2%	0%	0%	0%	0%	0%	2%	5%	1%	2%
Peak Hour Factor	0	0	0	0	0	0	0	0	3	3	0	3
Heavy Vehicles (%)	263	902	139	160	515	129	155	747	144	206	789	159
Bus Blockages (#/hr)												
Adj. Flow (vph)												
Shared Lane Traffic (%)												
Lane Group Flow (vph)	263	1041	0	160	644	0	155	891	0	206	944	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	1	6				
Permitted Phases	8	4	2	2	6							
Detector Phase	3	8	7	4	5	2	1	6				
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
All-Red Time (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	36.0	10.0	36.0	10.0	36.0	10.0	36.0
Total Split (s)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%	40.0%	11.1%	40.0%	11.1%	40.0%
Total Split (%)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0	7.0	30.0	7.0	30.0
Maximum Green (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Yellow Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Total Lost Time (s)	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead-Lag Optimize?	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	None	Min	None	Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Recall Mode	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0
Walk Time (s)	11	11	9	9	9	9	9	9	9	9	9	9
Flash Dont Walk (s)	39.3	28.1	38.1	27.5	38.9	28.8	39.8	29.2	39.8	29.2	39.8	29.2
Pedestrian Calls (#/hr)	0.44	0.31	0.42	0.31	0.43	0.32	0.44	0.32	0.44	0.32	0.44	0.32
Act Effect Green (s)	0.80	0.96	0.69	0.80	0.72	0.82	0.86	0.86	0.86	0.86	0.86	0.86
Actuated g/C Ratio	38.6	49.3	34.9	28.6	39.5	27.9	51.2	36.8				
v/c Ratio												
Control Delay												



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	4	4	2	2	6	6	
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	36.0	10.0	36.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%	40.0%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	11	11	11	11	9	9	9	9
90th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
90th %ile Term Code	Max	Max	Max	Max	Coord	Max	Coord	Max
70th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
70th %ile Term Code	Max	Max	Max	Max	Coord	Max	Coord	Max
50th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
50th %ile Term Code	Max	Max	Max	Max	Coord	Max	Coord	Max
30th %ile Green (s)	8.7	28.0	8.7	28.0	7.0	28.3	7.0	28.3
30th %ile Term Code	Max	Max	Max	Max	Coord	Max	Coord	Max
10th %ile Green (s)	11.0	28.6	8.0	25.6	7.7	25.5	9.9	27.7
10th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	263	1041	160	644	155	891	206	944
v/c Ratio	0.80	0.96	0.69	0.60	0.72	0.82	0.86	0.86
Control Delay	38.6	49.3	34.9	28.6	39.5	27.9	51.2	36.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	49.3	34.9	28.6	39.5	27.9	51.2	36.8
Queue Length 50th (m)	29.6	95.6	21.2	63.0	6.7	76.4	21.3	80.6
Queue Length 95th (m)	#66.3	#139.4	#41.2	60.6	#41.9	55.8	#60.0	#107.8
Internal Link Dist (m)	244.6	193.7	32.0	72.0	156.5	209.4	163.0	209.4
Turn Bay Length (m)	70.0	32.0	32.0	108.4	215	1138	239	1129
Base Capacity (vph)	330	1090	231	1084	215	1138	239	1129
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.96	0.69	0.59	0.72	0.78	0.86	0.84

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

5. Gordon Street & Clair Road West/Clair Road East

12-13-2023

6. Farley Drive & Clair Road East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	→	→	→	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	255	875	135	155	500	125	150	725	140	200	765	150
Future Volume (vph)	255	875	135	155	500	125	150	725	140	200	765	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	0	0	0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98	1.00	1.00	0.97	1.00	0.98	1.00	0.98	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1740	3444	1710	3405	1646	3359	1727	3334	1727	3334	1727	3334
Flt Permitted	0.28	1.00	0.15	1.00	0.15	1.00	0.14	1.00	0.14	1.00	0.14	1.00
Satd. Flow (perm)	504	3444	262	3405	241	3359	282	3334	282	3334	282	3334
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	263	902	139	160	515	129	155	747	144	206	789	155
RTOR Reduction (vph)	0	14	0	0	25	0	18	0	0	18	0	18
Lane Group Flow (vph)	263	1027	0	160	619	0	155	873	0	206	926	0
Confl. Peds. (#/hr)	34	21	21	21	34	18	34	18	26	26	34	18
Confl. Bikes (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Heavy Vehicles (%)	0%	1%	2%	2%	1%	0%	6%	2%	5%	1%	2%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	1	6	2	1	6	6
Permitted Phases	8	8	4	4	2	2	6	6	2	6	6	6
Actuated Green, G (s)	36.2	28.1	35.0	27.5	35.9	28.8	36.9	29.3	36.9	29.3	36.9	29.3
Effective Green, g (s)	36.2	28.1	35.0	27.5	35.9	28.8	36.9	29.3	36.9	29.3	36.9	29.3
Actuated g/C Ratio	0.40	0.31	0.39	0.31	0.40	0.32	0.41	0.33	0.41	0.33	0.41	0.33
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	313	1075	222	1040	206	1074	231	1085	231	1085	231	1085
v/s Ratio Prot	0.08	0.30	0.06	0.18	0.06	0.26	0.08	0.28	0.08	0.28	0.08	0.28
v/s Ratio Perm	0.26	0.96	0.22	0.60	0.24	0.81	0.29	0.85	0.29	0.85	0.29	0.85
Uniform Delay, d1	21.1	30.3	21.3	26.5	20.1	28.1	20.0	28.3	20.0	28.3	20.0	28.3
Progression Factor	1.00	1.00	1.19	1.04	1.47	0.80	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.0	17.6	10.2	0.9	12.6	5.9	31.9	8.5	31.9	8.5	31.9	8.5
Delay (s)	39.1	48.0	35.6	28.5	42.1	28.5	52.0	36.9	52.0	36.9	52.0	36.9
Level of Service	D	D	D	C	D	C	D	D	D	D	D	D
Approach Delay (s)	46.2	29.9	30.5	29.9	30.5	29.9	30.5	29.9	30.5	29.9	30.5	29.9
Approach LOS	D	D	C	C	C	C	D	D	C	C	D	D
Intersection Summary												
HCM 2000 Control Delay	37.6 HCM 2000 Level of Service D											
HCM 2000 Volume to Capacity ratio	0.92											
Actuated Cycle Length (s)	90.0 Sum of lost time (s)											
Intersection Capacity Utilization	90.0% ICU Level of Service E											
Analysis Period (min)	15											
c Critical Lane Group												

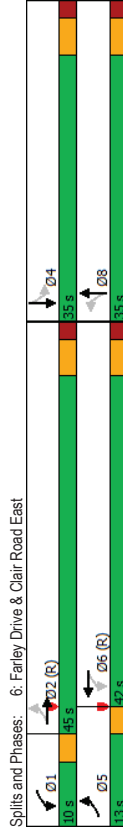
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	→	→	→	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	200	800	165	55	505	85	110	40	30	105	55	150
Future Volume (vph)	200	800	165	55	505	85	110	40	30	105	55	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8
Total Lost Time (s)	131.0	0.0	0.0	64.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	4.8
Lane Util. Factor	1	0	0	1	0	1	0	1	0	0	0	0
Frb. ped/bikes	7.5	369	0	7.5	3403	0	1705	1728	0	7.5	0	1916
Frb. ped/bikes	0.361	0.237	0.442	0.237	0.442	0.237	0.442	0.237	0.442	0.237	0.442	0.859
Flt Protected	671	3369	0	444	3403	0	778	1728	0	0	1659	0
Satd. Flow (prot)	34	34	Yes	25	25	Yes	31	31	Yes	55	55	Yes
Flt Permitted	60	60	60	60	60	60	60	60	60	60	60	60
Satd. Flow (perm)	217.7	217.7	160.7	160.7	160.7	63.9	63.9	196.5	196.5	196.5	196.5	196.5
Travel Time (s)	20	13.1	13	13	9.6	20	36	7.7	29	29	36	17.7
Confl. Peds. (#/hr)	2	2	2	2	2	2	2	2	2	2	2	2
Confl. Bikes (#/hr)	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Peak Hour Factor	0%	3%	0%	0%	1%	0%	0%	0%	0%	2%	1%	0%
Heavy Vehicles (%)	208	833	172	57	526	89	115	42	31	109	57	156
Adj. Flow (vph)	208	1005	0	57	615	0	115	73	0	322	0	322
Shared Lane Traffic (%)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Turn Type	5	2	1	6	6	8	8	8	8	4	4	4
Protected Phases	2	2	2	2	2	2	2	2	2	2	2	2
Permitted Phases	5	5	5	5	5	5	5	5	5	5	5	5
Switch Phase	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Initial (s)	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Minimum Split (s)	13.0	45.0	10.0	42.0	10.0	46.7%	38.9%	38.9%	10.0	35.0	35.0	35.0
Total Split (%)	14.4%	50.0%	11.1%	46.7%	11.1%	46.7%	38.9%	38.9%	11.1%	46.7%	38.9%	38.9%
Maximum Green (s)	10.0	39.0	7.0	36.0	29.0	29.0	29.0	29.0	7.0	36.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Fish Dork Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	7	7	7	7	7	7	7	7	7	7	7	7
Act Effct Green (s)	60.3	49.6	55.8	45.6	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2
Actuated g/C Ratio	0.67	0.55	0.62	0.51	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
v/c Ratio	0.37	0.54	0.15	0.35	0.66	0.18	0.66	0.18	0.66	0.18	0.66	0.18
Control Delay	4.7	11.5	5.3	10.7	48.6	17.1	48.6	17.1	48.6	17.1	48.6	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

6: Farley Drive & Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	4.7	11.5		5.3	10.7		48.6	17.1				39.4
LOS	A	B		A	B		D	B				D
Approach Delay	10.3			10.3			36.3			39.4		
Approach LOS	B			B			D			D		

Intersection Summary
 Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 16.3
 Intersection LOS: B
 Intersection Capacity Utilization: 74.7%
 ICU Level of Service: D
 Analysis Period (min): 15

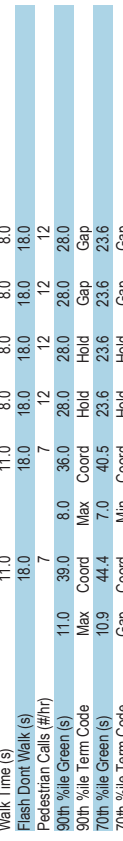


6: Farley Drive & Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		8	8				4
Permitted Phases	2			6			8			8		4
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0		7.0
Minimum Split (s)	10.0	35.0		10.0	35.0		32.0	32.0		32.0		32.0
Total Split (s)	13.0	45.0		10.0	42.0		35.0	35.0		35.0		35.0
Total Split (%)	14.4%	50.0%		11.1%	46.7%		38.9%	38.9%		38.9%		38.9%
Maximum Green (s)	10.0	39.0		7.0	36.0		29.0	29.0		29.0		29.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	0.0	2.0		0.0	2.0		2.0	2.0		2.0		2.0

Lead/Lag
 Lead: Yes Yes Yes
 Lag: Yes Yes Yes
Lead-Lag Optimize?
 Yes Yes Yes
Vehicle Extension (s)
 3.0 3.0 3.0
Minimum Gap (s)
 0.0 0.0 0.0
Time Before Reduce (s)
 0.0 0.0 0.0
Time To Reduce (s)
 0.0 0.0 0.0
Recall Mode
 None C-Min None
Walk Time (s)
 11.0 8.0 8.0
Flash Dont Walk (s)
 18.0 18.0 18.0
Pedestrian Calls (#/hr)
 7 12 12
90th %ile Green (s)
 11.0 39.0 8.0
90th %ile Term Code
 Max Coord Max Coord Hold
70th %ile Green (s)
 10.9 44.4 7.0
70th %ile Term Code
 Gap Coord Min Coord Hold
50th %ile Green (s)
 9.3 47.7 7.0
50th %ile Term Code
 Gap Coord Min Coord Hold
30th %ile Green (s)
 8.0 51.1 7.0
30th %ile Term Code
 Gap Coord Min Coord Hold
10th %ile Green (s)
 7.0 65.8 0.0
10th %ile Term Code
 Min Coord Skip Coord Hold



Queues
6: Farley Drive & Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	208	1005	57	615	115	73	322
v/c Ratio	0.37	0.54	0.15	0.35	0.66	0.18	0.78
Control Delay	4.7	11.5	5.3	10.7	48.6	17.1	39.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	11.5	5.3	10.7	48.6	17.1	39.4
Queue Length 50th (m)	4.2	31.4	0.8	32.5	19.1	6.1	46.1
Queue Length 95th (m)	m20.2	m98.8	4.7	55.7	34.4	15.3	68.3
Internal Link Dist (m)	193.7		136.7		39.9	172.5	
Turn Bay Length (m)	131.0		64.0		20.0		
Base Capacity (vph)	581	1872	382	1735	250	577	571
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.54	0.15	0.35	0.46	0.13	0.56
Intersection Summary							
m	Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Traffic Volume (vph)	200	800	165	505	85	110	40	30	105
Future Volume (vph)	200	800	165	505	85	110	40	30	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8
Total Lost time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.98	1.00	0.98	0.98
Frbp. ped/bikes	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.99	0.99
Frt	0.95	1.00	0.95	1.00	0.95	1.00	0.94	1.00	0.93
Frt Protected	1778	3370	1783	3404	1674	1728	1898	1898	1898
Satd. Flow (prot)	0.36	1.00	0.24	1.00	0.44	1.00	0.86	1.00	0.86
Flt Permitted	675	3370	445	3404	779	1728	1657	1657	1657
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	208	833	172	526	89	115	42	31	109
RTOR Reduction (vph)	0	15	0	12	0	24	0	0	43
Lane Group Flow (vph)	208	990	0	57	603	0	115	49	0
Conf. Peds. (#/hr)	20	13	13	20	36	29	29	29	36
Conf. Bikes (#/hr)	2								
Heavy Vehicles (%)	0%	3%	0%	0%	1%	0%	0%	2%	1%
Turn Type	pm+pt	NA	pm+pt	NA	NA	NA	Perm	NA	NA
Protected Phases	5	2	1	6	8	8	4	4	4
Permitted Phases	2	6	6	6	8	8	4	4	4
Actuated Green, G (s)	57.8	49.0	51.4	45.6	20.2	20.2	20.2	20.2	20.2
Effective Green, g (s)	57.8	49.0	51.4	45.6	20.2	20.2	20.2	20.2	20.2
Actuated g/C Ratio	0.64	0.54	0.57	0.51	0.22	0.22	0.22	0.22	0.22
Clearance Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	546	1834	340	1724	174	387	371	371	371
v/s Ratio Prot	c0.04	c0.29	0.01	0.18	0.03	0.03	0.17	0.17	0.17
v/s Ratio Perm	0.21	0.54	0.17	0.35	0.66	0.13	0.66	0.13	0.66
v/c Ratio	0.38	0.54	0.17	0.35	0.66	0.13	0.66	0.13	0.66
Uniform Delay, d1	6.9	13.2	8.9	13.3	31.8	27.9	32.6	32.6	32.6
Progression Factor	0.60	0.76	0.67	0.71	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.4	0.2	0.6	9.1	0.1	8.4	8.4	8.4
Delay (s)	4.3	10.5	6.2	10.0	40.8	28.0	41.0	41.0	41.0
Level of Service	A	B	A	A	D	C	D	D	D
Approach Delay (s)	9.5	9.7	9.7	35.9	41.0	41.0	41.0	41.0	41.0
Approach LOS	A	A	A	A	D	D	D	D	D
Intersection Summary									
HCM 2000 Control Delay	15.8								
HCM 2000 Level of Service	B								
HCM 2000 Volume to Capacity ratio	0.60								
Actuated Cycle Length (s)	90.0								
Sum of lost time (s)	150								
Intersection Capacity Utilization	74.7%								
ICU Level of Service	D								
Analysis Period (min)	15								
c Critical Lane Group									

Lanes, Volumes, Timings
7. Farley Drive & Internal E-W Street

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	20	5	15	20	65	5	35	15	95	25	140
Future Volume (vph)	85	20	5	15	20	65	5	35	15	95	25	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1797	0	0	1700	0	0	1800	0	0	1839	0
Flt Permitted	0.963			0.992			0.995				0.982	
Satd. Flow (perm)	0	1797	0	0	1700	0	0	1800	0	0	1839	0
Link Speed (k/h)	30			30			30			30		
Link Distance (m)	57.2			91.1			54.0			63.9		
Travel Time (s)	6.9			10.9			6.5			7.7		
Confl. Peds. (#/hr)	5		5	5		5	26		22	22		26
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%
Adj. Flow (vph)	94	22	6	17	22	72	6	39	17	106	28	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	122	0	0	111	0	0	62	0	0	290	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	42.6%											
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	85	20	5	15	20	65	5	35	15	95	25	140
Future Volume (vph)	85	20	5	15	20	65	5	35	15	95	25	140
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	94	22	6	17	22	72	6	39	17	106	28	156
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	122	111	62	290								
Volume Left (vph)	94	17	6	106								
Volume Right (vph)	6	72	17	156								
Head (s)	0.12	-0.36	-0.15	-0.23								
Departure Headway (s)	5.0	4.5	4.7	4.3								
Degree Utilization, x	0.17	0.14	0.08	0.35								
Capacity (veh/h)	688	728	714	790								
Control Delay (s)	9.0	8.2	8.1	9.6								
Approach Delay (s)	9.0	8.2	8.1	9.6								
Approach LOS	A	A	A	A								

Intersection Summary												
Delay	9.1											
Level of Service	A											
Intersection Capacity Utilization	42.6%											
Analysis Period (min)	15											
ICU Level of Service	A											

Lanes, Volumes, Timings
8: Farley Drive & Existing Adjacent Site Access

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	30	10	10	25	40	10
Future Volume (vph)	30	10	10	25	40	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1751	0	0	1853	1828	0
Flt Permitted	0.964			0.986		
Satd. Flow (perm)	1751	0	0	1853	1828	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	31.6			55.2	54.0	
Travel Time (s)	3.8			6.6	6.5	
Confl. Peds. (#/hr)	13	45	45			45
Confl. Bikes (#/hr)	2					
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	34	11	11	28	45	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	0	0	39	56	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	28.9%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis
8: Farley Drive & Existing Adjacent Site Access

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	30	10	10	25	40	10
Future Volume (vph)	30	10	10	25	40	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	34	11	11	28	45	11
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	45	39	56			
Volume Left (vph)	34	11	0			
Volume Right (vph)	11	0	11			
Head (s)	0.00	0.06	-0.12			
Departure Headway (s)	4.1	4.1	3.9			
Degree Utilization, x	0.05	0.04	0.06			
Capacity (veh/h)	853	853	902			
Control Delay (s)	7.3	7.3	7.2			
Approach Delay (s)	7.3	7.3	7.2			
Approach LOS	A	A	A			
Intersection Summary						
Delay	7.3					
Level of Service	A					
Intersection Capacity Utilization	28.9%					
Analysis Period (min)	15					
ICU Level of Service A						

Lanes, Volumes, Timings

9: Hawkins Drive & Internal E-W Street

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations						
Traffic Volume (vph)	50	5	0	90	80	50
Future Volume (vph)	50	5	0	90	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1849	0	0	2090	1981	0
Flt Permitted	0.957					
Satd. Flow (perm)	1849	0	0	2090	1981	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Confl. Peds. (#/hr)		8				8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	16%	0%	0%	0%	0%
Adj. Flow (vph)	56	6	0	101	90	56
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	0	0	101	146	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	18.9%					
Analysis Period (min)	15					
	ICU Level of Service A					

HCM Unsignalized Intersection Capacity Analysis

9: Hawkins Drive & Internal E-W Street

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations						
Traffic Volume (veh/h)	50	5	0	90	80	50
Future Volume (Veh/h)	50	5	0	90	80	50
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	56	6	0	101	90	56
Pedestrians	8					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	
Median type						
Median storage (veh)						
Upstream signal (m)					65	
pX platoon unblocked						
vC, conflicting volume	227	126	154			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	227	126	154			
iC, single (s)	6.4	6.4	4.1			
iC, 2 stage (s)						
IF (s)	3.5	3.4	2.2			
p0 queue free %	93	99	100			
GM capacity (veh/h)	758	881	1428			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	62	101	146			
Volume Left	56	0	0			
Volume Right	6	0	56			
vSH	768	1428	1700			
Volume to Capacity	0.08	0.00	0.09			
Queue Length 95th (m)	2.1	0.0	0.0			
Control Delay (s)	10.1	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.1	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay	2.0					
Intersection Capacity Utilization	18.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	150	30	10	100	0	30	0	10	0	0	50
Future Volume (vph)	65	150	30	10	100	0	30	0	10	0	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	4.5	4.5	4.5	4.5	3.6	3.5	3.6	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	2017	0	0	2042	0	1769	0	0	1593	0	0
Flt Permitted	0.987			0.995			0.964					
Satd. Flow (perm)	0	2017	0	0	2042	0	1769	0	0	1593	0	0
Link Speed (k/h)	40			40			30			50		
Link Distance (m)	90.5			63.5			67.2			112.0		
Travel Time (s)	8.1			5.7			8.1			8.1		
Confl. Peds. (#/hr)	1			1			2			17		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	0%	2%	0%	2%	0%	0%	2%	2%	2%
Adj. Flow (vph)	71	163	33	11	109	0	33	0	11	0	0	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	267	0	0	120	0	0	44	0	0	0	54
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	37.7%
Analysis Period (min)	15
ICU Level of Service A	

HCM Unsignalized Intersection Capacity Analysis

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	150	30	10	100	0	30	0	10	0	0	50
Future Volume (Veh/h)	65	150	30	10	100	0	30	0	10	0	0	50
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	163	33	11	109	0	33	0	11	0	0	54
Pedestrians	2			17			1					
Lane Width (m)	4.5			4.5			3.6					
Walking Speed (m/s)	1.2			1.2			1.2					
Percent Blockage	0			2			0					
Right turn flare (veh)												
Median type	None			None			None					
Median storage (veh)												
Upstream signal (m)	311											
px platoon unblocked												
vc conflicting volume	109			197			510	454	198	480	470	111
vc1 stage 1 conf vol												
vc2 stage 2 conf vol												
vcu unblocked vol	109			197			510	454	198	480	470	111
ic single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
ic 2 stage (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
po queue free %	95			99			92	100	99	100	100	94
cm capacity (veh/h)	1481			1387			429	474	833	460	464	940
Direction_Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	267	120	44	54								
Volume Left	71	11	33	0								
Volume Right	33	0	11	54								
csh	1481	1387	489	940								
Volume to Capacity	0.05	0.01	0.09	0.06								
Queue Length 95th (m)	1.2	0.2	2.4	1.5								
Control Delay (s)	2.3	0.8	13.1	9.1								
Lane LOS	A	A	B	A								
Approach Delay (s)	2.3	0.8	13.1	9.1								
Approach LOS	B	A	A	A								
Intersection Summary												
Average Delay	3.7											
Intersection Capacity Utilization	37.7%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings
11: Internal N-S Street & Internal E-W Street

12-13-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	91.1			71.6	112.0	
Travel Time (s)	6.6			5.2	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 0.0%	ICU Level of Service A					
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
11: Internal N-S Street & Internal E-W Street

12-13-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	0	0	0	0	0	0
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Head (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	917	917	917	917
Control Delay (s)	6.9	6.9	6.9	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A	A	A
Intersection Summary	Other					
Delay	0.0					
Level of Service	A					
Intersection Capacity Utilization	0.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

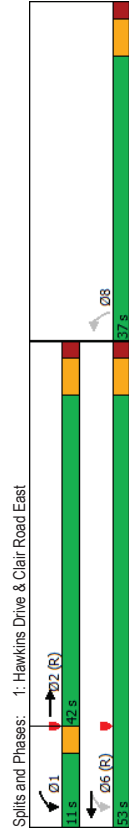
12-13-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←↑	←↑	←↑	←↑	←↑	←↑
Traffic Volume (vph)	610	30	115	525	25	105
Future Volume (vph)	610	30	115	525	25	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	4.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	0	0
Taper Length (m)		7.5		7.5		
Satd. Flow (prot)	3493	0	1767	3466	1844	0
Flt Permitted			0.364		0.990	
Satd. Flow (perm)	3493	0	675	3466	1844	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	6				109	
Link Speed (k/h)	60			60	50	
Link Distance (m)	1607			130.4	64.6	
Travel Time (s)	9.6			7.8	4.7	
Confl. Peds. (#/hr)		6		6		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	1%	3%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Adj. Flow (vph)	635	31	120	547	26	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	666	0	120	547	135	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2		1	6		
Permitted Phases		6		6	8	
Detector Phase	2	1	6	8		
Switch Phase						
Minimum Initial (s)	10.0	7.0	10.0	7.0		
Minimum Split (s)	35.0	10.0	35.0	35.0		
Total Split (s)	42.0	11.0	53.0	37.0		
Total Split (%)	46.7%	12.2%	68.9%	41.1%		
Maximum Green (s)	36.0	8.0	47.0	31.0		
Yellow Time (s)	4.0	3.0	4.0	4.0		
All-Red Time (s)	2.0	0.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.0	3.0	6.0	6.0		
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	C-Min	None	C-Min	None		
Walk Time (s)	11.0	11.0	8.0			
Flesh Dont Walk (s)	18.0	18.0	18.0	18.0		
Pedestrian Calls (#/hr)	7		7	12		
Act Effect Green (s)	56.2	69.9	66.9	11.1		
Actuated g/C Ratio	0.62	0.78	0.74	0.12		
v/c Ratio	0.31	0.19	0.21	0.42		
Control Delay	5.1	4.5	4.8	13.6		
Queue Delay	0.0	0.0	0.0	0.0		

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-13-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Delay	5.1	4.5	4.8	13.6		
LOS	A	A	A	B		
Approach Delay	5.1		4.7	13.6		
Approach LOS	A		A	B		
Intersection Summary						
Area Type:	Other					
Cycle Length:	90					
Actuated Cycle Length:	90					
Offset:	2 (2%), Referenced to phase 2EBT and 6:WBT, Start of Green					
Natural Cycle:	80					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.42					
Intersection Signal Delay:	5.7					
Intersection LOS:	A					
Intersection Capacity Utilization:	51.7%					
Analysis Period (min):	15					



Splits and Phases: 1: Hawkins Drive & Clair Road East

Phasings
1: Hawkins Drive & Clair Road East

12-13-2023

	EBT	WBL	WBT	NBL
Lane Group	2	1	6	
Protected Phases		6	8	
Permitted Phases		1	1	6
Minimum Initial (s)	10.0	7.0	10.0	7.0
Minimum Split (s)	35.0	10.0	35.0	35.0
Total Split (s)	42.0	11.0	53.0	37.0
Total Split (%)	46.7%	12.2%	58.9%	41.1%
Maximum Green (s)	36.0	8.0	47.0	31.0
Yellow Time (s)	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	0.0	2.0	2.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	C-Min	None	C-Min	None
Walk Time (s)	11.0		11.0	8.0
Flash Dont Walk (s)	18.0		18.0	18.0
Pedestrian Calls (#/hr)	7		7	12
90th %ile Green (s)	38.9	10.1	52.0	26.0
90th %ile Term Code	Coord	Gap	Coord	Ped
70th %ile Green (s)	59.1	7.2	69.3	8.7
70th %ile Term Code	Coord	Gap	Coord	Gap
50th %ile Green (s)	61.0	7.0	71.0	7.0
50th %ile Term Code	Coord	Min	Coord	Min
30th %ile Green (s)	61.0	7.0	71.0	7.0
30th %ile Term Code	Coord	Min	Coord	Min
10th %ile Green (s)	61.0	7.0	71.0	7.0
10th %ile Term Code	Coord	Min	Coord	Min

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBTL - Start of Green
 Control Type: Actuated-Coordinated

Queues
1: Hawkins Drive & Clair Road East

12-13-2023

	EBT	WBL	WBT	NBL
Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	666	120	547	135
v/c Ratio	0.31	0.19	0.21	0.42
Control Delay	5.1	4.5	4.8	13.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.1	4.5	4.8	13.6
Queue Length 50th (m)	13.0	2.9	9.8	4.1
Queue Length 95th (m)	24.9	15.5	33.5	15.4
Internal Link Dist (m)	136.7		106.4	40.6
Turn Bay Length (m)		25.0		
Base Capacity (vph)	2183	626	2574	706
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.31	0.19	0.21	0.19

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: Hawkins Drive & Clair Road East

12-13-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←↑	←↑	←	←	←	←
Traffic Volume (vph)	610	30	115	525	25	105
Future Volume (vph)	610	30	115	525	25	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Total Lost time (s)	6.0	3.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.99	1.00	1.00	1.00	0.89	1.00
Flt Protected	1.00	0.95	1.00	0.99		
Satd. Flow (prot)	3493	1765	3466	1844		
Flt Permitted	1.00	0.36	1.00	0.99		
Satd. Flow (perm)	3493	676	3466	1844		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	635	31	120	547	26	109
RTOR Reduction (vph)	2	0	0	96	0	0
Lane Group Flow (vph)	684	0	120	547	39	0
Confl. Peds. (#/hr)	6	6				
Heavy Vehicles (%)	1%	0%	1%	3%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2	1	6			
Permitted Phases		6	8			
Actuated Green, G (s)	56.2	66.9	66.9	11.1		
Effective Green, g (s)	56.2	66.9	66.9	11.1		
Actuated g/C Ratio	0.62	0.74	0.74	0.12		
Clearance Time (s)	6.0	3.0	6.0	6.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	2181	595	2576	227		
v/s Ratio Prot	c0.19	0.02	c0.16			
v/s Ratio Perm		0.13	c0.02			
v/c Ratio	0.30	0.20	0.21	0.17		
Uniform Delay, d1	7.8	3.4	3.5	35.3		
Progression Factor	0.51	1.00	1.00	1.01		
Incremental Delay, d2	0.3	0.2	0.2	0.4		
Delay (s)	4.3	3.5	3.7	36.2		
Level of Service	A	A	A	D		
Approach Delay (s)	4.3	3.7	36.2			
Approach LOS	A	A	A	D		
Intersection Summary						
HCM 2000 Control Delay	7.0 HCM 2000 Level of Service A					
HCM 2000 Volume to Capacity ratio	0.28					
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0					
Intersection Capacity Utilization	51.77% ICU Level of Service A					
Analysis Period (min)	15					
c Critical Lane Group						

Lanes, Volumes, Timings
2: Hawkins Drive & Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	35	60	5	40	60	10	5	25	15	5	45	30
Future Volume (vph)	35	60	5	40	60	10	5	25	15	5	45	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	2042	0	1804	0	0	1986	0	0	1913	0	0
Flt Permitted	0.983			0.982			0.985			0.997		
Satd. Flow (perm)	0	2042	0	1804	0	0	1986	0	0	1913	0	0
Link Speed (k/h)		40		40			40			40		
Link Distance (m)		63.5		196.9			136.5			121.9		
Travel Time (s)		5.7		17.7			12.3			11.0		
Confl. Peds. (#/hr)	12	11	11	12	6	12	3	3	3	3	3	6
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	9%
Adj. Flow (vph)	38	65	5	43	65	11	5	27	16	5	48	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	0	119	0	0	48	0	0	85	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	23.4%											
Analysis Period (min)	15											
ICU Level of Service A												

2: Hawkins Drive & Poppy Drive East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	60	5	40	60	10	5	25	15	5	45	30
Future Volume (Veh/h)	35	60	5	40	60	10	5	25	15	5	45	30
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.93	0.93	0.83	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	38	65	5	43	65	11	5	27	16	5	48	32
Pedestrians	6			3			11				12	
Lane Width (m)	4.5			3.6			4.5				4.5	
Walking Speed (m/s)	1.2			1.2			1.2				1.2	
Percent Blockage	1			0			1				1	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	375											
pX platoon unblocked												
VC, conflicting volume	88			81			373		328	82	344	326
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCU, unblocked vol	88			81			373		328	82	344	326
IC, single (s)	4.1			4.1			7.1		6.5	6.2	7.1	6.5
IC, 2 stage (s)	2.2			2.2			3.5		4.0	3.3	3.5	4.0
p0 queue free %	97			97			99		95	98	99	91
CM capacity (veh/h)	1501			1512			491		549	970	539	551
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	108	119	48	85								
Volume Left	38	43	5	5								
Volume Right	5	11	16	32								
cSH	1501	1512	633	650								
Volume to Capacity	0.03	0.03	0.08	0.13								
Queue Length 95th (m)	0.6	0.7	2.0	3.6								
Control Delay (s)	2.8	2.8	11.2	11.4								
Lane LOS	A	A	B	B								
Approach Delay (s)	2.8	2.8	11.2	11.4								
Approach LOS	B	B	B	B								
Intersection Summary												
Average Delay	5.9											
Intersection Capacity Utilization	23.4%											
Analysis Period (min)	15											
ICU Level of Service	A											

3: Poppy Drive East & Fanley Drive

12-13-2023

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	165	150	15	15	40
Future Volume (vph)	10	165	150	15	15	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	2084	1975	0	1671	0
Flt Permitted	0.997				0.987	
Satd. Flow (perm)	0	2084	1975	0	1671	0
Link Speed (k/h)	40	40	40	40	30	30
Link Distance (m)	220.5	90.5	55.2			
Travel Time (s)	19.8	8.1	6.6			
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	5%	0%	0%	0%
Adj. Flow (vph)	11	181	165	16	16	44
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	192	181	0	60	0
Sign Control	Free	Free	Free	Stop	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	26.9%					
Analysis Period (min)	15					
ICU Level of Service A						

3: Poppy Drive East & Farley Drive

12-13-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	165	150	15	15	40
Future Volume (Veh/h)	10	165	150	15	15	40
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	11	181	165	16	16	44
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (m)						
pX platoon unblocked						
VC conflicting volume						
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCU unblocked vol						
IC, single (s)						
IC, 2 stage (s)						
p0 queue free %						
CM capacity (veh/h)						
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	192	181	60			
Volume Left	11	0	16			
Volume Right	0	16	44			
cSH	1372	1700	766			
Volume to Capacity	0.01	0.11	0.08			
Queue Length 95th (m)	0.2	0.0	2.0			
Control Delay (s)	0.5	0.0	10.1			
Lane LOS	A	B	B			
Approach Delay (s)	0.5	0.0	10.1			
Approach LOS	B					
Intersection Summary						
Average Delay		1.6				
Intersection Capacity Utilization		26.5%				
Analysis Period (min)		15				
ICU Level of Service		A				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations											
Traffic Volume (vph)	35	20	45	95	25	105	75	720	100	85	815
Future Volume (vph)	35	20	45	95	25	105	75	720	100	85	815
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0
Taper Length (m)	7.5	0	0	7.5	0	0	7.5	0	0	7.5	0
Satd. Flow (prot)	0	1717	0	0	1843	0	2046	3490	0	1745	3552
Flt Permitted	0	0.768	0	0.829	0	0.263	0	0.263	0	0.269	0
Satd. Flow (perm)	0	1337	0	0	1557	0	564	3490	0	492	3552
Right Turn on Red		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	47	51		22		4				4	
Link Speed (k/h)	40	40		60		60				60	
Link Distance (m)	93.0	220.5		196.0		180.5				180.5	
Travel Time (s)	8.4	19.8		11.8		10.8				10.8	
Conf. Peds. (#/hr)	14	6	6	14	10	10	10	10	10	10	10
Conf. Bikes (#/hr)											
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	23%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	2	0	0	0	0	0	0
Adj. Flow (vph)	38	22	49	104	27	115	82	791	110	93	896
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	109	0	0	246	0	82	901	0	93	923
Turn Type	Perm	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	8	8	4	4	2	2	5	2	1	6	6
Permitted Phases	8	8	4	4	4	4	5	2	1	6	6
Detector Phase											
Switch Phase											
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	10.0	35.0	10.0	35.0	35.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0	34.0	10.0	46.0	10.0	46.0	46.0
Total Split (%)	37.8%	37.8%	37.8%	37.8%	37.8%	37.8%	11.1%	51.1%	11.1%	51.1%	51.1%
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0	28.0	7.0	40.0	7.0	40.0	40.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0
Lead/Lag							Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	12.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	3	3	5	3	3
Act Effct Green (s)	16.9	16.9	16.9	16.9	16.9	16.9	61.4	52.6	62.0	52.8	52.8
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.68	0.58	0.69	0.59	0.59
v/c Ratio	0.38	0.74	0.74	0.74	0.74	0.74	0.16	0.44	0.21	0.44	0.44
Control Delay	21.4	39.8	39.8	39.8	39.8	39.8	5.8	12.7	4.9	11.1	11.1

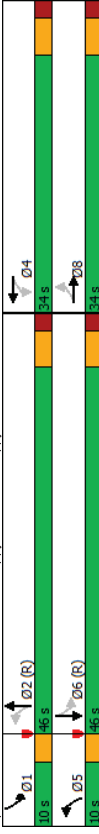
Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	39.8	39.8	5.8	12.7	4.9	11.1					
LOS	C	D	D	A	B	A	B					
Approach Delay	21.4	39.8										10.5
Approach LOS	C	D					B					B
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green											
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.74											
Intersection Signal Delay:	14.8											
Intersection Capacity Utilization:	62.7%											
Analysis Period (min):	15											

Splits and Phases: 4: Gordon Street & Poppy Drive West/Poppy Drive East



Phasings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases												
Permitted Phases	8	7	7	4	4	4	5	2	1	6	6	6
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	10.0	35.0	10.0	35.0	35.0	35.0
Total Split (%)	37.8%	37.8%	37.8%	37.8%	37.8%	37.8%	11.1%	51.1%	11.1%	51.1%	51.1%	51.1%
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0	28.0	7.0	40.0	7.0	40.0	40.0	40.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Lead/Lag							Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	3	3	5	3	3	3
90th %ile Green (s)	24.1	24.1	24.1	24.1	24.1	24.1	8.2	41.9	9.0	42.7	42.7	42.7
90th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Gap	Coord	Coord	Coord
70th %ile Green (s)	20.1	20.1	20.1	20.1	20.1	20.1	7.1	47.2	7.7	47.8	47.8	47.8
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Gap	Coord	Coord	Coord
50th %ile Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	7.0	51.0	7.0	51.0	51.0	51.0
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Coord	Min	Coord	Coord	Coord
30th %ile Green (s)	13.9	13.9	13.9	13.9	13.9	13.9	7.0	54.1	7.0	54.1	54.1	54.1
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Coord	Min	Coord	Coord	Coord
10th %ile Green (s)	9.4	9.4	9.4	9.4	9.4	9.4	0.0	68.6	0.0	68.6	68.6	68.6
10th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Skip	Coord	Skip	Coord	Coord	Coord
Intersection Summary												
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green											
Control Type:	Actuated-Coordinated											

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	109	246	82	901	93	923
Lane Group Flow (vph)	0.38	0.74	0.16	0.44	0.21	0.44
v/c Ratio	21.4	39.8	5.8	12.7	4.9	11.1
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	21.4	39.8	5.8	12.7	4.9	11.1
Total Delay	9.7	33.7	3.8	45.5	3.1	38.9
Queue Length 50th (m)	22.5	54.4	10.3	76.4	m6.2	48.8
Queue Length 95th (m)	69.0	196.5	172.0	70.0	0.21	156.5
Internal Link Dist (m)	448	519	504	2047	443	2087
Turn Bay Length (m)	0	0	0	0	0	0
Base Capacity (vph)	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0.24	0.47	0.16	0.44	0.21	0.44
Reduced v/c Ratio	Intersection Summary					
m	Volume for 95th percentile queue is metered by upstream signal.					

HCM Signalized Intersection Capacity Analysis

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

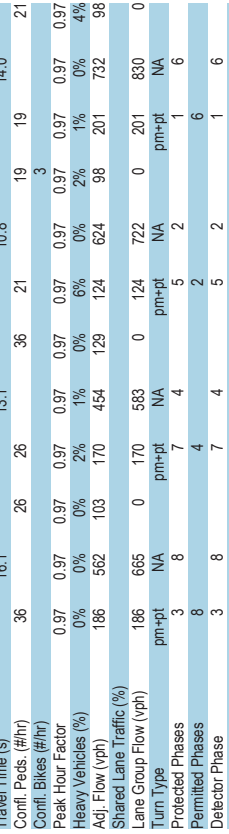
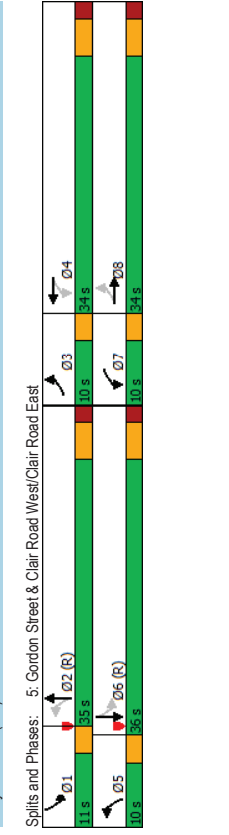
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	35	20	45	95	25	105	75	720	100	85	815	25	
Future Volume (vph)	35	20	45	95	25	105	75	720	100	85	815	25	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95	
Frbp. ped/bikes	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.94	0.94	0.94	1.00	0.98	1.00	0.98	1.00	0.95	1.00	1.00	0.95	
Flt Protected	0.98	0.98	0.98	1.00	0.98	1.00	0.98	1.00	0.95	1.00	1.00	0.95	
Satd. Flow (prot)	1712	1712	1712	1839	2044	3469	1743	3651	1743	3651	1743	3651	
Flt Permitted	0.77	0.77	0.77	0.83	0.83	0.26	1.00	0.27	1.00	0.27	1.00	0.27	
Satd. Flow (perm)	1338	1338	1338	1558	1558	566	3489	494	3551	494	3551	494	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Adj. Flow (vph)	38	22	49	104	27	115	82	791	110	93	896	27	
RTOR Reduction (vph)	0	38	0	0	41	0	0	9	0	0	2	0	
Lane Group Flow (vph)	0	71	0	0	205	0	82	892	0	93	921	0	
Confli. Peds. (#/hr)	14	6	6	6	14	10	10	10	10	10	10	10	
Confli. Bikes (#/hr)	23%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	
Heavy Vehicles (%)	0	0	0	2	2	2	0	0	0	0	0	0	
Bus Blockages (#/hr)	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	
Turn Type	8	8	8	4	4	4	5	2	2	1	6	6	
Protected Phases	8	8	8	4	4	4	5	2	2	1	6	6	
Permitted Phases	8	8	8	4	4	4	5	2	2	1	6	6	
Actuated Green, G (s)	16.9	16.9	16.9	16.9	16.9	16.9	57.9	52.0	56.3	52.2	52.2	52.2	
Effective Green, g (s)	16.9	16.9	16.9	16.9	16.9	16.9	57.9	52.0	56.3	52.2	52.2	52.2	
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.64	0.68	0.65	0.58	0.58	0.58	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	251	251	251	292	292	292	461	2015	404	2059	404	2059	
v/s Ratio Prot	0.05	0.05	0.05	0.13	0.13	0.13	0.01	0.26	0.02	0.26	0.13	0.26	
v/c Ratio Perm	0.28	0.28	0.28	0.70	0.18	0.44	0.10	0.44	0.23	0.45	0.13	0.45	
Uniform Delay, d1	31.3	31.3	31.3	34.2	6.3	10.8	6.3	10.8	6.3	10.7	6.3	10.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.87	0.80	0.87	
Incremental Delay, d2	0.6	0.6	0.6	7.4	0.2	0.7	0.2	0.7	0.2	0.5	0.2	0.5	
Delay (s)	32.0	32.0	32.0	41.6	6.5	11.5	6.5	11.5	5.3	9.9	5.3	9.9	
Level of Service	C	C	C	D	D	D	A	B	A	A	A	A	
Approach Delay (s)	32.0	32.0	32.0	41.6	6.5	11.5	6.5	11.5	5.3	9.9	5.3	9.9	
Approach LOS	C	C	C	D	D	D	B	B	A	A	A	A	
Intersection Summary	Intersection Summary												
HCM 2000 Control Delay	14.5											HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49											Sum of lost time (s)	15.0
Actuated Cycle Length (s)	62.7%											ICU Level of Service	B
Intersection Capacity Utilization	15											Analysis Period (min)	15
Analysis Period (min)	c											Critical Lane Group	

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	25.7	35.9		28.5	31.8		14.9	18.8		19.6	27.2	
LOS	C	D		C	C		B	B		B	C	
Approach Delay	33.7			31.0			18.3			25.7		
Approach LOS	C			C			B			C		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	180	545	100	165	440	125	120	605	95	195	710	95
Traffic Volume (vph)	180	545	100	165	440	125	120	605	95	195	710	95
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	70.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	0.0	163.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	7.5	3468	0	1711	3391	0	1646	3474	0	1728	3476	0
Satd. Flow (prot)	1745	0.274	0.216	0.216	0.216	0.250	0.250	0.250	0.250	0.250	0.250	0.250
Flt Permitted	496	3468	0	386	3391	0	378	3474	0	452	3476	0
Satd. Flow (perm)	24	60	42	60	60	21	60	60	21	60	60	21
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	186	665	0	170	583	0	124	722	0	201	830	0
Link Speed (k/h)	268.6	217.7	180.5	217.7	180.5	233.4	180.5	233.4	180.5	233.4	180.5	233.4
Link Distance (m)	16.1	26	26	13.1	36	21	10.8	19	19	14.0	21	21
Travel Time (s)	36	9.0	26	13.1	36	21	10.8	19	19	14.0	21	21
Confl. Peds. (#/hr)	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Confl. Bikes (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	0%	4%
Heavy Vehicles (%)	186	562	103	170	454	129	124	624	98	201	732	98
Adj. Flow (vph)	186	562	103	170	454	129	124	624	98	201	732	98
Shared Lane Traffic (%)	186	665	0	170	583	0	124	722	0	201	830	0
Lane Group Flow (vph)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Turn Type	3	8	7	4	5	2	1	6	6	1	6	6
Protected Phases	3	8	7	4	5	2	1	6	6	1	6	6
Permitted Phases	3	8	7	4	5	2	1	6	6	1	6	6
Detector Phase	3	8	7	4	5	2	1	6	6	1	6	6
Switch Phase	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Initial (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (s)	11.1%	37.8%	11.1%	37.8%	11.1%	38.9%	12.2%	40.0%	12.2%	40.0%	12.2%	40.0%
Total Split (%)	7.0	28.0	7.0	28.0	7.0	29.0	8.0	30.0	8.0	30.0	8.0	30.0
Maximum Green (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Yellow Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Last Time Adjust (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Total Lost Time (s)	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead-Lag Optimize?	None	Min	None	Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Vehicle Extension (s)	19.0	19.0	9.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Recall Mode	12	12	12	12	12	7	12	7	12	7	12	7
Flash Dont Walk (s)	34.3	22.3	33.9	22.1	42.5	31.3	45.2	32.7	45.2	32.7	45.2	32.7
Pedestrian Calls (#/hr)	0.38	0.25	0.38	0.25	0.47	0.35	0.50	0.36	0.50	0.36	0.50	0.36
Act Effect Green (s)	0.69	0.76	0.62	0.68	0.42	0.59	0.56	0.65	0.56	0.65	0.56	0.65
Actuated g/C Ratio	25.7	35.9	28.5	31.8	14.9	18.8	19.6	27.2	19.6	27.2	19.6	27.2
v/c Ratio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay												



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	7	4	2	6	1	6	
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	11.0	36.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	38.9%	12.2%	40.0%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	29.0	8.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	12	12	12	12	7	7	7	7
90th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	29.0	8.0	30.0
90th %ile Term Code	Max	Ped	Max	Ped	Max	Coord	Max	Coord
70th %ile Green (s)	8.2	24.9	8.2	24.9	10.1	27.8	11.1	28.8
70th %ile Term Code	Max	Gap	Max	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	11.7	22.0	11.3	21.6	9.1	27.2	11.5	29.6
50th %ile Term Code	Gap	Gap	Gap	Hold	Gap	Coord	Gap	Coord
30th %ile Green (s)	10.3	19.8	10.0	19.5	7.8	32.6	9.6	34.4
30th %ile Term Code	Gap	Gap	Gap	Gap	Hold	Gap	Coord	Coord
10th %ile Green (s)	8.1	16.6	7.8	16.3	7.0	40.1	7.5	40.6
10th %ile Term Code	Gap	Gap	Gap	Hold	Min	Coord	Gap	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	186	665	170	583	124	722	201	830
v/c Ratio	0.59	0.76	0.62	0.68	0.42	0.59	0.56	0.65
Control Delay	25.7	35.9	28.5	31.8	14.9	18.8	19.6	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	35.9	28.5	31.8	14.9	18.8	19.6	27.2
Queue Length 50th (m)	20.7	57.3	19.8	55.4	4.7	61.0	19.9	67.7
Queue Length 95th (m)	33.9	70.3	#34.1	48.3	16.4	25.7	35.0	89.2
Internal Link Dist (m)	244.6		193.7		156.5		209.4	
Turn Bay Length (m)	70.0	32.0	72.0	72.0	163.0	364	1285	
Base Capacity (vph)	314	1095	276	1083	294	1246	364	1285
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.61	0.62	0.54	0.42	0.58	0.55	0.65

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

5. Gordon Street & Clair Road West/Clair Road East

12-13-2023

6. Farley Drive & Clair Road East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	180	545	100	165	440	125	120	605	95	195	710	95
Future Volume (vph)	180	545	100	165	440	125	120	605	95	195	710	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Frbp. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98	1.00	0.97	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.98
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Sat'd Flow (prot)	1739	3467	1708	3390	1645	3473	1726	3477	1726	3477	1726	3477
Flt Permitted	0.27	1.00	0.22	1.00	0.22	1.00	0.22	1.00	0.25	1.00	0.25	1.00
Sat'd Flow (perm)	502	3467	388	3390	379	3473	454	3477	454	3477	454	3477
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	186	562	103	170	454	129	124	624	98	201	732	98
RTOR Reduction (vph)	0	18	0	32	0	0	14	0	0	0	11	0
Lane Group Flow (vph)	186	647	0	170	551	0	124	708	0	201	819	0
Conf. Peds. (#/hr)	36	26	26	36	21	36	21	19	19	19	19	21
Conf. Bikes (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	0%	4%
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	1	6	1	6	1	6
Permitted Phases	8	4	4	4	2	2	6	4	2	6	4	2
Actuated Green, G (s)	31.4	22.3	31.0	22.1	39.5	31.3	42.1	32.6	42.1	32.6	42.1	32.6
Effective Green, g (s)	31.4	22.3	31.0	22.1	39.5	31.3	42.1	32.6	42.1	32.6	42.1	32.6
Actuated g/C Ratio	0.35	0.25	0.34	0.25	0.44	0.35	0.47	0.36	0.47	0.36	0.47	0.36
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	300	859	264	832	281	1207	346	1259	346	1259	346	1259
v/s Ratio Prot	0.06	c0.19	c0.06	0.16	0.04	0.20	c0.06	c0.24	c0.06	c0.24	c0.06	c0.24
v/s Ratio Perm	0.15	0.16	0.16	0.16	0.15	0.15	0.21	0.21	0.21	0.21	0.21	0.21
v/c Ratio	0.62	0.75	0.64	0.66	0.44	0.59	0.58	0.65	0.58	0.65	0.58	0.65
Uniform Delay, d1	21.8	31.3	22.2	30.6	16.2	24.1	15.4	23.9	15.4	23.9	15.4	23.9
Progression Factor	1.00	1.00	1.07	1.00	0.86	0.69	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	3.8	4.9	1.8	1.0	1.9	2.5	2.6	2.5	2.6	2.5	2.6
Delay (s)	25.6	35.1	28.7	32.4	15.0	18.5	17.9	26.6	17.9	26.6	17.9	26.6
Level of Service	C	D	C	C	B	B	B	C	B	C	B	C
Approach Delay (s)	33.0	31.6	31.6	31.6	18.0	18.0	24.9	24.9	18.0	24.9	24.9	24.9
Approach LOS	C	C	C	C	B	B	C	C	B	C	C	C
Intersection Summary												
HCM 2000 Control Delay	26.6 HCM 2000 Level of Service C											
HCM 2000 Volume to Capacity ratio	0.68											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 18.0											
Intersection Capacity Utilization	83.0% ICU Level of Service E											
Analysis Period (min)	15											
c Critical Lane Group												

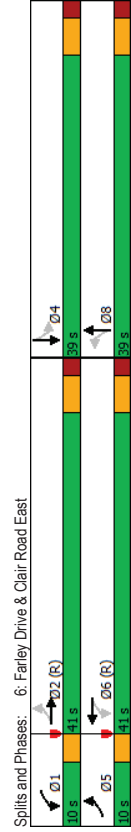
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	125	500	165	45	425	85	145	60	35	110	55	155
Future Volume (vph)	125	500	165	45	425	85	145	60	35	110	55	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Storage Length (m)	131.0	0.0	64.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	0	0	0	0
Taper Length (m)	7.5	3384	0	7.5	3343	0	1705	1754	0	7.5	0	1945
Sat'd Flow (prot)	1767	3384	0	1785	3343	0	1705	1754	0	1945	0	1945
Flt Permitted	0.390	0.370	0.442	0.370	0.442	0.442	0.370	0.442	0.370	0.442	0.370	0.442
Sat'd Flow (perm)	717	3384	0	692	3343	0	764	1754	0	1659	0	1659
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sat'd Flow (RTOR)	58	30	37	30	37	30	37	30	37	30	37	30
Link Speed (k/h)	60	60	60	60	60	60	60	60	60	60	60	60
Link Distance (m)	217.7	160.7	63.9	160.7	63.9	160.7	63.9	160.7	63.9	160.7	63.9	160.7
Travel Time (s)	13.1	9.6	7.7	9.6	7.7	9.6	7.7	9.6	7.7	9.6	7.7	9.6
Conf. Peds. (#/hr)	17	9	9	17	23	21	21	21	21	21	21	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	136	543	179	49	462	92	158	65	38	120	60	188
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	722	0	49	554	0	158	103	0	348	0	348
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6	8	8	4	4	8	8	4	4
Permitted Phases	2	6	6	6	6	6	8	8	6	8	6	6
Detector Phase	5	2	1	6	8	8	4	4	8	8	4	4
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	10.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	10.0	41.0	10.0	41.0	10.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	11.1%	45.6%	11.1%	45.6%	11.1%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%
Maximum Green (s)	7.0	35.0	7.0	35.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	8	8	8	8	8	8
Act Effct Green (s)	58.5	49.9	54.7	44.5	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9
Actuated g/C Ratio	0.65	0.55	0.61	0.49	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
v/c Ratio	0.24	0.38	0.10	0.33	0.83	0.23	0.78	0.78	0.78	0.78	0.78	0.78
Control Delay	5.0	9.5	5.4	11.5	63.4	17.2	37.5	37.5	37.5	37.5	37.5	37.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.0	9.5	5.4	11.5	63.4	17.2	37.5	37.5	37.5	37.5	37.5	37.5

6: Farley Drive & Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A	A	A	B	B	E	B	B	D	D	D
Approach Delay	8.8			11.0			45.1					37.5
Approach LOS	A			B			D			D		D

Intersection Summary
 Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection LOS: B
 Intersection Signal Delay: 18.8
 Intersection Capacity Utilization 70.6%
 Analysis Period (min) 15



Phasings

6: Farley Drive & Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	2	1	6	6	8	8	8	4	4	4
Permitted Phases	2	5	5	6	1	1	6	6	6	8	8	8
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	32.0	32.0	32.0	32.0	32.0	32.0
Minimum Split (s)	10.0	35.0	35.0	10.0	35.0	35.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	11.1%	45.6%	45.6%	11.1%	45.6%	45.6%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%
Maximum Green (s)	7.0	35.0	35.0	7.0	35.0	35.0	33.0	33.0	33.0	33.0	33.0	33.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Walk Time (s)	11.0	11.0	11.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	8	8	8	8	8	8
90th %ile Green (s)	11.5	35.9	35.9	8.0	32.4	31.1	31.1	31.1	31.1	31.1	31.1	31.1
90th %ile Term Code	Gap	Coord	Gap	Coord	Coord	Coord	Gap	Gap	Hold	Hold	Hold	Hold
70th %ile Green (s)	9.3	42.4	42.4	7.0	40.1	25.6	25.6	25.6	25.6	25.6	25.6	25.6
70th %ile Term Code	Gap	Coord	Coord	Min	Coord	Coord	Gap	Gap	Hold	Hold	Hold	Hold
50th %ile Green (s)	8.0	46.3	46.3	7.0	45.3	21.7	21.7	21.7	21.7	21.7	21.7	21.7
50th %ile Term Code	Gap	Coord	Coord	Min	Coord	Coord	Hold	Hold	Hold	Hold	Hold	Hold
30th %ile Green (s)	7.0	59.8	59.8	0.0	49.8	18.2	18.2	18.2	18.2	18.2	18.2	18.2
30th %ile Term Code	Min	Coord	Skip	Coord	Coord	Coord	Hold	Hold	Hold	Hold	Hold	Hold
10th %ile Green (s)	7.0	64.9	64.9	0.0	54.9	13.1	13.1	13.1	13.1	13.1	13.1	13.1
10th %ile Term Code	Min	Coord	Skip	Coord	Coord	Coord	Hold	Hold	Hold	Hold	Hold	Hold

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated

Queues
6: Farley Drive & Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	136	722	49	554	158	103	348
Lane Group Flow (vph)	0.24	0.38	0.10	0.33	0.83	0.23	0.78
v/c Ratio	5.0	9.5	5.4	11.5	63.4	17.2	37.5
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	5.0	9.5	5.4	11.5	63.4	17.2	37.5
Total Delay	m20	9.7	2.0	28.3	27.4	9.5	49.6
Queue Length 50th (m)	131.0	71.1	3.0	53.3	45.8	19.4	70.3
Queue Length 95th (m)	193.7	136.7	64.0	20.0	20.0	39.9	172.5
Internal Link Dist (m)	131.0	71.1	3.0	53.3	45.8	19.4	70.3
Turn Bay Length (m)	131.0	71.1	3.0	53.3	45.8	19.4	70.3
Base Capacity (vph)	565	1900	508	1687	287	666	645
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.38	0.10	0.33	0.83	0.23	0.78
Intersection Summary							
m Volume for 95th percentile queue is metered by upstream signal.							

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1	
Traffic Volume (vph)	125	500	165	45	425	85	145	60	35	110	55	155	
Future Volume (vph)	125	500	165	45	425	85	145	60	35	110	55	155	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
Total Lost time (s)	3.0	6.0	3.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	
Frbp. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.98	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.99	0.99	
Frt	0.95	1.00	0.96	1.00	0.98	1.00	0.95	1.00	0.94	1.00	0.93	0.98	
Flt Protected	1760	3383	1782	3343	1686	1763	1832	1932	1832	1932	1832	1932	
Flt Permitted	0.39	1.00	0.37	1.00	0.44	1.00	0.84	1.00	0.84	1.00	0.84	1.00	
Satd. Flow (perm)	723	3383	694	3343	784	1763	1660	1660	1660	1660	1660	1660	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	136	543	179	49	462	92	158	65	38	120	60	168	
RTOR Reduction (vph)	0	27	0	0	15	0	28	0	0	45	0	0	
Lane Group Flow (vph)	136	695	0	49	539	0	158	75	0	0	303	0	
Conf. Peds. (#/hr)	17	9	9	9	17	23	21	21	21	21	21	23	
Heavy Vehicles (%)	1%	1%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	
Turn Type	pm-pt	NA	NA	pm-pt	NA	NA	NA	NA	NA	NA	NA	NA	
Protected Phases	5	2	1	6	6	8	8	8	8	8	8	4	
Permitted Phases	2	6	6	6	6	8	8	8	8	8	8	4	
Actuated Green, G (s)	56.1	48.7	48.9	44.5	48.9	44.5	21.9	21.9	21.9	21.9	21.9	21.9	
Effective Green, g (s)	56.1	48.7	48.9	44.5	48.9	44.5	21.9	21.9	21.9	21.9	21.9	21.9	
Actuated g/C Ratio	0.62	0.54	0.54	0.49	0.54	0.49	0.24	0.24	0.24	0.24	0.24	0.24	
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	549	1830	430	1652	430	1652	190	426	403	403	403	403	
v/s Ratio Prot	c0.02	c0.21	0.01	0.16	0.01	0.16	0.04	0.04	0.04	0.04	0.04	0.04	
v/s Ratio Perm	0.13	0.06	0.06	0.20	0.06	0.20	0.18	0.18	0.18	0.18	0.18	0.18	
v/c Ratio	0.25	0.38	0.11	0.33	0.11	0.33	0.83	0.18	0.18	0.18	0.18	0.18	
Uniform Delay, d1	7.1	11.9	9.7	13.7	9.7	13.7	32.3	26.9	31.5	31.5	31.5	31.5	
Progression Factor	0.57	0.71	0.66	0.74	0.66	0.74	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.5	0.1	0.5	0.1	0.5	25.5	0.2	7.8	7.8	7.8	7.8	
Delay (s)	4.2	8.9	6.4	10.6	6.4	10.6	57.8	27.1	39.3	39.3	39.3	39.3	
Level of Service	A	A	A	B	A	B	E	C	D	D	D	D	
Approach Delay (s)	8.2	10.3	10.3	10.3	10.3	10.3	45.7	39.3	39.3	39.3	39.3	39.3	
Approach LOS	A	A	A	B	A	B	D	D	D	D	D	D	
Intersection Summary													
HCM 2000 Control Delay	18.8											HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51												
Actuated Cycle Length (s)	90.0											Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.6%											ICU Level of Service	C
Analysis Period (min)	15												
c Critical Lane Group													

Lanes, Volumes, Timings
7. Farley Drive & Internal E-W Street

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	25	10	25	20	100	0	45	15	110	20	125
Future Volume (vph)	105	25	10	25	20	100	0	45	15	110	20	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1795	0	0	1689	0	0	1817	0	0	1969	0
Flt Permitted		0.964			0.991						0.979	
Satd. Flow (perm)	0	1795	0	0	1689	0	0	1817	0	0	1969	0
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		57.2			91.1			54.0			63.9	
Travel Time (s)		6.9			10.9			6.5			7.7	
Confl. Peds. (#/hr)	6	6	6	6	6	6	26	6	22	22	22	26
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	121	29	11	29	23	115	0	52	17	126	23	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	161	0	0	167	0	0	69	0	0	293	0
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	43.8%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	105	25	10	25	20	100	0	45	15	110	20	125
Future Volume (vph)	105	25	10	25	20	100	0	45	15	110	20	125
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	121	29	11	29	23	115	0	52	17	126	23	144
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	161	167	69	293								
Volume Left (vph)	121	29	0	126								
Volume Right (vph)	11	115	17	144								
Head (s)	0.11	-0.38	-0.15	-0.21								
Departure Headway (s)	5.1	4.6	5.0	4.6								
Degree Utilization, x	0.23	0.22	0.10	0.37								
Capacity (veh/h)	648	710	654	734								
Control Delay (s)	9.6	8.9	8.5	10.3								
Approach Delay (s)	9.6	8.9	8.5	10.3								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay	9.6											
Level of Service	A											
Intersection Capacity Utilization	43.8%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	40	15	5	25	35	25
Future Volume (vph)	40	15	5	25	35	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1748	0	0	1864	1776	0
Flt Permitted	0.965			0.992		
Satd. Flow (perm)	1748	0	0	1864	1776	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	31.6			55.2	54.0	
Travel Time (s)	3.8			6.6	6.5	
Confl. Peds. (#/hr)	5	49	43			43
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	49	18	6	30	43	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	0	0	36	73	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.5%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	40	15	5	25	35	25
Future Volume (vph)	40	15	5	25	35	25
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	49	18	6	30	43	30
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	67	36	73			
Volume Left (vph)	49	6	0			
Volume Right (vph)	18	0	30			
Head (s)	-0.01	0.03	-0.25			
Departure Headway (s)	4.1	4.1	3.8			
Degree Utilization, x	0.08	0.04	0.08			
Capacity (veh/h)	860	840	917			
Control Delay (s)	7.4	7.3	7.2			
Approach Delay (s)	7.4	7.3	7.2			
Approach LOS	A	A	A			
Intersection Summary						
Delay	7.3					
Level of Service	A					
Intersection Capacity Utilization	28.5%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
9: Hawkins Drive & Internal E-W Street

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	55	0	5	70	80	65
Traffic Volume (vph)	55	0	5	70	80	65
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.1	4.1	4.5	4.5	4.5	4.5
Lane Width (m)	1905	0	0	2084	1965	0
Satd. Flow (prot)	0.950			0.997		
Flt Permitted	1905	0	0	2084	1965	0
Satd. Flow (perm)	30			40	40	
Link Speed (kph)	71.6			121.9	64.6	
Link Distance (m)	8.6			11.0	5.8	
Travel Time (s)	0.81	0.81	0.81	0.81	0.81	0.81
Peak Hour Factor	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	68	0	6	86	99	80
Adj. Flow (vph)	68	0	6	86	99	80
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	92	179	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	18.2%					
ICU Level of Service	A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
9: Hawkins Drive & Internal E-W Street

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations	55	0	5	70	80	65
Traffic Volume (veh/h)	55	0	5	70	80	65
Future Volume (Veh/h)	55	0	5	70	80	65
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	68	0	6	86	99	80
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)				None	None	
Median type						
Median storage (veh)						
Upstream signal (m)					65	
pX, platoon unblocked						
vC, conflicting volume	237	139	179			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	237	139	179			
iC, single (s)	6.4	6.2	4.1			
iC, 2 stage (s)						
p0 queue free %	3.5	3.3	2.2			
p0 queue free %	91	100	100			
qM capacity (veh/h)	752	915	1409			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	68	92	179			
Volume Left	68	6	0			
Volume Right	0	0	80			
vSH	752	1409	1700			
Volume to Capacity	0.09	0.00	0.11			
Queue Length 95th (m)	2.4	0.1	0.0			
Control Delay (s)	10.3	0.5	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.3	0.5	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay	2.2					
Intersection Capacity Utilization	18.2%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	100	20	5	95	0	20	0	15	0	0	60
Future Volume (vph)	60	100	20	5	95	0	20	0	15	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	4.5	4.5	4.5	4.5	3.6	3.5	3.6	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	2002	0	0	2026	0	1702	0	0	1593	0	0
Flt Permitted	0.984			0.997			0.972					
Satd. Flow (perm)	0	2002	0	0	2026	0	1702	0	0	1593	0	0
Link Speed (k/h)	40			40			30			20		
Link Distance (m)	90.5			63.5			67.2			112.0		
Travel Time (s)	8.1			5.7			8.1			20.2		
Confl. Peds. (#/hr)			1				3			6		
Peak Hour Factor	0.92	0.87	0.87	0.87	0.87	0.92	0.87	0.92	0.87	0.92	0.92	0.92
Heavy Vehicles (%)	2%	1%	0%	0%	3%	2%	4%	2%	0%	2%	2%	2%
Adj. Flow (vph)	65	115	23	6	109	0	23	0	17	0	0	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	203	0	0	115	0	0	40	0	0	0	65
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary	Area Type	Other
Control Type	Unsignalized	
Intersection Capacity Utilization	32.9%	ICU Level of Service A
Analysis Period (min)	15	

HCM Unsignalized Intersection Capacity Analysis

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	100	20	5	95	0	20	0	15	0	0	60
Future Volume (Veh/h)	60	100	20	5	95	0	20	0	15	0	0	60
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.87	0.87	0.87	0.87	0.92	0.87	0.92	0.87	0.92	0.92	0.92
Hourly flow rate (vph)	65	115	23	6	109	0	23	0	17	0	0	65
Pedestrians		3		6			1					
Lane Width (m)	4.5			4.5			3.6					
Walking Speed (m/s)	1.2			1.2			1.2					
Percent Blockage	0			1			0					
Right turn flare (veh)												
Median type	None			None			None					
Median storage (veh)												
Upstream signal (m)	311											
pX platoon unblocked												
vC, conflicting volume	109			139			446		378		400	112
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vC3, unblocked vol	109			139			446		378		400	112
IC, single (s)	4.1			4.1			7.1		6.5		7.1	6.5
IC, 2 stage (s)	2.2			2.2			3.5		4.0		3.5	4.0
p0 queue free %	96			100			95		100		98	100
qM capacity (veh/h)	1481			1456			463		527		514	519
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	203	115	40	65								
Volume Left	65	6	23	0								
Volume Right	23	0	17	65								
vSH	1481	1456	586	938								
Volume to Capacity	0.04	0.00	0.07	0.07								
Queue Length 95th (m)	1.1	0.1	1.8	1.8								
Control Delay (s)	2.7	0.4	11.6	9.1								
Lane LOS	A	A	B	A								
Approach Delay (s)	2.7	0.4	11.6	9.1								
Approach LOS	B	A	B	A								
Intersection Summary												
Average Delay				3.9								
Intersection Capacity Utilization				32.9%								A
Analysis Period (min)				15								

Lanes, Volumes, Timings
11: Internal N-S Street & Internal E-W Street

12-13-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (kph)	30			30	30	
Link Distance (m)	91.1			71.6	112.0	
Travel Time (s)	10.9			8.6	13.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 0.0%	ICU Level of Service A					
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
11: Internal N-S Street & Internal E-W Street

12-13-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (kph)	30			30	30	
Link Distance (m)	91.1			71.6	112.0	
Travel Time (s)	10.9			8.6	13.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 0.0%	ICU Level of Service A					
Analysis Period (min) 15						

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

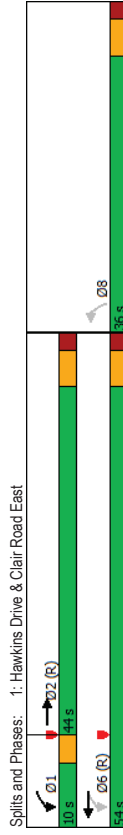
12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Traffic Volume (vph)	510	15	80	995	35	95
Future Volume (vph)	510	15	80	995	35	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	4.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)		7.5		34.33	17.46	0
Satd. Flow (prot)	3362	0	1785	3433	1746	0
Flt Permitted			0.393		0.987	
Satd. Flow (perm)	3362	0	736	3433	1746	0
Right Turn on Red	Yes					Yes
Satd. Flow (RTOR)	4					110
Link Speed (k/h)	60			60	50	
Link Distance (m)	1607			130.4	64.6	
Travel Time (s)	9.6			7.8	4.7	
Confl. Peds. (#/hr)		5				
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	14%	0%	4%	8%	6%
Bus Blockages (#/hr)	2	0	0	0	0	0
Adj. Flow (vph)	593	17	93	1157	41	110
Shared Lane Traffic (%)						
Lane Group Flow (vph)	610	0	93	1157	151	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2		1	6		
Permitted Phases	2	6	1	6	8	
Detector Phase						
Switch Phase						
Minimum Initial (s)	10.0	7.0	10.0	10.0	7.0	
Minimum Split (s)	35.0	10.0	35.0	35.0	35.0	
Total Split (s)	44.0	10.0	54.0	36.0		
Total Split (%)	48.9%	11.1%	60.0%	40.0%		
Maximum Green (s)	38.0	7.0	48.0	30.0		
Yellow Time (s)	4.0	3.0	4.0	4.0		
All-Red Time (s)	2.0	0.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.0	3.0	6.0	6.0		
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	None	C-Min	None		
Walk Time (s)	11.0	11.0	8.0			
Flesh Dont Walk (s)	18.0	18.0	18.0	18.0		
Pedestrian Calls (#/hr)	7		7	12		
Act Effect Green (s)	58.1	69.5	66.5	11.5		
Actuated g/C Ratio	0.65	0.77	0.74	0.13		
v/c Ratio	0.28	0.14	0.46	0.47		
Control Delay	4.4	4.3	6.5	17.6		
Queue Delay	0.0	0.0	0.0	0.0		

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	4.4	4.3	6.5	17.6		
LOS	A	A	A	B		
Approach Delay	4.4		6.3	17.6		
Approach LOS	A		A	B		
Intersection Summary						
Area Type:	Other					
Cycle Length:	90					
Actuated Cycle Length:	90					
Offset:	2 (2%), Referenced to phase 2EBT and 6:WBT, Start of Green					
Natural Cycle:	80					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.47					
Intersection Signal Delay:	6.6					
Intersection LOS:	A					
Intersection Capacity Utilization:	51.1%					
Analysis Period (min):	15					



Phasings
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	WBL	WBT	NBL
Lane Group	2	1	6	
Protected Phases				
Permitted Phases	6	8		
Minimum Initial (s)	10.0	7.0	10.0	7.0
Minimum Split (s)	35.0	10.0	35.0	35.0
Total Split (s)	44.0	10.0	54.0	36.0
Total Split (%)	48.9%	11.1%	60.0%	40.0%
Maximum Green (s)	38.0	7.0	48.0	30.0
Yellow Time (s)	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	0.0	2.0	2.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	C-Min	None	C-Min	None
Walk Time (s)	11.0		11.0	8.0
Flash Dont Walk (s)	18.0		18.0	18.0
Pedestrian Calls (#/hr)	7		7	12
90th %ile Green (s)	39.8	9.2	52.0	26.0
90th %ile Term Code	Coord	Gap	Coord	Ped
70th %ile Green (s)	58.1	7.0	68.1	9.9
70th %ile Term Code	Coord	Min	Coord	Gap
50th %ile Green (s)	60.4	7.0	70.4	7.6
50th %ile Term Code	Coord	Min	Coord	Gap
30th %ile Green (s)	61.0	7.0	71.0	7.0
30th %ile Term Code	Coord	Min	Coord	Min
10th %ile Green (s)	71.0	0.0	71.0	7.0
10th %ile Term Code	Coord	Skip	Coord	Min

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBTL - Start of Green
Control Type: Actuated-Coordinated

Queues
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	WBL	WBT	NBL
Lane Group	610	93	1157	151
Lane Group Flow (vph)	0.28	0.14	0.46	0.47
v/c Ratio	4.4	4.3	6.5	17.6
Control Delay	0.0	0.0	0.0	0.0
Queue Delay	4.4	4.3	6.5	17.6
Total Delay	4.4	4.3	6.5	17.6
Queue Length 50th (m)	8.5	2.3	27.7	6.5
Queue Length 95th (m)	18.8	11.8	78.3	18.1
Internal Link Dist (m)	136.7		106.4	40.6
Turn Bay Length (m)		25.0		
Base Capacity (vph)	2170	655	2536	655
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	8	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.14	0.46	0.23

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: Hawkins Drive & Clair Road East

12-12-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←↑	←↑	←↑	←↑	←↑	←↑
Traffic Volume (vph)	510	15	80	995	35	95
Future Volume (vph)	510	15	80	995	35	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Total Lost time (s)	6.0	3.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	0.90	1.00
Flt Protected	1.00	0.95	1.00	0.99		
Satd. Flow (prot)	3362	1783	3433	1745		
Flt Permitted	1.00	0.39	1.00	0.99		
Satd. Flow (perm)	3362	737	3433	1745		
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	593	17	93	1157	41	110
RTOR Reduction (vph)	1	0	0	0	96	0
Lane Group Flow (vph)	609	0	93	1157	55	0
Confl. Peds. (#/hr)	5	5				
Heavy Vehicles (%)	5%	14%	0%	4%	8%	6%
Bus Blockages (#/hr)	2	0	0	0	0	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2	1	6			
Permitted Phases		6	8			
Actuated Green, G (s)	57.5	66.5	66.5	11.5		
Effective Green, g (s)	57.5	66.5	66.5	11.5		
Actuated g/C Ratio	0.64	0.74	0.74	0.13		
Clearance Time (s)	6.0	3.0	6.0	6.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	2147	614	2536	222		
v/s Ratio Prot	0.18	0.01	c0.34			
v/s Ratio Perm		0.10	c0.03			
v/c Ratio	0.28	0.15	0.46	0.25		
Uniform Delay, d1	7.2	3.3	4.6	35.4		
Progression Factor	0.46	1.00	1.00	1.17		
Incremental Delay, d2	0.3	0.1	0.6	0.6		
Delay (s)	3.7	3.5	5.2	41.8		
Level of Service	A	A	A	D		
Approach Delay (s)	3.7	5.1	41.8			
Approach LOS	A	A	A	D		
Intersection Summary						
HCM 2000 Control Delay	7.4 HCM 2000 Level of Service A					
HCM 2000 Volume to Capacity ratio	0.44					
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0					
Intersection Capacity Utilization	51.1% ICU Level of Service A					
Analysis Period (min)	15					
c Critical Lane Group						

Lanes, Volumes, Timings
2: Hawkins Drive & Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	60	65	0	40	80	10	10	50	40	5	40	35
Future Volume (vph)	60	65	0	40	80	10	10	50	40	5	40	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	1882	0	0	1807	0	0	1967	0	0	1804	0
Flt Permitted	0	0.977	0	0	0.985	0	0	0.995	0	0	0.997	0
Satd. Flow (perm)	0	1882	0	0	1807	0	0	1967	0	0	1804	0
Link Speed (k/h)		40		40		40		40			40	
Link Distance (m)		63.5		196.8		136.5		121.9			121.9	
Travel Time (s)		5.7		17.7		12.3		11.0			11.0	
Confl. Peds. (#/hr)	24	15	15	24	15	17	17	17	17	17	17	15
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	9%	8%	0%	0%	4%	0%	0%	0%	0%	0%	0%	20%
Adj. Flow (vph)	76	82	0	51	101	13	63	51	6	6	51	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	158	0	0	165	0	0	127	0	0	101	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	29.4%											
Analysis Period (min)	15											
ICU Level of Service A												

2. Hawkins Drive & Poppy Drive East

12-12-2023

3. Poppy Drive East & Fanley Drive

12-12-2023

LCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	60	65	0	40	80	10	10	50	40	5	40	35
Traffic Volume (veh/h)	60	65	0	40	80	10	10	50	40	5	40	35
Future Volume (Veh/h)	60	65	0	40	80	10	10	50	40	5	40	35
Sign Control	Free											
Grade	0%											
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	76	82	0	51	101	13	13	63	51	6	51	44
Pedestrians	15											
Lane Width (m)	4.5											
Walking Speed (m/s)	1.2											
Percent Blockage	2											
Right turn flare (veh)	1											
Median type	None											
Median storage (veh)	None											
Upstream signal (m)	375											
pX platoon unblocked	138											
VC, conflicting volume	97											
VC1, stage 1 conf vol	543											
VC2, stage 2 conf vol	489											
VCU, unblocked vol	114											
IC, single (s)	138											
IC, 2 stage (s)	4.2											
p0 queue free %	2.2											
CM capacity (veh/h)	94											
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	158	165	127	101								
Volume Left	76	51	13	6								
Volume Right	0	13	51	44								
cSH	1369	1485	523	526								
Volume to Capacity	0.06	0.03	0.24	0.19								
Queue Length 95th (m)	1.4	0.9	7.6	5.6								
Control Delay (s)	4.0	2.5	14.1	13.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	4.0	2.5	14.1	13.5								
Approach LOS	B	B	B	B								
Intersection Summary												
Average Delay	7.6											
Intersection Capacity Utilization	29.4%											
Analysis Period (min)	15											
ICU Level of Service	A											

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	
Lane Configurations	10	110	140	10	10	10	10	10	10	10	10	
Traffic Volume (vph)	10	110	140	10	10	10	10	10	10	10	10	
Future Volume (vph)	10	110	140	10	10	10	10	10	10	10	10	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (m)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Satd. Flow (prot)	0	1927	1961	0	1547	0	0	0	0	0	0	
Flt Permitted	0	0.996	0	0	0.976	0	0	0	0	0	0	
Satd. Flow (perm)	0	1927	1961	0	1547	0	0	0	0	0	0	
Link Speed (k/h)	40	40	40	40	40	40	40	40	40	40	40	
Link Distance (m)	220.5	90.5	55.2	55.2	90.5	220.5	55.2	55.2	90.5	220.5	55.2	
Travel Time (s)	19.8	8.1	6.6	6.6	8.1	19.8	6.6	6.6	8.1	19.8	6.6	
Confl. Peds. (#/hr)	8	8	8	8	8	8	8	8	8	8	8	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Heavy Vehicles (%)	30%	6%	0%	6%	0%	6%	0%	6%	0%	6%	0%	
Adj. Flow (vph)	11	121	154	11	11	11	11	11	11	11	11	
Shared Lane Traffic (%)	0											
Lane Group Flow (vph)	0	132	165	0	22	0	0	0	0	22	0	
Sign Control	Free											
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	24.1%											
Analysis Period (min)	15											
ICU Level of Service	A											

3: Poppy Drive East & Farley Drive

12-12-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	110	140	10	10	10
Future Volume (Veh/h)	10	110	140	10	10	10
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	11	121	154	11	11	11
Pedestrians					8	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)			None	None		
Median type						
Median storage (veh)						
Upstream signal (m)		220				
pX platoon unblocked						
vC, conflicting volume	173				310	168
vC1, stage 1 conf vol						
vC2, stage 2 conf vol	173				310	168
vCn, unblocked vol	4.4				6.5	6.3
IC, single (s)						
IC, 2 stage (s)						
p0 queue free %	2.5				3.6	3.4
IF (s)	99				98	99
CM capacity (veh/h)	1243				657	846
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	132	165	22			
Volume Left	11	0	11			
Volume Right	0	11	11			
cSH	1243	1700	740			
Volume to Capacity	0.01	0.10	0.03			
Queue Length 95th (m)	0.2	0.0	0.7			
Control Delay (s)	0.7	0.0	10.0			
Lane LOS	A		B			
Approach Delay (s)	0.7	0.0	10.0			
Approach LOS			B			
Intersection Summary						
Average Delay		1.0				
Intersection Capacity Utilization		24.1%				A
Analysis Period (min)		15				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations											
Traffic Volume (vph)	45	15	80	55	20	85	165	1175	95	25	700
Future Volume (vph)	45	15	80	55	20	85	165	1175	95	25	700
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0
Taper Length (m)	7.5		7.5		7.5		7.5		7.5		7.5
Satd. Flow (prot)	0	1443	0	0	1721	0	1894	3271	0	1678	3292
Flt Permitted		0.781			0.798		0.296			0.174	
Satd. Flow (perm)	0	1144	0	0	1396	0	589	3271	0	307	3292
Right Turn on Red		Yes		Yes		Yes		Yes		Yes	
Satd. Flow (RTOR)	72		62		62		13			18	
Link Speed (k/h)	40		40		40		60			60	
Link Distance (m)	93.0		220.5		220.5		196.0			180.5	
Travel Time (s)	8.4		19.8		19.8		11.8			10.8	
Conf. Peds. (#/hr)	4		2		2		3			8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	75%	22%	0%	0%	50%	5%	8%	7%	16%	4%	5%
Bus Blockages (#/hr)	0	0	0	2	2	0	0	0	0	0	0
Adj. Flow (vph)	47	16	83	57	21	89	172	1224	99	26	729
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	146	0	0	167	0	172	1323	0	26	812
Turn Type	Perm	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases		8		4	4		5	2		1	6
Permitted Phases	8	8	4	4	4	2	2	2	6	6	6
Detector Phase	8	8	4	4	4	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	35.0	35.0	30.0	35.0	35.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0	30.0	49.0	49.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	55.6%	55.6%	33.3%	54.4%	54.4%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	8.0	44.0	8.0	7.0	43.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag
Lead-Lag Optimize?							Yes	Yes		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	12.0
Pedestrian Calls (#/hr)	1	1	1	1	1	1	3	3	1	3	3
Act Effct Green (s)	13.3	13.3	13.3	13.3	13.3	13.3	67.0	67.0	13.3	64.1	54.1
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15	0.15	0.74	0.67	0.71	0.60	0.60
v/c Ratio	0.63	0.63	0.64	0.64	0.64	0.64	0.31	0.60	0.08	0.41	0.41
Control Delay	30.4	30.4	32.8	32.8	32.8	32.8	5.6	11.9	4.3	10.6	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	30.4	32.8	32.8	5.6	11.9		5.6	11.9		4.3	10.6	
LOS	C	C	C	A	B		A	B		A	B	
Approach Delay	30.4	32.8	32.8		11.2						10.4	
Approach LOS	C	C	C		B						B	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 13.4

Intersection LOS: B

Intersection Capacity Utilization 68.4%

Analysis Period (min) 15

Splits and Phases: 4: Gordon Street & Poppy Drive West/Poppy Drive East



Phasings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	8	8	8	4	4	4	5	2	1	6	6	
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	7.0	10.0	
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	10.0	35.0	10.0	35.0	35.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	11.0	50.0	10.0	49.0	49.0	
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	12.2%	55.6%	11.1%	54.4%	54.4%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	8.0	44.0	7.0	43.0	43.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	
Lead/Lag				Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min	
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	17.0	17.0	17.0	
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	12.0	12.0	12.0	
Pedestrian Calls (#/hr)	1	1	1	1	1	1	3	3	3	3	3	
90th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	8.0	44.0	7.0	43.0	43.0	
90th %ile Term Code	Ped	Ped	Ped	Ped	Ped	Ped	Max	Coord	Max	Coord	Coord	
70th %ile Green (s)	14.5	14.5	14.5	14.5	14.5	14.5	8.5	53.5	7.0	52.0	52.0	
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Min	Coord	Coord	
50th %ile Green (s)	11.9	11.9	11.9	11.9	11.9	11.9	7.5	66.1	0.0	55.6	55.6	
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Skip	Coord	Coord	
30th %ile Green (s)	9.2	9.2	9.2	9.2	9.2	9.2	7.0	68.8	0.0	58.8	58.8	
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Coord	Skip	Coord	Coord	
10th %ile Green (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	71.0	0.0	61.0	61.0	
10th %ile Term Code	Min	Min	Min	Min	Min	Min	Min	Coord	Skip	Coord	Coord	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	146	167	172	1323	26	812
Lane Group Flow (vph)	0.63	0.64	0.31	0.60	0.08	0.41
v/c Ratio	30.4	32.8	5.6	11.9	4.3	10.6
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	30.4	32.8	5.6	11.9	4.3	10.6
Total Delay	12.7	18.2	6.3	46.0	1.0	44.1
Queue Length 50th (m)	28.2	33.6	19.5	133.3	m1.8	m31.7
Queue Length 95th (m)	69.0	196.5	172.0			156.5
Internal Link Dist (m)			91.0		70.0	
Turn Bay Length (m)						
Base Capacity (vph)	357	417	555	2209	325	1985
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.40	0.31	0.60	0.08	0.41
Intersection Summary						
m	Volume for 95th percentile queue is metered by upstream signal.					

HCM Signalized Intersection Capacity Analysis

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

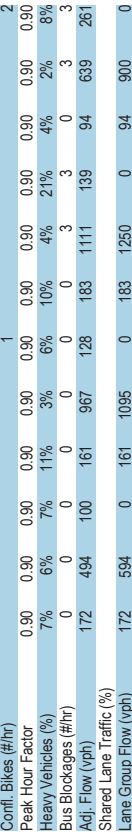
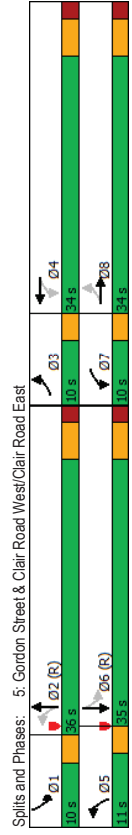
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	15	80	55	20	85	165	1175	95	25	700	80
Future Volume (vph)	45	15	80	55	20	85	165	1175	95	25	700	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.99	0.99	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.92	0.92	0.93	0.93	0.93	1.00	0.99	1.00	0.98	1.00	0.98	1.00
Flt Protected	1442	1442	1720	1720	1894	3270	1677	3291				
Satd. Flow (prot)	0.78	0.78	0.80	0.80	0.80	0.30	1.00	0.17	1.00			
Flt Permitted	1144	1144	1397	1397	590	3270	306	3291				
Satd. Flow (perm)	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Peak-hour factor, PHF	47	16	83	57	21	89	172	1224	99	26	729	83
Adj. Flow (vph)	0	61	0	0	53	0	4	0	0	0	7	0
RTOR Reduction (vph)	0	85	0	0	114	0	172	1319	0	26	805	0
Lane Group Flow (vph)	4	2	2	2	4	3	8	8	8	8	8	8
Conf. Peds. (#/hr)	75%	22%	0%	0%	50%	5%	8%	7%	16%	4%	5%	20%
Heavy Vehicles (%)	0	0	0	2	2	0	0	0	0	0	0	0
Bus Blockages (#/hr)	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	NA	pm+pt	NA	NA
Turn Type	8	8	4	4	4	5	2	1	6			
Protected Phases												
Permitted Phases	8	8	4	4	4	2	2	6				
Actuated Green, G (s)	13.3	13.3	13.3	13.3	64.7	58.9	56.9	54.1				
Effective Green, g (s)	13.3	13.3	13.3	64.7	58.9	56.9	54.1					
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.72	0.65	0.63	0.60				
Clearance Time (s)	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	169	169	206	206	534	2140	236	1978				
v/s Ratio Prot	0.07	0.07	0.08	0.08	0.20	0.40	0.00	0.24				
v/s Ratio Perm	0.50	0.55	0.55	0.32	0.62	0.11	0.41					
v/c Ratio	35.3	35.6	4.4	9.0	6.6	9.5						
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	0.89	0.96					
Progression Factor	2.3	3.2	0.4	1.3	0.1	0.4						
Incremental Delay, d2	37.6	38.8	4.8	10.3	6.1	9.5						
Delay (s)	D	D	A	B	A	A						
Level of Service	D	D	A	B	A	A						
Approach Delay (s)	37.6	38.8	4.8	10.3	6.1	9.4						
Approach LOS	D	D	A	B	A	A						
Intersection Summary												
HCM 2000 Control Delay	13.0 HCM 2000 Level of Service B											
HCM 2000 Volume to Capacity ratio	0.60											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0											
Intersection Capacity Utilization	68.4% ICU Level of Service C											
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	27.4	26.0	70.3	50.1	70.4	19.7	33.3				
LOS	D	C	C	E	D	E	B	C				
Approach Delay	31.9			64.6			67.8			32.0		
Approach LOS	C			E			E			C		
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset: 0 (0%):	Referenced to phase 2/NBTL and 6/SBTL, Start of Green, Master Intersection											
Natural Cycle:	100											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	1.06											
Intersection Signal Delay:	52.7											
Intersection Capacity Utilization:	91.0%											
Analysis Period (min):	15											

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	155	445	90	145	870	115	165	1000	125	85	575	235
Traffic Volume (vph)	155	445	90	145	870	115	165	1000	125	85	575	235
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	7.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	7.5	3260	0	1572	3375	0	1586	3283	0	1678	3247	0
Satd. Flow (prot)	0.143	0.320	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133
Flt Permitted	245	3260	0	525	3375	0	222	3283	0	243	3247	0
Satd. Flow (perm)	245	3260	0	525	3375	0	222	3283	0	243	3247	0
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	27	17	17	17	17	17	16	16	16	16	16	16
Link Speed (k/h)	60	60	60	60	60	60	60	60	60	60	60	60
Link Distance (m)	268.6	217.7	217.7	217.7	217.7	217.7	180.5	180.5	180.5	180.5	180.5	180.5
Travel Time (s)	16.1	22	22	22	22	22	31	12	10.8	21	21	12
Confl. Peds. (#/hr)	31	22	22	22	22	22	31	12	10.8	21	21	12
Confl. Bikes (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	6%	7%	11%	3%	6%	10%	4%	21%	4%	2%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	3	0	3
Adj. Flow (vph)	172	494	100	161	967	128	183	1111	139	94	639	261
Shared Lane Traffic (%)	172	494	100	161	967	128	183	1111	139	94	639	261
Lane Group Flow (vph)	172	594	0	161	1095	0	183	1250	0	94	900	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	1	6	6	1	6	6
Permitted Phases	8	4	4	2	2	2	2	2	2	2	2	2
Detector Phase	3	8	7	4	5	2	1	6	6	1	6	6
Switch Phase	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Initial (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Minimum Split (s)	10.0	34.0	10.0	34.0	11.0	36.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (s)	11.1%	37.8%	11.1%	37.8%	12.2%	40.0%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%
Maximum Green (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Yellow Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Total Lost Time (s)	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead-Lag Optimize?	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	None	Min	None	Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Recall Mode	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0
Walk Time (s)	10	10	10	10	10	10	9	9	10	10	9	9
Flash Dont Walk (s)	36.0	28.0	38.0	28.0	41.4	32.0	39.0	29.0	36.0	28.0	39.0	29.0
Pedestrian Calls (#/hr)	0.42	0.31	0.42	0.31	0.46	0.36	0.43	0.32	0.42	0.31	0.43	0.32
Actuated g/C Ratio	0.82	0.58	0.53	1.03	0.82	1.06	0.44	0.82	0.44	0.82	0.44	0.82
v/c Ratio	47.4	27.4	26.0	70.3	50.1	70.4	19.7	33.3				
Control Delay												



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	7	4	2	6	1	6	6
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	11.0	36.0	10.0	35.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	12.2%	40.0%	11.1%	38.9%
Maximum Green (s)	7.0	28.0	7.0	28.0	8.0	30.0	7.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	9.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	10	10	10	10	9	9	10	9
90th %ile Green (s)	7.0	28.0	7.0	28.0	8.0	30.0	7.0	29.0
90th %ile Term Code	Max	Ped	Max	Max	Coord	Coord	Max	Coord
70th %ile Green (s)	7.0	28.0	7.0	28.0	8.0	30.0	7.0	29.0
70th %ile Term Code	Max	Hold	Max	Max	Coord	Coord	Max	Coord
50th %ile Green (s)	7.0	28.0	7.0	28.0	8.0	30.0	7.0	29.0
50th %ile Term Code	Max	Hold	Max	Max	Coord	Coord	Max	Coord
30th %ile Green (s)	7.0	28.0	7.0	28.0	8.0	30.0	7.0	29.0
30th %ile Term Code	Max	Hold	Max	Max	Coord	Coord	Max	Coord
10th %ile Green (s)	7.0	28.0	7.0	28.0	8.0	40.0	0.0	29.0
10th %ile Term Code	Max	Hold	Max	Max	Coord	Coord	Skip	Coord

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
 Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	172	594	161	1095	183	1250	94	900
v/c Ratio	0.82	0.58	0.53	1.03	0.82	1.06	0.44	0.82
Control Delay	47.4	27.4	26.0	70.3	50.1	70.4	19.7	33.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	27.4	26.0	70.3	50.1	70.4	19.7	33.3
Queue Length 50th (m)	18.4	45.2	27.1	~117.5	19.9	~140.5	9.1	73.0
Queue Length 95th (m)	#49.3	62.6	30.3	#156.0	#55.9	#177.1	17.9	98.0
Internal Link Dist (m)	244.6	32.0	193.7	72.0	156.5	209.4	163.0	163.0
Turn Bay Length (m)	70.0	303	303	1061	223	1178	216	1095
Base Capacity (vph)	211	1032	303	1061	223	1178	216	1095
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.58	0.53	1.03	0.82	1.06	0.44	0.82

Intersection Summary
 ~ Volume exceeds capacity, queue is theoretically infinite.
 # Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

5. Gordon Street & Clair Road West/Clair Road East

12-12-2023

6. Farley Drive & Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	155	445	90	145	870	115	165	1000	125	85	575	235
Traffic Volume (vph)	155	445	90	145	870	115	165	1000	125	85	575	235
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	131.0	0.0	0.0	64.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	0	0
Taper Length (m)	7.5	3207	0	1785	3330	0	1639	1723	0	7.5	0	1832
Satd. Flow (prot)	1716	0.174	0.431									0.905
Flt Permitted	314	3207	0	806	3330	0	706	1723	0	0	1675	0
Satd. Flow (perm)	15	Yes	Yes	15	15	6	6	105	Yes	6	105	40
Right Turn on Red	60	217.7	160.7	63.9	196.5							17.7
Satd. Flow (RTOR)	13.1	8	8	9	14	10	10	10	10	10	10	14
Link Speed (k/h)	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Link Distance (m)	4%	10%	5%	0%	0%	4%	0%	16%	8%	0%	3%	0%
Travel Time (s)	124	534	51	11	1062	101	28	17	6	62	22	157
Confl. Peds. (#/hr)	124	585	0	11	1163	0	28	23	0	0	241	0
Confl. Bikes (#/hr)	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Peak Hour Factor	5	2	1	6	8	8	8	4	4	4	4	4
Heavy Vehicles (%)	2	2	6	1	6	8	8	4	4	4	4	4
Adj. Flow (vph)	5	2	1	6	8	8	8	4	4	4	4	4
Shared Lane Traffic (%)	7.0	10.0	7.0	10.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0
Lane Group Flow (vph)	10.0	35.0	10.0	35.0	10.0	47.0	32.0	32.0	32.0	32.0	32.0	32.0
Turn Type	11.0	48.0	11.1%	52.2%	35.6%	35.6%	26.0	26.0	26.0	26.0	26.0	26.0
Protected Phases	8.0	42.0	7.0	41.0	26.0	26.0	4.0	4.0	4.0	4.0	4.0	4.0
Permitted Phases	3.0	4.0	3.0	4.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Switch Phase	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minimum Initial (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minimum Split (s)	3.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Split (s)	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Total Green (s)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Lost Time Adjust (s)	11.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Total Lost Time (s)	3	3	3	3	3	3	3	3	3	3	3	3
Lead/Lag	66.2	61.6	63.1	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4
Lead-Lag Optimizer?	0.74	0.68	0.70	0.59	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Vehicle Extension (s)	0.36	0.27	0.02	0.59	0.25	0.08	0.25	0.08	0.25	0.08	0.25	0.08
Recall Mode	6.9	7.1	1.5	10.4	35.0	23.0	35.0	23.0	35.0	23.0	35.0	23.0
Walk Time (s)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fish Dork Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	3	3	3	3	3	3	3	3	3	3	3	3
Act Effct Green (s)	54.9	1.05	Sum of lost time (s)	18.0								
Actuated Cycle Length (s)	90.0	91.0%	ICU Level of Service	E								
Analysis Period (min)	15											
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	110	475	45	10	945	90	25	15	5	55	20	140
Traffic Volume (vph)	110	475	45	10	945	90	25	15	5	55	20	140
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Lane Width (m)	131.0	0.0	0.0	64.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	0	0
Taper Length (m)	7.5	3207	0	1785	3330	0	1639	1723	0	7.5	0	1832
Satd. Flow (prot)	1716	0.174	0.431									0.905
Flt Permitted	314	3207	0	806	3330	0	706	1723	0	0	1675	0
Satd. Flow (perm)	15	Yes	Yes	15	15	6	6	105	Yes	6	105	40
Right Turn on Red	60	217.7	160.7	63.9	196.5							17.7
Satd. Flow (RTOR)	13.1	8	8	9	14	10	10	10	10	10	10	14
Link Speed (k/h)	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Link Distance (m)	4%	10%	5%	0%	0%	4%	0%	16%	8%	0%	3%	0%
Travel Time (s)	124	534	51	11	1062	101	28	17	6	62	22	157
Confl. Peds. (#/hr)	124	585	0	11	1163	0	28	23	0	0	241	0
Confl. Bikes (#/hr)	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Peak Hour Factor	5	2	1	6	8	8	8	4	4	4	4	4
Heavy Vehicles (%)	2	2	6	1	6	8	8	4	4	4	4	4
Adj. Flow (vph)	5	2	1	6	8	8	8	4	4	4	4	4
Shared Lane Traffic (%)	7.0	10.0	7.0	10.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0
Lane Group Flow (vph)	10.0	35.0	10.0	35.0	10.0	47.0	32.0	32.0	32.0	32.0	32.0	32.0
Turn Type	11.0	48.0	11.1%	52.2%	35.6%	35.6%	26.0	26.0	26.0	26.0	26.0	26.0
Protected Phases	8.0	42.0	7.0	41.0	26.0	26.0	4.0	4.0	4.0	4.0	4.0	4.0
Permitted Phases	3.0	4.0	3.0	4.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Switch Phase	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minimum Initial (s)	3.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Total Split (s)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Total Green (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Yellow Time (s)	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
All-Red Time (s)	11.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Lost Time Adjust (s)	3	3	3	3	3	3	3	3	3	3	3	3
Total Lost Time (s)	66.2	61.6	63.1	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4
Lead/Lag	0.74	0.68	0.70	0.59	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Lead-Lag Optimizer?	0.36	0.27	0.02	0.59	0.25	0.08	0.25	0.08	0.25	0.08	0.25	0.08
Vehicle Extension (s)	6.9	7.1	1.5	10.4	35.0	23.0	35.0	23.0	35.0	23.0	35.0	23.0
Recall Mode	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk Time (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Fish Dork Walk (s)	3	3	3	3	3	3	3	3	3	3	3	3
Pedestrian Calls (#/hr)	54.9	1.05	Sum of lost time (s)	18.0								
Act Effct Green (s)	90.0	91.0%	ICU Level of Service	E								
Analysis Period (min)	15											
c Critical Lane Group												

6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	6.9	7.1		1.5	10.5		35.0	23.0				28.2
LOS	A	A		A	B		C	C				C
Approach Delay	7.0			10.4			29.6					28.2
Approach LOS	A			B			C					C

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

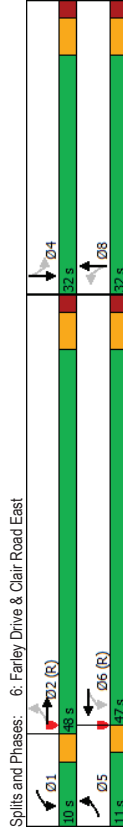
Intersection Signal Delay: 11.7

Intersection LOS: B

Intersection Capacity Utilization 69.3%

ICU Level of Service C

Analysis Period (min) 15



6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1			6			8		4
Permitted Phases	2			6			8			4		4
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0		7.0
Minimum Split (s)	10.0	35.0		10.0	35.0		32.0	32.0		32.0		32.0
Total Split (s)	11.0	48.0		10.0	47.0		32.0	32.0		32.0		32.0
Total Split (%)	12.2%	53.3%		11.1%	52.2%		35.6%	35.6%		35.6%		35.6%
Maximum Green (s)	8.0	42.0		7.0	41.0		26.0	26.0		26.0		26.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	0.0	2.0		0.0	2.0		2.0	2.0		2.0		2.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0		0.0
Recall Mode	None	C-Min		None	C-Min		None	None		None		None
Walk Time (s)	11.0			11.0			8.0	8.0		8.0		8.0
Flash Dont Walk (s)	18.0			18.0			18.0	18.0		18.0		18.0
Pedestrian Calls (#/hr)	3			3			5	5		5		5
90th %ile Green (s)	8.0	42.0		7.0	41.0		26.0	26.0		26.0		26.0
90th %ile Term Code	Max	Coord		Max	Coord		Ped	Ped		Ped		Ped
70th %ile Green (s)	8.0	62.0		0.0	51.0		16.0	16.0		16.0		16.0
70th %ile Term Code	Gap	Coord		Skip	Coord		Hold	Hold		Hold		Gap
50th %ile Green (s)	7.2	65.0		0.0	54.8		13.0	13.0		13.0		13.0
50th %ile Term Code	Gap	Coord		Skip	Coord		Hold	Hold		Hold		Gap
30th %ile Green (s)	7.0	67.9		0.0	57.9		10.1	10.1		10.1		10.1
30th %ile Term Code	Min	Coord		Skip	Coord		Hold	Hold		Hold		Gap
10th %ile Green (s)	7.0	71.0		0.0	61.0		7.0	7.0		7.0		7.0
10th %ile Term Code	Min	Coord		Skip	Coord		Hold	Hold		Hold		Min

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Control Type: Actuated-Coordinated

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	124	585	11	1163	28	23	241
Lane Group Flow (vph)	0.36	0.27	0.02	0.59	0.25	0.08	0.68
v/c Ratio	6.9	7.1	1.5	10.4	35.0	23.0	28.2
Control Delay	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Queue Delay	6.9	7.1	1.5	10.5	35.0	23.0	28.2
Queue Length 50th (m)	2.7	7.7	0.2	66.2	4.6	2.7	23.5
Queue Length 95th (m)	m24.2	m55.8	m0.2	114.9	10.7	7.9	39.9
Internal Link Dist (m)	131.0	193.7	64.0	136.7	39.9	172.5	
Turn Bay Length (m)	355	2199	641	1972	203	502	588
Base Capacity (vph)	0	0	0	117	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.27	0.02	0.63	0.14	0.05	0.43
Intersection Summary							
m	Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	110	475	45	10	945	90	25	15	5	55	20	140
Future Volume (vph)	110	475	45	10	945	90	25	15	5	55	20	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Total Lost time (s)	3.0	6.0	3.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	0.99	1.00	0.98	0.98
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Frt	0.95	1.00	0.99	1.00	0.99	1.00	0.95	1.00	0.96	1.00	0.99	0.99
Flt Protected	1716	3207	1781	3330	1625	1723						1828
Satd. Flow (prot)	0.17	1.00	0.43	1.00	0.41	1.00						0.90
Flt Permitted	315	3207	809	3330	706	1723						1675
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	124	534	51	11	1062	101	28	17	6	62	22	157
RTOR Reduction (vph)	0	5	0	0	6	0	0	5	0	0	0	88
Lane Group Flow (vph)	124	580	0	11	1157	0	28	18	0	0	153	0
Confl. Peds. (#/hr)	9	8	8	8	9	14	10	10	10	10	10	14
Confl. Bikes (#/hr)							2					
Heavy Vehicles (%)	4%	10%	5%	0%	6%	0%	4%	0%	16%	8%	0%	3%
Turn Type	pm+pt	NA	NA	pm+pt	NA	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	5	2		1	6		8		8		4	
Permitted Phases	2			6			8		8		4	
Actuated Green, G (s)	63.6	59.2		54.6	53.2		14.4		14.4		14.4	
Effective Green, g (s)	63.6	59.2		54.6	53.2		14.4		14.4		14.4	
Actuated g/C Ratio	0.71	0.66		0.61	0.59		0.16		0.16		0.16	
Clearance Time (s)	3.0	6.0		3.0	6.0		6.0		6.0		6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	337	2109		505	1968		112		275		268	
v/s Ratio Prot	c0.03	0.18		0.00	c0.35		0.01		0.01		0.01	
v/s Ratio Perm	0.23			0.01			0.04		0.04		0.09	
v/c Ratio	0.37	0.27		0.02	0.59		0.25		0.07		0.57	
Uniform Delay, d1	6.1	6.4		7.0	11.5		33.1		32.1		34.9	
Progression Factor	1.02	0.94		0.28	0.70		1.00		1.00		1.00	
Incremental Delay, d2	0.5	0.2		0.0	1.2		1.2		0.1		2.9	
Delay (s)	6.8	6.3		2.0	9.2		34.2		32.2		37.9	
Level of Service	A	A		A	A		C		C		D	
Approach Delay (s)	6.4			9.2			33.3		37.9			
Approach LOS	A			A			C		C		D	
Intersection Summary												
HCM 2000 Control Delay	12.0 HCM 2000 Level of Service B											
HCM 2000 Volume to Capacity ratio	0.56											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0											
Intersection Capacity Utilization	68.3% ICU Level of Service C											
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings
7. Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Future Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1760	0	0	1794	0	0	1773	0	0	1913	0
Flt Permitted		0.960									0.996	
Satd. Flow (perm)	0	1760	0	0	1794	0	0	1773	0	0	1913	0
Link Speed (k/h)		30			30			30			30	
Link Distance (m)		57.2			91.1			54.0			63.9	
Travel Time (s)		6.9			10.9			6.5			7.7	
Confl. Peds. (#/hr)	1		2	2		1	16		5	5		16
Confl. Bikes (#/hr)		1				1						
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	3%	0%	0%	0%	0%	0%	0%	6%	0%	20%	4%	0%
Adj. Flow (vph)	34	7	0	0	14	7	0	21	0	7	27	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	21	0	0	21	0	0	89	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization:	26.1%											
Analysis Period (min):	15											

HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Future Volume (vph)	25	5	0	0	10	5	0	15	0	5	20	40
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	34	7	0	0	14	7	0	21	0	7	27	55
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	41	21	21	89								
Volume Left (vph)	34	0	0	7								
Volume Right (vph)	0	7	0	55								
Head (s)	0.21	-0.20	0.10	-0.31								
Departure Headway (s)	4.4	4.0	4.2	3.8								
Degree Utilization, x	0.05	0.02	0.02	0.09								
Capacity (veh/ht)	802	877	826	939								
Control Delay (s)	7.6	7.1	7.3	7.1								
Approach Delay (s)	7.6	7.1	7.3	7.1								
Approach LOS	A	A	A	A								

Intersection Summary												
Delay	7.3											
Level of Service	A											
Intersection Capacity Utilization	26.1%											
Analysis Period (min)	15											
ICU Level of Service	A											

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	5	0	0	5	5	10	5	5	15	0
Future Volume (vph)	5	0	5	0	0	5	5	10	5	5	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1709	0	0	1625	0	0	1541	0	0	1776	0
Flt Permitted	0.976						0.987				0.987	
Satd. Flow (perm)	0	1709	0	0	1625	0	0	1541	0	0	1776	0
Link Speed (k/h)	30			30			30				30	
Link Distance (m)	31.6			39.2			55.2				54.0	
Travel Time (s)	3.8			4.7			6.6				6.5	
Confl. Peds. (#/hr)	3	18	18	3	36	3	36	6	6	6	36	36
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	12%	40%	0%	6%	0%
Adj. Flow (vph)	7	0	7	0	0	7	7	13	7	7	20	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	7	0	0	27	0	0	27	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.3%
Analysis Period (min)	15
ICU Level of Service A	

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	5	0	5	0	0	5	5	10	5	5	15	0
Future Volume (vph)	5	0	5	0	0	5	5	10	5	5	15	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	7	0	7	0	0	7	7	13	7	7	20	0
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	14	7	27	27								
Volume Left (vph)	7	0	7	7								
Volume Right (vph)	7	7	7	0								
Head (s)	-0.20	-0.60	0.17	0.13								
Departure Headway (s)	3.8	3.4	4.1	4.1								
Degree Utilization, x	0.01	0.01	0.03	0.03								
Capacity (veh/h)	922	1027	852	869								
Control Delay (s)	6.9	6.5	7.3	7.2								
Approach Delay (s)	6.9	6.5	7.3	7.2								
Approach LOS	A	A	A	A								

Intersection Summary

Delay	7.1
Level of Service	A
Intersection Capacity Utilization	26.3%
Analysis Period (min)	15
ICU Level of Service	A

Lanes, Volumes, Timings

9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations						
Traffic Volume (vph)	5	0	0	125	80	15
Future Volume (vph)	5	0	0	125	80	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1642	0	0	1990	2046	0
Flt Permitted	0.950					
Satd. Flow (perm)	1642	0	0	1990	2046	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Confl. Peds. (#/hr)			12			12
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	16%	100%	0%	5%	0%	0%
Adj. Flow (vph)	6	0	0	160	103	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	160	122	0
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	18.0%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis

9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations						
Traffic Volume (veh/h)	5	0	0	125	80	15
Future Volume (Veh/h)	5	0	0	125	80	15
Sign Control	Stop	Free	Free	Free	Free	Free
Grade	0%			0%	0%	0%
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	6	0	0	160	103	19
Pedestrians	12					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	None
Median type						
Median storage (veh)						
Upstream signal (m)					65	
pX platoon unblocked						
vC, conflicting volume	284	124	134			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	284	124	134			
iC, single (s)	6.6	7.2	4.1			
iC, 2 stage (s)						
IF (s)	3.6	4.2	2.2			
p0 queue free %	99	100	100			
qM capacity (veh/h)	669	710	1446			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	6	160	122			
Volume Left	6	0	0			
Volume Right	0	0	19			
vSH	669	1446	1700			
Volume to Capacity	0.01	0.00	0.07			
Queue Length 95th (m)	0.2	0.0	0.0			
Control Delay (s)	10.4	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.4	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay	0.2					
Intersection Capacity Utilization	18.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Traffic Volume (vph)	105	5	5	135	40	15
Future Volume (vph)	105	5	5	135	40	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	1831	0	0	1972	1721	0
Flt Permitted				0.998	0.965	
Satd. Flow (perm)	1831	0	0	1972	1721	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	90.5			63.5	67.2	
Travel Time (s)	8.1			5.7	8.1	
Confl. Peds. (#/hr)						6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	14%	0%	0%	6%	2%	0%
Adj. Flow (vph)	118	6	6	152	45	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	124	0	0	158	62	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	23.0%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Traffic Volume (veh/h)	105	5	5	135	40	15
Future Volume (Veh/h)	105	5	5	135	40	15
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	118	6	6	152	45	17
Pedestrians						6
Lane Width (m)				4.5		
Walking Speed (m/s)				1.2		
Percent Blockage				1		
Right turn flare (veh)						
Median type	None					
Median storage (veh)	None					
Upstream signal (m)	311					
pX, platoon unblocked						
vC, conflicting volume	124					
vC1, stage 1 conf vol	285					
vC2, stage 2 conf vol	127					
vCu, unblocked vol	124					
iC, single (s)	4.1					
iC, 2 stage (s)	2.2					
p0 queue free %	100					
ICM capacity (veh/h)	1475					
Direction_Lane #	EB 1	WB 1	NB 1			
Volume Total	124	158	62			
Volume Left	0	6	45			
Volume Right	6	0	17			
ESH	1700	1475	752			
Volume to Capacity	0.07	0.00	0.08			
Queue Length 95th (m)	0.0	0.1	2.2			
Control Delay (s)	0.0	0.3	10.2			
Lane LOS	A	A	B			
Approach Delay (s)	0.0	0.3	10.2			
Approach LOS	B					
Intersection Summary						
Average Delay	2.0					
Intersection Capacity Utilization	23.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

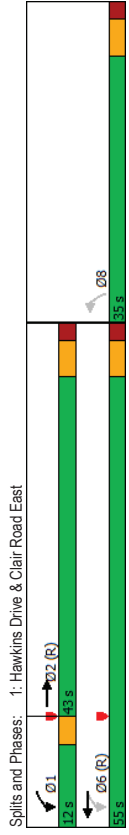
12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Traffic Volume (vph)	1030	50	145	665	35	140
Future Volume (vph)	1030	50	145	665	35	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)		7.5		7.5		
Satd. Flow (prot)	3458	0	1785	3535	1846	0
Flt Permitted			0.197		0.990	
Satd. Flow (perm)	3458	0	369	3535	1845	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7					143
Link Speed (k/h)	60			60		50
Link Distance (m)	1607			130.4		64.6
Travel Time (s)	9.6			7.8		4.7
Confl. Peds. (#/hr)		13	13			1
Confl. Bikes (#/hr)	1					
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	2	0	0	0	0	0
Adj. Flow (vph)	1051	51	148	679	36	143
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1102	0	148	679	179	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2	1	6	8		
Permitted Phases		6			8	
Detector Phase	2	1	6	8		
Switch Phase						
Minimum Initial (s)	10.0	7.0	10.0	10.0	7.0	
Minimum Split (s)	35.0	10.0	35.0	35.0	35.0	
Total Split (s)	43.0	12.0	55.0	55.0	35.0	
Total Split (%)	47.8%	13.3%	61.1%	38.9%		
Maximum Green (s)	37.0	9.0	49.0	29.0		
Yellow Time (s)	4.0	3.0	4.0	4.0		
All-Red Time (s)	2.0	0.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.0	3.0	6.0	6.0		
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	C-Min	None	C-Min	None		
Walk Time (s)	11.0	18.0	11.0	8.0		
Flash Don't Walk (s)	18.0	18.0	18.0	18.0		
Pedestrian Calls (#/hr)	7			7	12	
Act Effect Green (s)	54.8	69.6	66.6	11.4		
Actuated g/C Ratio	0.61	0.77	0.74	0.13		
v/C Ratio	0.52	0.35	0.26	0.50		
Control Delay	5.4	6.1	5.0	14.6		

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Delay	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	5.5	6.1	5.0	14.6		
LOS	A	A	A	B		
Approach Delay	5.5		5.2	14.6		
Approach LOS	A		A	B		
Intersection Summary						
Area Type:	Other					
Cycle Length:	90					
Actuated Cycle Length:	90					
Offset: 2 (2%):	Referenced to phase 2EBT and 6'WBT. Start of Green					
Natural Cycle:	80					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.52					
Intersection Signal Delay:	6.2					
Intersection LOS:	A					
Intersection Capacity Utilization:	62.1%					
Analysis Period (min):	15					



Phasings
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	WBL	WBT	NBL
Lane Group	2	1	6	6
Protected Phases				
Permitted Phases	6	8		
Minimum Initial (s)	10.0	7.0	10.0	7.0
Minimum Split (s)	35.0	10.0	35.0	35.0
Total Split (s)	43.0	12.0	55.0	35.0
Total Split (%)	47.8%	13.3%	61.1%	38.9%
Maximum Green (s)	37.0	9.0	49.0	29.0
Yellow Time (s)	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	0.0	2.0	2.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	C-Min	None	C-Min	None
Walk Time (s)	11.0	11.0	11.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	7	7	12	12
90th %ile Green (s)	37.0	12.0	52.0	26.0
90th %ile Term Code	Coord	Max	Coord	Ped
70th %ile Green (s)	55.7	9.7	68.4	9.6
70th %ile Term Code	Coord	Gap	Coord	Gap
50th %ile Green (s)	59.4	8.3	70.7	7.3
50th %ile Term Code	Coord	Gap	Coord	Gap
30th %ile Green (s)	61.0	7.0	71.0	7.0
30th %ile Term Code	Coord	Min	Coord	Min
10th %ile Green (s)	61.0	7.0	71.0	7.0
10th %ile Term Code	Coord	Min	Coord	Min

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBTL - Start of Green
Control Type: Actuated-Coordinated

Queues
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	WBL	WBT	NBL
Lane Group	1102	148	679	179
Lane Group Flow (vph)	0.52	0.35	0.26	0.50
v/c Ratio	5.4	6.1	5.0	14.6
Control Delay	0.1	0.0	0.0	0.0
Queue Delay	5.5	6.1	5.0	14.6
Total Delay	5.5	6.1	5.0	14.6
Queue Length 50th (m)	17.3	3.7	13.0	4.0
Queue Length 95th (m)	27.2	18.6	42.2	17.8
Internal Link Dist (m)	136.7		106.4	40.6
Turn Bay Length (m)		25.0		
Base Capacity (vph)	2109	438	2616	691
Starvation Cap Reductn	110	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.34	0.26	0.26

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: Hawkins Drive & Clair Road East

12-12-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Traffic Volume (vph)	1030	50	145	665	35	140
Future Volume (vph)	1030	50	145	665	35	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Total Lost time (s)	6.0	3.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.99	1.00	1.00	1.00	0.89	1.00
Flt Protected	1.00	0.95	1.00	0.99		
Satd. Flow (prot)	3458	1784	3535	1846		
Flt Permitted	1.00	0.20	1.00	0.99		
Satd. Flow (perm)	3458	371	3535	1846		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1051	51	148	679	36	143
RTOR Reduction (vph)	3	0	0	0	125	0
Lane Group Flow (vph)	1099	0	148	679	54	0
Confl. Peds. (#/hr)	13	13			1	
Confl. Bikes (#/hr)	1					
Heavy Vehicles (%)	2%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	2	0	0	0	0	0
Turn Type	NA	pm+pt	NA	Perm	Perm	
Protected Phases	2		1	6		
Permitted Phases			6		8	
Actuated Green, G (s)	54.8	66.6	66.6	11.4		
Effective Green, g (s)	54.8	66.6	66.6	11.4		
Actuated g/C Ratio	0.61	0.74	0.74	0.13		
Clearance Time (s)	6.0	3.0	6.0	6.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	2105	412	2615	233		
v/s Ratio Prot	c0.32	c0.04	0.19			
v/s Ratio Perm		0.23		c0.03		
v/s Ratio	0.52	0.36	0.26	0.23		
Uniform Delay, d1	10.1	4.8	3.8	35.4		
Progression Factor	0.39	1.00	1.00	1.09		
Incremental Delay, d2	0.7	0.5	0.2	0.5		
Delay (s)	4.6	5.4	4.0	39.1		
Level of Service	A	A	A	D		
Approach Delay (s)	4.6		4.2	39.1		
Approach LOS	A		A	D		

Intersection Summary	
HCM 2000 Control Delay	7.4 HCM 2000 Level of Service A
HCM 2000 Volume to Capacity ratio	0.46
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0
Intersection Capacity Utilization	62.1% ICU Level of Service B
Analysis Period (min)	15
c Critical Lane Group	

Lanes, Volumes, Timings
2: Hawkins Drive & Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	70	125	10	60	60	5	10	50	40	15	95	45
Future Volume (vph)	70	125	10	60	60	5	10	50	40	15	95	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	2040	0	0	1829	0	0	1967	0	0	1964	0
Flt Permitted	0.983			0.977			0.995				0.995	
Satd. Flow (perm)	0	2040	0	0	1829	0	0	1967	0	0	1964	0
Link Speed (k/h)		40		40			40				40	
Link Distance (m)		63.5		196.8			136.5				121.9	
Travel Time (s)		5.7		17.7			12.3				11.0	
Confl. Peds. (#/hr)	33		13	13		33	8		4	4		8
Confl. Bikes (#/hr)		1										
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	83	149	12	71	71	6	12	60	48	18	113	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	244	0	0	148	0	0	120	0	0	185	0
Sign Control		Free		Free			Stop				Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	31.5%
Analysis Period (min)	15
ICU Level of Service A	

2: Hawkins Drive & Poppy Drive East

12-12-2023

3: Poppy Drive East & Fanley Drive

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	125	10	60	60	5	10	50	40	15	95	45
Future Volume (Veh/h)	70	125	10	60	60	5	10	50	40	15	95	45
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	83	149	12	71	71	6	12	60	48	18	113	54
Pedestrians	8			4			13				33	
Lane Width (m)	4.5			3.6			4.5				4.5	
Walking Speed (m/s)	1.2			1.2			1.2				1.2	
Percent Blockage	1			0			1				3	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	375											
pX platoon unblocked												
VC, conflicting volume	110			174			668	586	172	652	589	115
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCU, unblocked vol	110			174			668	586	172	652	589	115
IC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.3
IC, 2 stage (s)												
IF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	94			95			95	83	94	93	69	94
CM capacity (veh/h)	1441			1396			232	362	862	271	361	887
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	244	148	120	185								
Volume Left	83	71	12	18								
Volume Right	12	6	48	54								
cSH	1441	1396	440	420								
Volume to Capacity	0.06	0.05	0.27	0.44								
Queue Length 95th (m)	1.5	1.3	8.8	17.6								
Control Delay (s)	2.9	3.9	16.2	20.2								
Lane LOS	A	A	C	C								
Approach Delay (s)	2.9	3.9	16.2	20.2								
Approach LOS	C	C	C	C								
Intersection Summary												
Average Delay	10.0											
Intersection Capacity Utilization	31.5%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	205	110	15	15	20	30			15	20	30
Future Volume (vph)	20	205	110	15	15	20	30			15	20	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900			1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	4.5	4.5	4.5			4.5	4.5	4.5
Satd. Flow (prot)	0	2082	1987	0	1692	0	1692			0	1692	0
Flt Permitted	0	0.996					0.980					
Satd. Flow (perm)	0	2082	1987	0	1692	0	1692			0	1692	0
Link Speed (k/h)		40	40		40		55.2			30		
Link Distance (m)		220.5	90.5		90.5		55.2			55.2		
Travel Time (s)		19.8	8.1		8.1		6.6			6.6		
Confl. Peds. (#/hr)		15			15							
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88			0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	4%	0%	0%	0%	0%			0%	0%	0%
Adj. Flow (vph)	23	233	125	17	23	34				23	34	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	256	142	0	57	0				57	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	34.6%											
ICU Level of Service	A											
Analysis Period (min)	15											

3: Poppy Drive East & Farley Drive

12-12-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	205	110	15	20	30
Future Volume (Veh/h)	20	205	110	15	20	30
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	23	233	125	17	23	34
Pedestrians					15	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)			None	None		
Median type						
Median storage (veh)						
Upstream signal (m)			220			
pX platoon unblocked						
vC, conflicting volume	157				428	148
vC1, stage 1 conf vol						
vC2, stage 2 conf vol	157				428	148
vC, unblocked vol	4.1				6.4	6.2
IC, single (s)						
IC, 2 stage (s)						
p0 queue free %	2.2				3.5	3.3
IF (s)	98				96	96
CM capacity (veh/h)	1418				571	893
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	256	142	57			
Volume Left	23	0	23			
Volume Right	0	17	34			
cSH	1418	1700	728			
Volume to Capacity	0.02	0.08	0.08			
Queue Length 95th (m)	0.4	0.0	2.0			
Control Delay (s)	0.8	0.0	10.4			
Lane LOS	A		B			
Approach Delay (s)	0.8	0.0	10.4			
Approach LOS			B			
Intersection Summary						
Average Delay		1.8				
Intersection Capacity Utilization		34.6%				A
Analysis Period (min)		15				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	30	135	85	35	60	160	107.5	150	80	111.5	55
Future Volume (vph)	65	30	135	85	35	60	160	107.5	150	80	111.5	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5		7.5			7.5				7.5		
Satd. Flow (prot)	0	1736	0	0	1886	0	2006	3422	0	1728	3474	0
Flt Permitted		0.825			0.621		0.158			0.167		
Satd. Flow (perm)	0	1447	0	0	1198	0	333	3422	0	303	3474	0
Right Turn on Red		Yes			Yes		Yes		Yes			Yes
Satd. Flow (RTOR)		78			27		24					7
Link Speed (k/h)		40			40		60					60
Link Distance (m)		93.0			220.5		196.0					180.5
Travel Time (s)		8.4			19.8		11.8					10.8
Conf. Peds. (#/hr)	18		3		3		6		17		17	6
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	18%	0%	1%	0%	3%	2%	2%	1%	1%	2%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	2	0	0	0	0	0	0	0
Adj. Flow (vph)	66	31	138	87	36	61	163	1097	153	82	1138	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	235	0	0	184	0	163	1250	0	82	1194	0
Turn Type	Perm	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA
Protected Phases		8		4	4		5	2		1		6
Permitted Phases	8	8	4	4	4	2	2	2	6	6	6	6
Detector Phase												
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	13.0	50.0	10.0	47.0	10.0	47.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	14.4%	55.6%	11.1%	52.2%	11.1%	52.2%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	10.0	44.0	7.0	41.0	7.0	41.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	8.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	16.0	12.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6	6
Act Efect Green (s)	16.2	16.2	16.2	16.2	16.2	16.2	63.4	53.7	60.8	50.7	60.8	50.7
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18	0.18	0.70	0.60	0.68	0.56	0.68	0.56
v/c Ratio	0.73	0.73	0.73	0.78	0.78	0.78	0.42	0.61	0.26	0.61	0.26	0.61
Control Delay	35.1	35.1	35.1	50.4	50.4	50.4	8.3	14.7	5.9	13.1	8.3	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

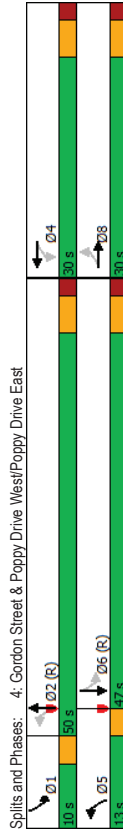
Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	35.1			50.4			8.3	14.7		5.9	13.2	
LOS	D			D			A	B		A	B	
Approach Delay	35.1			50.4			13.9			12.7		
Approach LOS	D			D			B			B		

Intersection Summary
 Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal LOS: B
 Intersection Capacity Utilization: 73.6%
 Analysis Period (min): 15



Phasings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	8			4			5	2		1	6	
Permitted Phases	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	7.0	10.0	
Minimum Initial (s)	30.0	30.0	30.0	30.0	30.0	30.0	13.0	50.0	10.0	35.0	35.0	
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	13.0	50.0	10.0	35.0	35.0	
Total Split (s)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	14.4%	55.6%	11.1%	52.2%	52.2%	
Total Split (%)	24.0	24.0	24.0	24.0	24.0	24.0	10.0	44.0	7.0	41.0	41.0	
Maximum Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	
Yellow Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	
All-Red Time (s)												
Lead/Lag							Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	None	None	None	None	None	None	None	None	None	None	None	
Recall Mode	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	17.0	
Walk Time (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	12.0	
Flash Dont Walk (s)	6	6	6	6	6	6	6	6	6	6	6	
Pedestrian Calls (#/hr)	24.0	24.0	24.0	24.0	24.0	24.0	10.0	44.0	7.0	41.0	41.0	
90th %ile Green (s)	19.2	19.2	19.2	19.2	19.2	19.2	8.7	48.4	7.4	47.1	47.1	
90th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Gap	Coord	Coord	Coord	Coord	
70th %ile Green (s)	16.2	16.2	16.2	16.2	16.2	16.2	7.7	51.8	7.0	51.1	51.1	
50th %ile Green (s)	13.1	13.1	13.1	13.1	13.1	13.1	7.0	54.9	7.0	54.9	54.9	
50th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Gap	Coord	Coord	Coord	Coord	
30th %ile Green (s)	8.6	8.6	8.6	8.6	8.6	8.6	7.0	69.4	0.0	59.4	59.4	
30th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Gap	Coord	Coord	Coord	Coord	
10th %ile Green (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	
10th %ile Term Code	Hold	Hold	Hold	Hold	Hold	Hold	Gap	Coord	Coord	Skip	Coord	

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated

Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	235	184	163	1250	82	1194
Lane Group Flow (vph)	0.73	0.78	0.42	0.61	0.26	0.61
v/c Ratio	35.1	50.4	8.3	14.7	5.9	13.1
Control Delay	0.0	0.0	0.0	0.0	0.0	0.1
Queue Delay	35.1	50.4	8.3	14.7	5.9	13.2
Total Delay	27.0	27.5	7.6	72.5	5.1	62.6
Queue Length 50th (m)	47.6	46.5	18.4	116.4	m2.4	m26.3
Queue Length 95th (m)	69.0	196.5	172.0	70.0	156.5	156.5
Internal Link Dist (m)						
Turn Bay Length (m)	443	339	425	2051	316	1960
Base Capacity (vph)	0	0	0	0	0	88
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.54	0.38	0.61	0.26	0.64
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	30	135	85	35	60	160	1075	150	80	1115	55
Future Volume (vph)	65	30	135	85	35	60	160	1075	150	80	1115	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frbp. ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	1.00	0.99	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.92	0.92	0.92	0.96	0.96	0.96	0.95	1.00	0.98	1.00	0.99	1.00
Flt Protected	0.99	0.99	0.99	0.98	0.98	0.98	0.95	1.00	0.98	1.00	0.99	1.00
Satd. Flow (prot)	1729	1729	1729	1885	1885	1885	2005	3420	1727	3474	3474	1727
Flt Permitted	0.83	0.83	0.83	0.82	0.82	0.82	0.16	1.00	0.17	1.00	0.17	1.00
Satd. Flow (perm)	1447	1447	1447	1198	1198	1198	334	3420	303	3474	3474	1447
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	66	31	138	87	36	61	163	1097	153	82	1138	56
RTOR Reduction (vph)	0	64	0	0	22	0	0	10	0	0	0	3
Lane Group Flow (vph)	0	171	0	0	162	0	163	1240	0	82	1191	0
Conf. Peds. (#/hr)	18	3	3	3	3	18	6	6	17	17	6	6
Heavy Vehicles (%)	18%	0%	0%	1%	0%	3%	2%	2%	1%	1%	2%	0%
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0
Turn Type	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8	8	8	4	4	4	5	2	2	1	6	6
Permitted Phases	8	8	8	4	4	4	5	2	2	1	6	6
Actuated Green, G (s)	16.2	16.2	16.2	16.2	16.2	16.2	61.2	53.1	56.4	50.7	50.7	50.7
Effective Green, g (s)	16.2	16.2	16.2	16.2	16.2	16.2	61.2	53.1	56.4	50.7	50.7	50.7
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18	0.18	0.68	0.59	0.63	0.56	0.56	0.56
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	260	260	260	215	215	215	377	2017	280	1957	1957	260
v/s Ratio Prot	0.12	0.12	0.12	0.14	0.14	0.14	0.04	0.36	0.02	0.34	0.34	0.12
v/s Ratio Perm	0.66	0.66	0.66	0.75	0.75	0.75	0.43	0.61	0.29	0.61	0.61	0.66
v/c Ratio	34.3	34.3	34.3	35.0	35.0	35.0	7.5	11.9	7.7	13.1	13.1	34.3
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.11	0.89	0.89	1.00
Progression Factor	5.9	5.9	5.9	13.8	13.8	13.8	0.8	1.4	0.1	0.1	0.1	5.9
Incremental Delay, d2	40.2	40.2	40.2	48.8	48.8	48.8	8.3	13.3	8.6	11.7	11.7	40.2
Delay (s)	D	D	D	D	D	D	A	B	A	B	B	D
Level of Service	D	D	D	D	D	D	A	B	A	B	B	D
Approach Delay (s)	40.2	40.2	40.2	48.8	48.8	48.8	12.7	11.5	11.5	11.5	11.5	40.2
Approach LOS	D	D	D	D	D	D	B	B	B	B	B	D
Intersection Summary												
HCM 2000 Control Delay	16.4	16.4	16.4	HCM 2000 Level of Service	B	B						
HCM 2000 Volume to Capacity ratio	0.64	0.64	0.64									
Actuated Cycle Length (s)	90.0	90.0	90.0	Sum of lost time (s)	15.0	15.0						
Intersection Capacity Utilization	73.6%	73.6%	73.6%	ICU Level of Service	D	D						
Analysis Period (min)	15	15	15									
c Critical Lane Group												

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

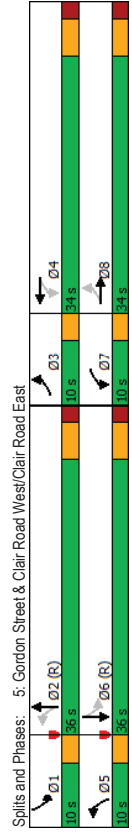
12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	270	970	120	160	560	120	125	920	145	215	1020	180
Future Volume (vph)	270	970	120	160	560	120	125	920	145	215	1020	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	0.0	32.0	0.0	0.0	72.0	0.0	0.0	163.0	0.0	0.0
Storage Lanes	1	0	0	1	0	0	1	0	0	1	0	0
Taper Length (m)	7.5	3458	0	1711	3418	0	1646	3379	0	1728	3345	0
Satd. Flow (prot)	1745	0.248	0.143	0.143	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133
Flt Permitted	451	3458	0	257	3418	0	230	3379	0	241	3345	0
Satd. Flow (perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	15	60	29	60	21	60	21	60	21	60	21	60
Satd. Flow (RTOR)	60	217.7	180.5	217.7	180.5	217.7	180.5	217.7	180.5	217.7	180.5	217.7
Link Speed (k/h)	16.1	21	21	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1
Link Distance (m)	34	21	21	34	18	26	26	26	26	26	26	18
Travel Time (s)	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Confl. Bikes (#/hr)	0	1%	2%	0%	1%	0%	6%	2%	5%	1%	2%	10%
Peak Hour Factor	0	0	0	0	0	0	0	0	3	0	3	3
Heavy Vehicles (%)	278	1000	124	165	577	124	129	948	149	222	1052	188
Bus Blockages (#/hr)	278	1000	124	165	577	124	129	948	149	222	1052	188
Adj. Flow (vph)	278	1000	124	165	577	124	129	948	149	222	1052	188
Shared Lane Traffic (%)	278	1124	0	165	701	0	129	1097	0	222	1238	0
Lane Group Flow (vph)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Turn Type	3	8	7	4	5	2	1	6	1	6	1	6
Protected Phases	8	4	2	2	2	2	2	2	2	2	2	2
Permitted Phases	3	8	7	4	5	2	1	6	1	6	1	6
Detector Phase	3	8	7	4	5	2	1	6	1	6	1	6
Switch Phase	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Initial (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	36.0	10.0	36.0	10.0	36.0	10.0	36.0
Total Split (s)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%	40.0%	11.1%	40.0%	11.1%	40.0%
Maximum Green (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Yellow Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Total Lost Time (s)	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead-Lag Optimize?	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	None	Min	None	Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Recall Mode	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0
Walk Time (s)	11	11	11	11	11	11	11	11	11	11	11	11
Flash Dont Walk (s)	38.0	28.0	38.0	28.0	38.0	28.0	38.0	28.0	38.0	28.0	38.0	28.0
Pedestrian Calls (#/hr)	0.42	0.31	0.42	0.31	0.42	0.31	0.42	0.31	0.42	0.31	0.42	0.31
Act Effect Green (s)	0.96	1.03	0.75	0.65	0.61	0.96	1.00	1.09	0.81	0.86	0.81	0.86
Actuated g/C Ratio	65.2	68.2	37.8	29.9	32.4	40.4	32.4	40.4	32.4	40.4	32.4	40.4
v/C Ratio	65.2	68.2	37.8	29.9	32.4	40.4	32.4	40.4	32.4	40.4	32.4	40.4
Control Delay												

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	68.2	37.8	29.9	32.4	40.4	32.4	40.4	32.4	40.4	32.4	40.4
LOS	E	E	D	C	C	D	C	D	C	D	F	F
Approach Delay	67.6	31.4	39.5	31.4	39.5	31.4	39.5	31.4	39.5	31.4	39.5	31.4
Approach LOS	E	E	C	C	C	D	D	D	D	F	F	F
Intersection Summary	Other											
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2/NBTL and 6/SBTL, Start of Green, Master Intersection											
Natural Cycle:	90											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	1.09											
Intersection Signal Delay:	59.6											
Intersection Capacity Utilization:	98.7%											
Analysis Period (min):	15											
ICU Level of Service:	F											



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	7	4	2	6			
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	36.0	10.0	36.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%	40.0%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	11	11	11	11	9	9	9	9
90th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
90th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Max	Coord
70th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
70th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Max	Coord
50th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
50th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Max	Coord
30th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
30th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Max	Coord
10th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
10th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Max	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	278	1124	165	701	129	1097	222	1238
v/c Ratio	0.96	1.03	0.75	0.65	0.61	0.96	1.00	1.09
Control Delay	65.2	68.2	37.8	29.9	32.4	40.4	81.8	86.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.2	68.2	37.8	29.9	32.4	40.4	81.8	86.2
Queue Length 50th (m)	31.6	~116.0	22.4	65.6	4.2	102.1	23.3	~134.1
Queue Length 95th (m)	#76.9	#157.6	m#43.0	75.1	m29.2	#139.7	#70.4	#176.5
Internal Link Dist (m)	244.6		193.7		156.5		209.4	
Turn Bay Length (m)	70.0		32.0		72.0		163.0	
Base Capacity (vph)	291	1086	221	1083	212	1140	222	1131
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	1.03	0.75	0.65	0.61	0.96	1.00	1.09

Intersection Summary
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

5. Gordon Street & Clair Road West/Clair Road East

12-12-2023

6. Farley Drive & Clair Road East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	270	970	120	160	560	120	125	920	145	215	1020	180
Future Volume (vph)	270	970	120	160	560	120	125	920	145	215	1020	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98	1.00
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1741	3460	1710	3420	1646	3378	1727	3347				
Flt Permitted	0.25	1.00	0.14	1.00	0.14	1.00	0.13	1.00	0.13	1.00	0.13	1.00
Satd. Flow (perm)	454	3460	257	3420	231	3378	242	3347				
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	278	1000	124	165	577	124	129	948	149	222	1052	186
RTOR Reduction (vph)	0	10	0	0	20	0	0	14	0	0	16	0
Lane Group Flow (vph)	278	1114	0	165	681	0	129	1083	0	222	1222	0
Confl. Bikes (#/hr)	34	21	21	34	18	34	18	26	26	26	26	18
Heavy Vehicles (%)	0%	1%	2%	2%	1%	0%	0%	6%	2%	5%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	4	5	2	1	2	1	6	6
Permitted Phases	8	8	4	4	4	2	2	6	6	6	6	6
Actuated Green, G (s)	35.0	28.0	35.0	28.0	37.0	30.0	37.0	30.0	37.0	30.0	37.0	30.0
Effective Green, g (s)	35.0	28.0	35.0	28.0	37.0	30.0	37.0	30.0	37.0	30.0	37.0	30.0
Actuated g/C Ratio	0.39	0.31	0.39	0.31	0.41	0.33	0.41	0.33	0.41	0.33	0.41	0.33
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	276	1076	212	1064	205	1126	214	1115				
v/s Ratio Prot	0.08	0.32	0.06	0.20	0.05	0.32	0.08	0.37				
v/s Ratio Perm	0.31	1.04	0.24	0.64	0.21	0.63	0.34	1.10				
Uniform Delay, d1	24.9	31.0	22.1	26.7	21.0	29.4	22.5	30.0				
Progression Factor	1.00	1.00	1.09	1.05	1.57	0.77	1.00	1.00				
Incremental Delay, d2	56.0	36.9	14.9	1.2	4.8	16.5	71.6	57.1				
Delay (s)	F	E	D	C	D	C	F	F				
Level of Service	F	E	D	C	D	C	F	F				
Approach Delay (s)	70.5	31.0	39.1	29.2	37.7	39.2	88.2	88.2				
Approach LOS	E	C	D	C	D	C	F	F				
Intersection Summary												
HCM 2000 Control Delay	61.0 HCM 2000 Level of Service E											
HCM 2000 Volume to Capacity ratio	1.06											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 18.0											
Intersection Capacity Utilization	98.7% ICU Level of Service F											
Analysis Period (min)	15											
c Critical Lane Group												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	210	915	155	45	565	100	85	55	30	135	65	165
Future Volume (vph)	210	915	155	45	565	100	85	55	30	135	65	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Storage Length (m)	131.0	0.0	64.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	0	0	0	0
Taper Length (m)	7.5	3384	0	1785	3399	0	1705	1753	0	7.5	0	1924
Satd. Flow (prot)	1785	3384	0	1785	3399	0	1705	1753	0	7.5	0	1924
Flt Permitted	0.307	0.201		0.201	0.446		0.446			0.841		0.841
Satd. Flow (perm)	571	3384	0	376	3399	0	787	1763	0	0	1632	0
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	26	26	25	25	25	25	31	31	31	49	49	49
Link Speed (k/h)	60	60	60	60	60	60	60	60	60	60	60	60
Link Distance (m)	217.7	217.7	160.7	160.7	160.7	160.7	63.9	63.9	63.9	196.5	196.5	196.5
Travel Time (s)	13.1	13.1	13	13	13	13	29	29	29	29	29	29
Confl. Peds. (#/hr)	20	13	13	13	13	13	36	36	36	29	29	36
Confl. Bikes (#/hr)	2	2	2	2	2	2	2	2	2	2	2	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	0%	0%	0%	1%	0%	0%	0%	2%	1%	0%
Adj. Flow (vph)	219	953	161	47	589	104	89	57	31	141	68	172
Shared Lane Traffic (%)												
Lane Group Flow (vph)	219	1114	0	47	693	0	89	88	0	0	381	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6	6	8	8	8	8	4	4	4
Permitted Phases	5	2	1	6	6	8	8	8	8	4	4	4
Switch Phase	5	2	1	6	6	8	8	8	8	4	4	4
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	15.0	44.0	10.0	39.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	16.7%	48.9%	11.1%	43.3%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)	12.0	38.0	7.0	33.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	7	7	7	7	7	7	12	12	12	12	12	12
Act Effct. Green (s)	57.5	48.5	51.6	41.6	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Actuated g/C Ratio	0.64	0.54	0.57	0.46	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
v/c Ratio	0.44	0.61	0.14	0.44	0.43	0.18	0.43	0.18	0.43	0.18	0.82	0.82
Control Delay	5.1	14.2	6.7	14.2	32.9	16.8	41.8	41.8	41.8	41.8	41.8	41.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

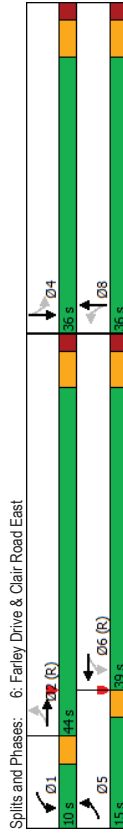
Lanes, Volumes, Timings

6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	5.1	14.2		6.7	14.2		32.9	16.8				41.8
LOS	A	B		A	B		C	B				D
Approach Delay	12.7			13.7			24.9			41.8		
Approach LOS	B			B			C			D		

Intersection Summary
 Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 18.0
 Intersection LOS: B
 Intersection Capacity Utilization: 78.7%
 ICU Level of Service: D
 Analysis Period (min): 15



Phasings

6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		8	8				4
Permitted Phases	2			6			8			4		
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0		7.0
Minimum Split (s)	10.0	35.0		10.0	35.0		32.0	32.0		32.0		32.0
Total Split (s)	15.0	44.0		10.0	39.0		36.0	36.0		36.0		36.0
Total Split (%)	16.7%	48.9%		11.1%	43.3%		40.0%	40.0%		40.0%		40.0%
Maximum Green (s)	12.0	38.0		7.0	33.0		30.0	30.0		30.0		30.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0		4.0
All-Red Time (s)	0.0	2.0		0.0	2.0		2.0	2.0		2.0		2.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead		Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0		0.0
Recall Mode	None	C-Min		None	C-Min		None	None		None		None
Walk Time (s)	11.0			11.0			8.0	8.0		8.0		8.0
Flash Dont Walk (s)	18.0			18.0			18.0	18.0		18.0		18.0
Pedestrian Calls (#/hr)	7			7			12	12		12		12
90th %ile Green (s)	12.0	38.0		7.0	33.0		30.0	30.0		30.0		30.0
90th %ile Term Code	Max	Coord		Max	Coord		Hold	Hold		Max		Max
70th %ile Green (s)	11.9	40.4		7.0	35.5		27.6	27.6		27.6		27.6
70th %ile Term Code	Gap	Coord		Min	Coord		Hold	Hold		Gap		Gap
50th %ile Green (s)	10.1	43.8		7.0	40.7		24.2	24.2		24.2		24.2
50th %ile Term Code	Gap	Coord		Min	Coord		Hold	Hold		Gap		Gap
30th %ile Green (s)	8.6	57.5		0.0	45.9		20.5	20.5		20.5		20.5
30th %ile Term Code	Gap	Coord		Skip	Coord		Hold	Hold		Gap		Gap
10th %ile Green (s)	7.0	62.8		0.0	52.8		15.2	15.2		15.2		15.2
10th %ile Term Code	Min	Coord		Skip	Coord		Hold	Hold		Min		Min

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	219	1114	47	693	89	88	381
v/c Ratio	0.44	0.61	0.14	0.44	0.43	0.18	0.82
Control Delay	5.1	14.2	6.7	14.2	32.9	16.8	41.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.1	14.2	6.7	14.2	32.9	16.8	41.8
Queue Length 50th (m)	4.0	96.3	2.1	42.5	13.3	7.9	56.7
Queue Length 95th (m)	m18.2	m101.5	3.7	68.1	25.6	17.7	83.5
Internal Link Dist (m)	131.0	193.7	64.0	136.7	20.0	39.9	172.5
Turn Bay Length (m)	526	1835	325	1583	262	605	576
Base Capacity (vph)	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.61	0.14	0.44	0.34	0.15	0.66
Intersection Summary							
m	Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↑	↑↑	↑	↑↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	210	915	155	45	565	100	85	55	30
Future Volume (vph)	210	915	155	45	565	100	85	55	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8
Total Lost time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.99	1.00	0.95	1.00	1.00	1.00	0.99	1.00
Frbp. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	0.98
Frbp. ped/bikes	1.00	1.00	1.00	1.00	0.98	1.00	0.98	1.00	0.99
Frt	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98
Flt Protected	1780	3385	1784	3400	1677	1754	1905	1905	1905
Satd. Flow (prot)	0.31	1.00	0.20	1.00	0.45	1.00	0.84	0.84	0.84
Flt Permitted	576	3385	377	3400	788	1754	1632	1632	1632
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	219	953	161	47	589	104	89	57	31
RTOR Reduction (vph)	0	12	0	0	13	0	23	0	0
Lane Group Flow (vph)	219	1102	0	47	680	0	89	65	0
Confl. Peds. (#/hr)	20	13	13	13	20	36	29	29	36
Confl. Bikes (#/hr)	2	2	2	2	2	2	2	2	2
Heavy Vehicles (%)	0%	3%	0%	0%	1%	0%	0%	2%	1%
Turn Type	pm+pt	NA	pm+pt	NA	NA	NA	Perm	NA	NA
Protected Phases	5	2	1	6	8	8	4	4	4
Permitted Phases	2	6	6	6	8	8	4	4	4
Actuated Green, G (s)	54.5	47.3	45.8	41.6	23.5	23.5	23.5	23.5	23.5
Effective Green, g (s)	54.5	47.3	45.8	41.6	23.5	23.5	23.5	23.5	23.5
Actuated g/C Ratio	0.61	0.53	0.51	0.46	0.26	0.26	0.26	0.26	0.26
Clearance Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	481	1779	257	1571	205	457	426	426	426
v/s Ratio Prot	c0.05	c0.33	0.01	0.20	0.11	0.04	0.21	0.21	0.21
v/s Ratio Perm	0.46	0.62	0.18	0.43	0.43	0.14	0.81	0.81	0.81
Uniform Delay, d1	8.7	15.0	11.6	16.3	27.7	25.5	31.2	31.2	31.2
Progression Factor	0.62	0.86	0.71	0.76	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1	0.3	0.9	1.5	0.1	10.8	10.8	10.8
Delay (s)	5.4	13.0	8.6	13.3	29.2	25.7	42.0	42.0	42.0
Level of Service	A	B	A	B	C	C	D	D	D
Approach Delay (s)	11.8	13.0	13.0	27.4	27.4	27.4	42.0	42.0	42.0
Approach LOS	B	B	B	C	C	C	D	D	D
Intersection Summary									
HCM 2000 Control Delay	17.5 HCM 2000 Level of Service B								
HCM 2000 Volume to Capacity ratio	0.68								
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0								
Intersection Capacity Utilization	78.7% ICU Level of Service D								
Analysis Period (min)	15								
c Critical Lane Group									

Lanes, Volumes, Timings
7. Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Future Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1797	0	0	1722	0	0	1834	0	0	1956	0
Flt Permitted	0.963			0.993			0.996				0.990	
Satd. Flow (perm)	0	1797	0	0	1722	0	0	1834	0	0	1956	0
Link Speed (k/h)		30		30			30				30	
Link Distance (m)		57.2		91.1			54.0				63.9	
Travel Time (s)		6.9		10.9			6.5				7.7	
Confl. Peds. (#/hr)	5		5	5	5	5	26	22	22			26
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%
Adj. Flow (vph)	94	22	6	11	22	44	6	56	11	56	61	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	122	0	0	77	0	0	73	0	0	273	0
Sign Control		Stop		Stop			Stop		Stop		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	41.8%
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop		Stop				Stop			Stop	
Traffic Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Future Volume (vph)	85	20	5	10	20	40	5	50	10	50	55	140
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	94	22	6	11	22	44	6	56	11	56	61	156
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	122	77	73	273								
Volume Left (vph)	94	11	6	56								
Volume Right (vph)	6	44	11	156								
Head (s)		0.12	-0.31	-0.07	-0.29							
Departure Headway (s)		4.9	4.5	4.6	4.2							
Degree Utilization, x		0.17	0.10	0.09	0.32							
Capacity (veh/h)		680	725	728	816							
Control Delay (s)		8.9	8.0	8.1	9.1							
Approach Delay (s)		8.9	8.0	8.1	9.1							
Approach LOS		A	A	A	A							

Intersection Summary	
Delay	8.8
Level of Service	A
Intersection Capacity Utilization	41.8%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Future Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1766	0	0	1723	0	0	1795	0	0	1804	0
Flt Permitted	0.968			0.984			0.988				0.979	
Satd. Flow (perm)	0	1766	0	0	1723	0	0	1795	0	0	1804	0
Link Speed (k/h)	30			30			30				30	
Link Distance (m)	31.6			39.2			55.2				54.0	
Travel Time (s)	3.8			4.7			6.6				6.5	
Confl. Peds. (#/hr)	13		45	45		13	45		15	15		45
Confl. Bikes (#/hr)			2			5						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	34	6	11	11	6	17	11	23	11	34	34	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	34	0	0	45	0	0	79	0
Sign Control		Stop		Stop			Stop				Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	30.2%
Analysis Period (min)	15
ICU Level of Service A	

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop		Stop			Stop		Stop		Stop	
Traffic Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Future Volume (vph)	30	5	10	10	5	15	10	20	10	30	30	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	34	6	11	11	6	17	11	23	11	34	34	11
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	51	34	45	79								
Volume Left (vph)	34	11	11	34								
Volume Right (vph)	11	17	11	11								
Head (s)	0.00	-0.24	-0.10	0.00								
Departure Headway (s)	4.2	4.0	4.1	4.1								
Degree Utilization, x	0.06	0.04	0.05	0.09								
Capacity (veh/h)	827	870	854	849								
Control Delay (s)	7.5	7.1	7.3	7.5								
Approach Delay (s)	7.5	7.1	7.3	7.5								
Approach LOS	A	A	A	A								

Intersection Summary	
Delay	7.4
Level of Service	A
Intersection Capacity Utilization	30.2%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings
9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations						
Traffic Volume (vph)	55	5	0	120	150	45
Future Volume (vph)	55	5	0	120	150	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1851	0	0	2090	2025	0
Flt Permitted	0.956					
Satd. Flow (perm)	1851	0	0	2090	2025	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Confl. Peds. (#/hr)			8			8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	16%	0%	0%	0%	0%
Adj. Flow (vph)	62	6	0	135	169	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	135	220	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	21.4%					
Analysis Period (min)	15					
	ICU Level of Service A					

HCM Unsignalized Intersection Capacity Analysis
9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations						
Traffic Volume (veh/h)	55	5	0	120	150	45
Future Volume (Veh/h)	55	5	0	120	150	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	62	6	0	135	169	51
Pedestrians	8					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	
Median type						
Median storage (veh)						
Upstream signal (m)					65	
pX, platoon unblocked						
vC, conflicting volume	338	202	228			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	338	202	228			
iC, single (s)	6.4	6.4	4.1			
iC, 2 stage (s)						
p0 queue free %	3.5	3.4	2.2			
ICU	91	99	100			
ICM capacity (veh/h)	655	798	1342			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	68	135	220			
Volume Left	62	0	0			
Volume Right	6	0	51			
CSH	666	1342	1700			
Volume to Capacity	0.10	0.00	0.13			
Queue Length 95th (m)	2.7	0.0	0.0			
Control Delay (s)	11.0	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	11.0	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay	1.8					
Intersection Capacity Utilization	21.4%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	180	30	10	120	30	10
Traffic Volume (vph)	180	30	10	120	30	10
Future Volume (vph)	1800	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.5	4.5	4.5	4.5	3.5	3.5
Lane Width (m)	2050	0	0	2044	1750	0
Satd. Flow (prot)	0.996	0.964				
Flt Permitted	2050	0	0	2044	1750	0
Satd. Flow (perm)	40			40	30	
Link Speed (k/h)	90.5			63.5	67.2	
Link Distance (m)	8.1			5.7	8.1	
Travel Time (s)		1	1		2	17
Confl. Peds. (#/hr)	0.92	0.92	0.92	0.92	0.92	0.92
Peak Hour Factor	0%	0%	0%	2%	0%	0%
Heavy Vehicles (%)	196	33	11	130	33	11
Adj. Flow (vph)						
Shared Lane Traffic (%)						
Lane Group Flow (vph)	229	0	0	141	44	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary	Other					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	28.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	180	30	10	120	30	10
Traffic Volume (veh/h)	180	30	10	120	30	10
Future Volume (Veh/h)	1800	1900	1900	1900	1900	1900
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	196	33	11	130	33	11
Pedestrians	2			17	1	
Lane Width (m)	4.5			4.5	3.5	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			2	0	
Right turn flare (veh)						
Median type	None					
Median storage (veh)	None					
Upstream signal (m)	311					
pX, platoon unblocked						
vC, conflicting volume	230					
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	230					
iC, single (s)	4.1					
iC, 2 stage (s)	2.2					
p0 queue free %	99					
ICU	1349					
ICU capacity (veh/h)	629					
ICU Level of Service	A					
Direction_Lane #	EB 1	WB 1	NB 1			
Volume Total	229	141	44			
Volume Left	0	11	33			
Volume Right	33	0	11			
eSH	1700	1349	665			
Volume to Capacity	0.13	0.01	0.07			
Queue Length 95th (m)	0.0	0.2	1.7			
Control Delay (s)	0.0	0.7	10.8			
Lane LOS	A	A	B			
Approach Delay (s)	0.0	0.7	10.8			
Approach LOS	B	B	B			
Intersection Summary	Other					
Average Delay	1.4					
Intersection Capacity Utilization	28.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

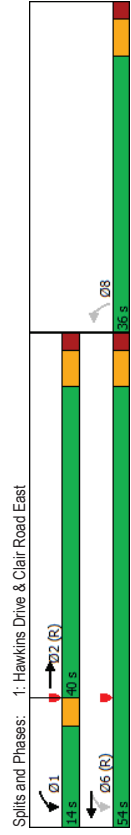
12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Traffic Volume (vph)	715	45	160	580	35	115
Future Volume (vph)	715	45	160	580	35	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)		7.5		3466	1852	0
Satd. Flow (prot)	3485	0	1767	3466	1852	0
Flt Permitted			0.308		0.989	
Satd. Flow (perm)	3485	0	572	3466	1852	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	8					120
Link Speed (k/h)	60			60	50	
Link Distance (m)	1607			130.4	64.6	
Travel Time (s)	9.6			7.8	4.7	
Confl. Peds. (#/hr)		6		6		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	1%	3%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Adj. Flow (vph)	745	47	167	604	36	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	792	0	167	604	156	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2		1	6		
Permitted Phases		6		6	8	
Detector Phase	2	1	6	8		
Switch Phase						
Minimum Initial (s)	10.0	7.0	10.0	10.0	7.0	
Minimum Split (s)	35.0	10.0	35.0	35.0	35.0	
Total Split (s)	40.0	14.0	54.0	36.0	36.0	
Total Split (%)	44.4%	15.6%	60.0%	40.0%	40.0%	
Maximum Green (s)	34.0	11.0	48.0	30.0	30.0	
Yellow Time (s)	4.0	3.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	0.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	3.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	None	C-Min	None	None	
Walk Time (s)	11.0	11.0	11.0	8.0	8.0	
Flesh Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	
Pedestrian Calls (#/hr)	7	7	7	12	12	
Act Effect Green (s)	55.5	69.7	66.7	11.3	11.3	
Actuated g/C Ratio	0.62	0.77	0.74	0.13	0.13	
v/c Ratio	0.37	0.30	0.24	0.46	0.46	
Control Delay	5.5	5.2	4.9	15.5	15.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-12-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Total Delay	5.5	5.2	4.9	15.5		
LOS	A	A	A	B		
Approach Delay	5.5		5.0	15.5		
Approach LOS	A		A	B		
Intersection Summary						
Area Type:	Other					
Cycle Length:	90					
Actuated Cycle Length:	90					
Offset:	2 (2%), Referenced to phase 2EBT and 6:WBT, Start of Green					
Natural Cycle:	80					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.46					
Intersection Signal Delay:	6.2					
Intersection LOS:	A					
Intersection Capacity Utilization:	55.4%					
Analysis Period (min):	15					



Splits and Phases: 1: Hawkins Drive & Clair Road East

Phasings
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	WBL	WBT	NBL
Lane Group	2	1	6	
Protected Phases				
Permitted Phases	6	8		
Minimum Initial (s)	10.0	7.0	10.0	7.0
Minimum Split (s)	35.0	10.0	35.0	35.0
Total Split (s)	40.0	14.0	54.0	36.0
Total Split (%)	44.4%	15.6%	60.0%	40.0%
Maximum Green (s)	34.0	11.0	48.0	30.0
Yellow Time (s)	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	0.0	2.0	2.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	C-Min	None	C-Min	None
Walk Time (s)	11.0		11.0	8.0
Flash Dont Walk (s)	18.0		18.0	18.0
Pedestrian Calls (#/hr)	7		7	12
90th %ile Green (s)	37.2	11.8	52.0	26.0
90th %ile Term Code	Coord	Gap	Coord	Ped
70th %ile Green (s)	57.7	7.9	68.6	9.4
70th %ile Term Code	Coord	Gap	Coord	Gap
50th %ile Green (s)	60.5	7.2	70.7	7.3
50th %ile Term Code	Coord	Gap	Coord	Gap
30th %ile Green (s)	61.0	7.0	71.0	7.0
30th %ile Term Code	Coord	Min	Coord	Min
10th %ile Green (s)	61.0	7.0	71.0	7.0
10th %ile Term Code	Coord	Min	Coord	Min

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBTL - Start of Green
 Control Type: Actuated-Coordinated

Queues
1: Hawkins Drive & Clair Road East

12-12-2023

	EBT	WBL	WBT	NBL
Lane Group	792	167	604	156
Lane Group Flow (vph)	0.37	0.30	0.24	0.46
v/c Ratio	5.5	5.2	4.9	15.5
Control Delay	0.0	0.0	0.0	0.0
Queue Delay	5.5	5.2	4.9	15.5
Total Delay	5.5	5.2	4.9	15.5
Queue Length 50th (m)	13.8	4.3	11.4	6.3
Queue Length 95th (m)	32.7	20.6	37.3	18.4
Internal Link Dist (m)	136.7		106.4	40.6
Turn Bay Length (m)		25.0		
Base Capacity (vph)	2151	591	2567	697
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.37	0.28	0.24	0.22

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: Hawkins Drive & Clair Road East

12-12-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑	↑↑	↑↑	↑
Traffic Volume (vph)	715	45	160	580	35	115
Future Volume (vph)	715	45	160	580	35	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Total Lost time (s)	6.0	3.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.99	1.00	1.00	1.00	0.90	1.00
Flt Protected	1.00	0.95	1.00	0.99		
Satd. Flow (prot)	3485	1766	3466	1852		
Flt Permitted	1.00	0.31	1.00	0.99		
Satd. Flow (perm)	3485	572	3466	1852		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	745	47	167	604	36	120
RTOR Reduction (vph)	3	0	0	105	0	0
Lane Group Flow (vph)	789	0	167	604	51	0
Confl. Peds. (#/hr)	6	6				
Heavy Vehicles (%)	1%	0%	1%	3%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2	1	6			
Permitted Phases		6	8			
Actuated Green, G (s)	55.5	66.7	66.7	11.3		
Effective Green, g (s)	55.5	66.7	66.7	11.3		
Actuated g/C Ratio	0.62	0.74	0.74	0.13		
Clearance Time (s)	6.0	3.0	6.0	6.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	2149	532	2568	232		
v/s Ratio Prot	c0.23	c0.03	0.17			
v/s Ratio Perm		0.20		c0.03		
v/c Ratio	0.37	0.31	0.24	0.22		
Uniform Delay, d1	8.5	3.7	3.7	35.4		
Progression Factor	0.50	1.00	1.00	1.11		
Incremental Delay, d2	0.4	0.3	0.2	0.5		
Delay (s)	4.7	4.1	3.9	39.9		
Level of Service	A	A	A	D		
Approach Delay (s)	4.7	3.9	39.9			
Approach LOS	A	A	A	D		
Intersection Summary	Other					
HCM 2000 Control Delay	7.5 HCM 2000 Level of Service					
HCM 2000 Volume to Capacity ratio	0.34					
Actuated Cycle Length (s)	90.0 Sum of lost time (s)					
Intersection Capacity Utilization	55.4% ICU Level of Service					
Analysis Period (min)	15					
c Critical Lane Group						

Lanes, Volumes, Timings
2: Hawkins Drive & Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔	↔		↔	↔
Traffic Volume (vph)	40	75	5	50	70	10	5	40	30	5	90	40
Future Volume (vph)	40	75	5	50	70	10	5	40	30	5	90	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	2046	0	1805	0	0	1971	0	0	0	1950	0
Flt Permitted	0.984			0.981			0.997				0.998	
Satd. Flow (perm)	0	2046	0	1805	0	0	1971	0	0	0	1950	0
Link Speed (k/h)		40		40			40				40	
Link Distance (m)		63.5		196.8			136.5				121.9	
Travel Time (s)		5.7		17.7			12.3				11.0	
Confl. Peds. (#/hr)	12	11	11	12	6	3	3	3	3	3	3	6
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	9%
Adj. Flow (vph)	43	81	5	54	75	11	5	43	32	5	97	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	129	0	140	0	0	80	0	0	0	145	0
Sign Control		Free		Free			Stop				Stop	
Intersection Summary	Other											
Area Type:	Unsignalized											
Control Type:	ICU Level of Service A											
Intersection Capacity Utilization	27.3%											
Analysis Period (min)	15											

2: Hawkins Drive & Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	75	5	50	70	10	5	40	30	5	90	40
Future Volume (Veh/h)	40	75	5	50	70	10	5	40	30	5	90	40
Sign Control	Free											
Grade	0%											
Peak Hour Factor	0.93	0.93	0.83	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	43	81	5	54	75	11	5	43	32	5	97	43
Pedestrians	6											
Lane Width (m)	4.5											
Walking Speed (m/s)	1.2											
Percent Blockage	1											
Right turn flare (veh)	None											
Median type	None											
Median storage (veh)	None											
Upstream signal (m)	375											
pX platoon unblocked	None											
VC, conflicting volume	98											
VC1, stage 1 conf vol	98											
VC2, stage 2 conf vol	98											
IC, single (s)	4.1											
IC, 2 stage (s)	2.2											
p0 queue free %	97											
CM capacity (veh/h)	1489											
Direction_Lane #	EB 1	WB 1	NB 1	SB 1	EB 1	WB 1	NB 1	SB 1	EB 1	WB 1	NB 1	SB 1
Volume Total	129	140	80	145	129	140	80	145	129	140	80	145
Volume Left	43	54	5	5	43	54	5	5	43	54	5	5
Volume Right	5	11	32	43	5	11	32	43	5	11	32	43
cSH	1489	1492	605	581	1489	1492	605	581	1489	1492	605	581
Volume to Capacity	0.03	0.04	0.13	0.25	0.03	0.04	0.13	0.25	0.03	0.04	0.13	0.25
Queue Length 95th (m)	0.7	0.9	3.6	7.8	0.7	0.9	3.6	7.8	0.7	0.9	3.6	7.8
Control Delay (s)	2.6	3.1	11.9	13.3	2.6	3.1	11.9	13.3	2.6	3.1	11.9	13.3
Lane LOS	A	A	B	B	A	A	B	B	A	A	B	B
Approach Delay (s)	2.6			3.1			11.9			13.3		
Approach LOS	B			B			B			B		
Intersection Summary												
Average Delay	7.4											
Intersection Capacity Utilization	27.3%											
Analysis Period (min)	15											

3: Poppy Drive East & Fanley Drive

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	125	110	15	15	15	15	15	15	15	15	35
Future Volume (vph)	25	125	110	15	15	15	15	15	15	15	15	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5											
Satd. Flow (prot)	0	2073	1970	0	1675	0	0	0	0	0	0	0
Flt Permitted	0.992											
Satd. Flow (perm)	0	2073	1970	0	1675	0	0	0	0	0	0	0
Link Speed (k/h)	40											
Link Distance (m)	220.5											
Travel Time (s)	19.8											
Confl. Peds. (#/hr)	15											
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%											
Adj. Flow (vph)	27	137	121	16	16	16	16	16	16	16	16	38
Shared Lane Traffic (%)	0											
Lane Group Flow (vph)	0	164	137	0	54	0	0	0	0	0	0	0
Sign Control	Free			Free			Free			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	30.7%											
Analysis Period (min)	15											

3: Poppy Drive East & Farley Drive

12-12-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	125	110	15	15	35
Future Volume (Veh/h)	25	125	110	15	15	35
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	137	121	16	16	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (m)						
pX platoon unblocked						
vC conflicting volume						
vC1 stage 1 conf vol						
vC2 stage 2 conf vol						
vCn unblocked vol						
IC single (s)						
IC 2 stage (s)						
p0 queue free %						
CM capacity (veh/h)						
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	164	137	54			
Volume Left	27	0	16			
Volume Right	0	16	38			
cSH	1424	1700	804			
Volume to Capacity	0.02	0.08	0.07			
Queue Length 95th (m)	0.5	0.0	1.7			
Control Delay (s)	1.4	0.0	9.8			
Lane LOS	A	A	A			
Approach Delay (s)	1.4	0.0	9.8			
Approach LOS	A	A	A			
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			30.7%			
Analysis Period (min)			15			
ICU Level of Service			A			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	20	95	85	30	65	125	895	100	60	1060	40
Future Volume (vph)	55	20	95	85	30	65	125	895	100	60	1060	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	0	0	0	0	0	0	91.0	0	0	70.0	0	0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5	0	7.5	0	1880	0	2046	3504	0	1745	3547	0
Satd. Flow (prot)	0	1699	0	0	1880	0	2046	3504	0	1745	3547	0
Flt Permitted	0	0.795	0	0	0.699	0	0.158	0.213	0	0.213	0	0
Satd. Flow (perm)	0	1368	0	0	1342	0	340	3504	0	390	3547	0
Right Turn on Red		Yes		Yes		Yes		Yes	Yes		Yes	Yes
Satd. Flow (RTOR)	69			31			18			6		6
Link Speed (k/h)	40			40			60			60		60
Link Distance (m)	93.0			220.5			196.0			180.5		180.5
Travel Time (s)	8.4			19.8			11.8			10.8		10.8
Conf. Peds. (#/hr)	14			6			14			10		10
Conf. Bikes (#/hr)										1		1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	23%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0
Adj. Flow (vph)	60	22	104	93	33	71	137	984	110	66	1165	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	186	0	0	197	0	137	1094	0	66	1209	0
Turn Type	Perm	NA	Perm	NA	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8	8	4	4	4	4	2	2	1	6	6	6
Permitted Phases	8	8	4	4	4	4	5	2	1	6	6	6
Detector Phase												
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	11.0	50.0	10.0	35.0	35.0	35.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	11.0	50.0	10.0	49.0	49.0	49.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	12.2%	55.6%	11.1%	54.4%	54.4%	54.4%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	8.0	44.0	7.0	43.0	43.0	43.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0
Lead/Lag							Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	None	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	3	3	5	3	3	3
Act Effct Green (s)	16.1	16.1	16.1	16.1	16.1	16.1	62.9	53.9	61.4	51.4	51.4	51.4
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18	0.18	0.70	0.60	0.68	0.57	0.57	0.57
v/C Ratio	0.62	0.62	0.62	0.74	0.74	0.74	0.36	0.52	0.18	0.60	0.60	0.60
Control Delay	29.0	29.0	29.0	45.2	45.2	45.2	7.5	13.1	4.2	9.5	9.5	9.5

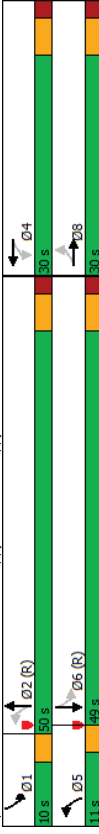
Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	29.0	45.2	45.2	45.2	45.2	45.2	7.5	13.1	13.1	4.2	4.2	9.6
LOS	C	C	C	D	D	D	A	B	B	A	A	A
Approach Delay	29.0	45.2	45.2	45.2	45.2	45.2	12.5	12.5	12.5	9.3	9.3	9.3
Approach LOS	C	C	C	D	D	D	B	B	B	A	A	A
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green											
Natural Cycle:	75											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.74											
Intersection Signal Delay:	14.4											
Intersection Capacity Utilization:	68.7%											
Analysis Period (min):	15											
ICU Level of Service:	C											

Splits and Phases: 4: Gordon Street & Poppy Drive West/Poppy Drive East



Phasings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases												
Permitted Phases	8	7	7	4	4	4	5	2	1	6	6	6
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	11.0	50.0	10.0	49.0	35.0	35.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	11.0	50.0	10.0	49.0	35.0	35.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	12.2%	55.6%	11.1%	54.4%	54.4%	54.4%
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	8.0	44.0	7.0	43.0	43.0	43.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Lead/Lag							Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	17.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	12.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	3	3	3	3	3	3
90th %ile Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	8.0	44.0	7.0	43.0	43.0	43.0
90th %ile Term Code	Ped	Ped	Ped	Ped	Ped	Ped	Max	Coord	Max	Coord	Max	Coord
70th %ile Green (s)	19.0	19.0	19.0	19.0	19.0	19.0	8.1	49.0	7.0	47.9	47.9	47.9
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Min	Coord	Min	Coord
50th %ile Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	7.2	52.0	7.0	51.8	51.8	51.8
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Min	Coord	Min	Coord
30th %ile Green (s)	13.0	13.0	13.0	13.0	13.0	13.0	7.0	55.0	7.0	55.0	55.0	55.0
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Coord	Min	Coord	Min	Coord
10th %ile Green (s)	8.7	8.7	8.7	8.7	8.7	8.7	7.0	69.3	0.0	59.3	59.3	59.3
10th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Coord	Skip	Coord	Skip	Coord
Intersection Summary												
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green											
Control Type:	Actuated-Coordinated											

Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	186	197	137	1094	66	1209
Lane Group Flow (vph)	0.62	0.74	0.36	0.52	0.18	0.60
v/c Ratio	23.0	45.2	7.5	13.1	4.2	9.5
Control Delay	0.0	0.0	0.0	0.0	0.0	0.1
Queue Delay	29.0	45.2	7.5	13.1	4.2	9.6
Total Delay	19.4	29.0	6.2	58.3	2.6	51.7
Queue Length 50th (m)	37.3	47.6	15.8	94.4	m3.0	34.5
Queue Length 95th (m)	69.0	196.5	172.0			156.5
Internal Link Dist (m)			91.0		70.0	
Turn Bay Length (m)	415	380	390	2104	371	2028
Base Capacity (vph)	0	0	0	0	0	102
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.52	0.35	0.52	0.18	0.63
Intersection Summary						
m	Volume for 95th percentile queue is metered by upstream signal.					

HCM Signalized Intersection Capacity Analysis
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		+		+			+	+		+	+		
Traffic Volume (vph)	55	20	95	85	30	65	125	895	100	60	1060	40	
Future Volume (vph)	55	20	95	85	30	65	125	895	100	60	1060	40	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	
Frbp. ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.92	0.98	0.98	0.95	1.00	0.98	1.00	0.98	1.00	0.95	1.00	0.99	
Flt Protected	1693	1877	2045	3503	1744	3546							
Satd. Flow (perm)	0.80	0.70	0.70	0.16	1.00	0.21	1.00						
Satd. Flow (perm)	1368	1343	341	3503	392	3546							
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Adj. Flow (vph)	60	22	104	93	33	71	137	984	110	66	1165	44	
RTOR Reduction (vph)	0	57	0	0	25	0	0	7	0	0	3	0	
Lane Group Flow (vph)	0	129	0	0	172	0	137	1087	0	66	1206	0	
Confl. Bikes (#/hr)	14	6	6	6	14	10	10	10	10	10	10	10	
Heavy Vehicles (%)	23%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0	
Turn Type	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	
Protected Phases		8		4		4	5	2	2	1	6		
Permitted Phases		8		4		4	2		2	6			
Actuated Green, G (s)	16.1	16.1	16.1	16.1	60.8	53.3	60.8	53.3	57.0	51.4	51.4	51.4	
Effective Green, g (s)	16.1	16.1	16.1	16.1	60.8	53.3	60.8	53.3	57.0	51.4	51.4	51.4	
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.68	0.59	0.68	0.59	0.63	0.57	0.57	0.57	
Clearance Time (s)	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	244	240	240	240	372	2074	332	2025					
v/s Ratio Prot	0.09	0.13	0.22	0.22	0.31	0.01	0.01	0.34					
v/c Ratio Perm	0.53	0.71	0.37	0.52	0.20	0.60							
Uniform Delay, d1	33.5	34.8	7.3	10.8	6.9	12.5							
Progression Factor	1.00	1.00	1.00	1.00	1.00	0.70	0.62						
Incremental Delay, d2	2.2	9.7	0.6	1.0	0.2	0.8							
Delay (s)	35.7	44.5	7.9	11.8	5.0	8.7							
Level of Service	D	D	A	B	A	A							
Approach Delay (s)	35.7	44.5	11.4	11.4	8.5								
Approach LOS	D	D	D	B	A								
Intersection Summary													
HCM 2000 Control Delay	13.9						HCM 2000 Level of Service						B
HCM 2000 Volume to Capacity ratio	0.60												
Actuated Cycle Length (s)	90.0						Sum of lost time (s)						15.0
Intersection Capacity Utilization	68.7%						ICU Level of Service						C
Analysis Period (min)	15												
c Critical Lane Group													

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	33.5	36.1		40.1	32.7		27.2	24.3		30.4	31.0	
LOS	C	D		D	C		C	C		C	C	
Approach Delay	35.6			34.4			24.6			30.9		
Approach LOS	D			C			C			C		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	190	610	90	175	485	125	105	765	105	215	940	125
Traffic Volume (vph)	190	610	90	175	485	125	105	765	105	215	940	125
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.3	3.5	3.5	3.3	3.5	3.5	3.5	3.3	3.5	3.3	3.5	3.5
Lane Width (m)	70.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	0.0	163.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	17.45	34.86	0	17.11	34.00	0	16.46	34.84	0	17.28	34.76	0
Satd. Flow (prot)	0.255			0.188			0.130			0.148		
Flt Permitted	463	3486	0	336	3400	0	225	3484	0	268	3476	0
Satd. Flow (perm)	19	Yes		37	Yes		18	Yes		17	Yes	
Right Turn on Red	60			60			60			60		
Satd. Flow (RTOR)	268.6			217.7			180.5			233.4		
Link Speed (k/h)	16.1			13.1			10.8			14.0		
Link Distance (m)	26			26			21			19		
Travel Time (s)	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Confl. Peds. (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Confl. Bikes (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	0%	4%
Heavy Vehicles (%)	196	629	93	180	500	129	108	789	108	222	969	129
Adj. Flow (vph)	196	722	0	180	629	0	108	897	0	222	1098	0
Shared Lane Traffic (%)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Lane Group Flow (vph)	3	8	7	4	5	2	1	6	4	2	6	1
Turn Type	3	8	7	4	5	2	1	6	4	2	6	1
Protected Phases	3	8	7	4	5	2	1	6	4	2	6	1
Permitted Phases	3	8	7	4	5	2	1	6	4	2	6	1
Detector Phase	3	8	7	4	5	2	1	6	4	2	6	1
Switch Phase	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Initial (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (s)	11.1%	37.8%	11.1%	37.8%	11.1%	38.9%	12.2%	40.0%	12.2%	40.0%	12.2%	40.0%
Total Split (%)	7.0	28.0	7.0	28.0	7.0	29.0	8.0	30.0	8.0	30.0	8.0	30.0
Maximum Green (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Yellow Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Last Time Adjust (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Total Lost Time (s)	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead-Lag Optimize?	None	Min	None	Min	None	Min	None	Min	None	Min	None	Min
Vehicle Extension (s)	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0
Recall Mode	12			12			7			7		
Flash Dont Walk (s)	33.7	23.5	33.8	23.5	41.4	30.7	46.4	35.5	46.4	35.5	46.4	35.5
Pedestrian Calls (#/hr)	0.37	0.26	0.38	0.26	0.46	0.34	0.52	0.39	0.52	0.39	0.52	0.39
Act Effct Green (s)	0.71	0.78	0.76	0.69	0.48	0.75	0.72	0.79	0.72	0.79	0.72	0.79
Actuated g/C Ratio	33.5	36.1	40.1	32.7	27.2	24.3	30.4	31.0	30.4	31.0	30.9	31.0
v/c Ratio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay												
Queue Delay												



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Protected Phases	3	8	7	4	5	2	6
Permitted Phases	8	4	7	4	2	6	1
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	11.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	38.9%	12.2%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	29.0	8.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	12	12	12	12	7	7	7
90th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	29.0	8.0
90th %ile Term Code	Max	Max	Max	Ped	Max	Coord	Max
70th %ile Green (s)	7.0	26.3	7.0	26.3	8.7	29.0	9.7
70th %ile Term Code	Max	Gap	Max	Hold	Max	Coord	Max
50th %ile Green (s)	7.0	24.2	7.0	24.2	8.5	29.0	11.8
50th %ile Term Code	Max	Gap	Max	Hold	Gap	Coord	Max
30th %ile Green (s)	7.0	21.2	7.0	21.2	7.3	31.1	12.7
30th %ile Term Code	Max	Gap	Max	Hold	Gap	Coord	Gap
10th %ile Green (s)	8.1	17.9	8.2	18.0	0.0	35.5	10.4
10th %ile Term Code	Gap	Gap	Gap	Hold	Skip	Coord	Gap

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	196	722	180	629	108	897	222
v/c Ratio	0.71	0.78	0.76	0.69	0.48	0.75	0.72
Control Delay	33.5	36.1	40.1	32.7	27.2	24.3	30.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	36.1	40.1	32.7	27.2	24.3	30.4
Queue Length 50th (m)	23.0	61.9	22.5	58.4	4.0	78.0	21.0
Queue Length 95th (m)	#38.5	77.7	m#40.8	60.5	27.0	57.2	#62.6
Internal Link Dist (m)	244.6	193.7	163.0	209.4	156.5	163.0	209.4
Turn Bay Length (m)	70.0	32.0	72.0	163.0	308	1383	308
Base Capacity (vph)	276	1097	236	1083	225	1200	308
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.66	0.76	0.58	0.48	0.75	0.72

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

5. Gordon Street & Clair Road West/Clair Road East

12-12-2023

6. Farley Drive & Clair Road East

12-12-2023

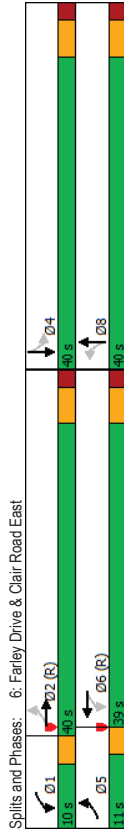
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	190	610	90	175	485	125	105	765	105	215	940	125
Future Volume (vph)	190	610	90	175	485	125	105	765	105	215	940	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98	1.00	1.00	0.97	1.00	0.98	1.00	0.98	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Sat'd Flow (prot)	1740	3484	1709	3400	1646	3484	1727	3478	1727	3478	1727	3478
Flt Permitted	0.26	1.00	0.19	1.00	0.13	1.00	0.15	1.00	0.15	1.00	0.15	1.00
Sat'd Flow (perm)	457	3484	338	3400	225	3484	289	3478	289	3478	289	3478
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	196	629	93	180	500	129	108	789	108	222	969	129
RTOR Reduction (vph)	0	14	0	27	0	0	12	0	0	0	10	0
Lane Group Flow (vph)	196	708	0	180	602	0	108	885	0	222	1088	0
Conf. Peds. (#/hr)	36	26	26	36	21	36	21	19	19	19	19	21
Conf. Bikes (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	0%	4%
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	1	6	1	6	1	6
Permitted Phases	8	8	4	4	2	2	2	2	2	2	2	2
Actuated Green, G (s)	30.7	23.5	30.7	23.5	37.1	30.8	37.1	30.8	37.1	30.8	37.1	30.8
Effective Green, g (s)	30.7	23.5	30.7	23.5	37.1	30.8	37.1	30.8	37.1	30.8	37.1	30.8
Actuated g/C Ratio	0.34	0.26	0.34	0.26	0.41	0.34	0.41	0.34	0.41	0.34	0.41	0.34
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	261	909	224	887	192	1192	302	1352	302	1352	302	1352
v/s Ratio Prot	0.06	0.20	c0.06	0.18	0.04	0.25	c0.09	c0.31	c0.09	c0.31	c0.09	c0.31
v/s Ratio Perm	0.20	0.21	c0.21	0.19	0.19	0.25	0.28	0.28	0.28	0.28	0.28	0.28
v/c Ratio	0.75	0.78	0.80	0.68	0.56	0.74	0.74	0.80	0.74	0.80	0.74	0.80
Uniform Delay, d1	23.0	30.8	22.9	29.9	18.5	26.1	16.3	24.5	16.3	24.5	16.3	24.5
Progression Factor	1.00	1.00	1.10	1.05	1.67	0.77	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.5	4.3	16.9	1.9	3.3	3.7	9.0	5.2	9.0	5.2	9.0	5.2
Delay (s)	34.5	35.1	42.0	33.1	34.0	23.9	25.2	29.6	25.2	29.6	25.2	29.6
Level of Service	C	D	D	C	C	C	C	C	C	C	C	C
Approach Delay (s)	35.0	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1
Approach LOS	C	C	D	C	D	C	C	C	C	C	C	C
Intersection Summary												
HCM 2000 Control Delay	30.5 HCM 2000 Level of Service C											
HCM 2000 Volume to Capacity ratio	0.82											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 18.0											
Intersection Capacity Utilization	85.6% ICU Level of Service E											
Analysis Period (min)	15											
c Critical Lane Group												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	135	590	165	35	485	100	125	70	35	140	65	170
Future Volume (vph)	135	590	165	35	485	100	125	70	35	140	65	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	131.0	0.0	64.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	7.5	3400	0	7.5	3339	0	1705	1765	0	7.5	0	1954
Sat'd Flow (prot)	1767	3400	0	1785	3339	0	1705	1765	0	1767	0	1954
Flt Permitted	0.335	0.309	0.309	0.309	0.445	0.309	0.445	0.309	0.445	0.309	0.445	0.309
Sat'd Flow (perm)	617	3400	0	578	3339	0	790	1765	0	617	0	1638
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sat'd Flow (RTOR)	45	30	30	30	30	30	30	30	30	30	30	30
Link Speed (k/h)	60	60	60	60	60	60	60	60	60	60	60	60
Link Distance (m)	217.7	160.7	160.7	160.7	160.7	160.7	160.7	160.7	160.7	160.7	160.7	160.7
Travel Time (s)	13.1	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
Conf. Peds. (#/hr)	17	9	9	9	9	9	9	9	9	9	9	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	147	64	179	38	527	109	136	76	38	152	71	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	820	0	38	636	0	136	114	0	408	0	408
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6	6	8	8	8	8	8	8	8
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Detector Phase	5	2	2	2	2	2	2	2	2	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	11.0	40.0	10.0	39.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	12.2%	44.4%	11.1%	43.3%	44.4%	44.4%	44.4%	44.4%	44.4%	44.4%	44.4%	44.4%
Maximum Green (s)	8.0	34.0	7.0	33.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6	6
Act Effct Green (s)	55.0	46.4	51.3	41.1	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
Actuated g/C Ratio	0.61	0.52	0.57	0.41	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
v/c Ratio	0.30	0.46	0.09	0.41	0.61	0.22	0.61	0.22	0.61	0.22	0.61	0.22
Control Delay	7.1	13.4	5.6	14.2	38.6	16.8	38.6	16.8	38.6	16.8	38.6	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	13.4	5.6	14.2	38.6	16.8	38.6	16.8	38.6	16.8	38.6	16.8

Lanes, Volumes, Timings
6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	B	A	B	A	B	D	B	B	D	D	D
Approach Delay	12.5			13.7			28.7					38.8
Approach LOS	B			B			C					D
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green											
Natural Cycle:	80											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.81											
Intersection Signal Delay:	19.3											
Intersection Capacity Utilization:	74.2%											
Analysis Period (min):	15											



Phasings
6: Farley Drive & Clair Road East

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		8	8			4	4
Permitted Phases	2			6								
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	11.0	40.0	10.0	39.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Maximum Green (s)	12.2%	44.4%	11.1%	43.3%	44.4%	44.4%	44.4%	44.4%	44.4%	44.4%	44.4%	44.4%
Maximum Yellow (s)	8.0	34.0	7.0	33.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
Maximum All-Red (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0			11.0			8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0			18.0			18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	6			6			8	8	8	8	8	8
90th %ile Green (s)	9.2	33.3	7.7	31.8	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
90th %ile Term Code	Max	Coord	Gap	Coord	Coord	Hold	Hold	Hold	Gap	Gap	Gap	Gap
70th %ile Green (s)	10.0	38.7	7.0	35.7	29.3	29.3	29.3	29.3	29.3	29.3	29.3	29.3
70th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Hold	Hold	Gap	Gap	Gap	Gap
50th %ile Green (s)	8.6	42.3	7.0	40.7	25.7	25.7	25.7	25.7	25.7	25.7	25.7	25.7
50th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Hold	Hold	Gap	Gap	Gap	Gap
30th %ile Green (s)	7.4	56.1	0.0	45.7	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9
30th %ile Term Code	Gap	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Gap	Gap	Gap	Gap
10th %ile Green (s)	7.0	61.7	0.0	51.7	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3
10th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Gap	Gap	Gap	Gap
Intersection Summary												
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green											
Control Type:	Actuated-Coordinated											

Queues
6: Farley Drive & Clair Road East

12-12-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	147	820	38	636	136	114	408
Lane Group Flow (vph)	0.30	0.46	0.09	0.41	0.61	0.22	0.81
v/c Ratio	7.1	13.4	5.6	14.2	38.6	16.8	38.8
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	7.1	13.4	5.6	14.2	38.6	16.8	38.8
Total Delay	m26.5	89.4	2.4	63.2	36.3	21.1	83.7
Queue Length 50th (m)	131.0	64.0	20.0	136.7	39.9	172.5	
Queue Length 95th (m)	488	1780	425	1550	298	686	651
Internal Link Dist (m)	0	0	0	0	0	0	0
Turn Bay Length (m)	0	0	0	0	0	0	0
Base Capacity (vph)	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.46	0.09	0.41	0.46	0.17	0.63
Intersection Summary							
m	Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-12-2023

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	135	590	165	35	485	100	125	70	35
Future Volume (vph)	135	590	165	35	485	100	125	70	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8
Total Lost time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.99	1.00	0.99	1.00
Frbp. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	0.98
Frbp. ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.99
Frt	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98
Flt Protected	1762	3401	1783	3340	1688	1765	1939		
Satd. Flow (prot)	0.33	1.00	0.31	1.00	0.45	1.00	0.83		
Flt Permitted	621	3401	580	3340	791	1765	1638		
Satd. Flow (perm)	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Peak-hour factor, PHF	147	641	179	38	527	109	136	76	38
Adj. Flow (vph)	0	22	0	0	16	0	23	0	0
RTOR Reduction (vph)	147	798	0	38	620	0	136	91	0
Lane Group Flow (vph)	17	9	9	9	17	23	21	21	23
Conf. Peds. (#/hr)	1%	1%	0%	0%	4%	0%	0%	0%	0%
Heavy Vehicles (%)	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt	NA	pm-pt
Turn Type	5	2	1	6	8	8	4	4	4
Protected Phases	2	6	6	6	8	8	4	4	4
Permitted Phases	52.6	45.3	45.5	41.2	25.4	25.4	25.4	25.4	25.4
Actuated Green, G (s)	52.6	45.3	45.5	41.2	25.4	25.4	25.4	25.4	25.4
Effective Green, g (s)	0.58	0.50	0.51	0.46	0.28	0.28	0.28	0.28	0.28
Actuated g/C Ratio	3.0	6.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	469	1711	350	1528	223	498	462		
Lane Grp Cap (vph)	c0.03	c0.23	0.01	0.19	0.05	0.05	c0.23		
v/s Ratio Prot	0.15	0.05	0.05	0.17	0.17	0.17	0.17		
v/s Ratio Perm	0.31	0.47	0.11	0.41	0.61	0.18	0.80		
v/c Ratio	8.9	14.5	11.3	16.2	28.0	24.4	30.0		
Uniform Delay, d1	0.67	0.82	0.58	0.78	1.00	1.00	1.00		
Progression Factor	0.3	0.7	0.1	0.8	4.7	0.2	9.6		
Incremental Delay, d2	6.2	12.6	6.7	13.4	32.7	24.6	39.6		
Delay (s)	A	B	A	B	C	C	D		
Level of Service	B	B	A	B	C	C	D		
Approach Delay (s)	B	B	B	B	C	C	D		
Approach LOS	B	B	B	B	C	C	D		
Intersection Summary									
HCM 2000 Control Delay	18.9								
HCM 2000 Volume to Capacity ratio	0.58								
Actuated Cycle Length (s)	90.0								
Sum of lost time (s)	15.0								
Intersection Capacity Utilization	74.2%								
ICU Level of Service	D								
Analysis Period (min)	15								
Critical Lane Group	c								

Lanes, Volumes, Timings
7. Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Future Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1789	0	0	1722	0	0	1853	0	0	1979	0
Flt Permitted	0.962			0.990							0.986	
Satd. Flow (perm)	0	1789	0	0	1722	0	0	1853	0	0	1979	0
Link Speed (k/h)	30			30				30			30	
Link Distance (m)	57.2			91.1				54.0			63.9	
Travel Time (s)	6.9			10.9				6.5			7.7	
Confl. Peds. (#/hr)	6	6	6	6	6	6	26	22	22	22	26	26
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	121	23	11	23	29	63	0	92	11	80	63	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	155	0	0	115	0	0	103	0	0	287	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	43.2%											
ICU Level of Service A												
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-12-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop											
Traffic Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Future Volume (vph)	105	20	10	20	25	55	0	80	10	70	55	125
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	121	23	11	23	29	63	0	92	11	80	63	144
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	155	115	103	287								
Volume Left (vph)	121	23	0	80								
Volume Right (vph)	11	63	11	144								
Head (s)	0.11	-0.29	-0.06	-0.25								
Departure Headway (s)	5.1	4.8	4.9	4.5								
Degree Utilization, x	0.22	0.15	0.14	0.36								
Capacity (veh/h)	649	683	678	757								
Control Delay (s)	9.5	8.6	8.7	10.0								
Approach Delay (s)	9.5	8.6	8.7	10.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay	9.4											
Level of Service	A											
Intersection Capacity Utilization	43.2%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	10	15	10	5	35	5	20	20	35	25	25
Future Volume (vph)	40	10	15	10	5	35	5	20	20	35	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1766	0	0	1683	0	0	1756	0	0	1769	0
Flt Permitted	0.970			0.990			0.994				0.980	
Satd. Flow (perm)	0	1766	0	0	1683	0	0	1756	0	0	1769	0
Link Speed (kph)	30			30			30				30	
Link Distance (m)	31.6			39.2			55.2				54.0	
Travel Time (s)	3.8			4.7			6.6				6.5	
Confl. Peds. (#/hr)	5	49	49	49	5	43	8	8	8	8	43	43
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	49	12	18	12	6	43	6	24	24	43	30	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	79	0	0	61	0	0	54	0	0	103	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.5%
ICU Level of Service A	
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access/Existing Site Access

12-12-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	40	10	15	10	5	35	5	20	20	35	25	25
Future Volume (vph)	40	10	15	10	5	35	5	20	20	35	25	25
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	49	12	18	12	6	43	6	24	24	43	30	30
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	79	61	54	103								
Volume Left (vph)	49	12	6	43								
Volume Right (vph)	18	43	24	30								
Head (s)	-0.01	-0.38	-0.24	-0.09								
Departure Headway (s)	4.3	3.9	4.1	4.2								
Degree Utilization, x	0.09	0.07	0.06	0.12								
Capacity (veh/h)	804	871	842	833								
Control Delay (s)	7.7	7.2	7.3	7.7								
Approach Delay (s)	7.7	7.2	7.3	7.7								
Approach LOS	A	A	A	A								

Intersection Summary

Delay	7.5
Level of Service	A
Intersection Capacity Utilization	32.5%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings
9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations						
Traffic Volume (vph)	65	0	5	90	135	70
Future Volume (vph)	65	0	5	90	135	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1905	0	0	2084	1994	0
Flt Permitted	0.950			0.997		
Satd. Flow (perm)	1905	0	0	2084	1994	0
Link Speed (kph)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	80	0	6	111	167	86
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	0	117	253	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	21.6%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis
9: Hawkins Drive & Internal E-W Street

12-12-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations						
Traffic Volume (veh/h)	65	0	5	90	135	70
Future Volume (Veh/h)	65	0	5	90	135	70
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	80	0	6	111	167	86
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)				None	None	
Median type						
Median storage (veh)						
Upstream signal (m)					65	
pX, platoon unblocked						
vC, conflicting volume	333	210	253			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	333	210	253			
iC, single (s)	6.4	6.2	4.1			
iC, 2 stage (s)						
p0 queue free %	88	100	100			
IF (s)	3.5	3.3	2.2			
qM capacity (veh/h)	663	835	1324			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	80	117	253			
Volume Left	80	6	0			
Volume Right	0	0	86			
ESH	663	1324	1700			
Volume to Capacity	0.12	0.00	0.15			
Queue Length 95th (m)	3.3	0.1	0.0			
Control Delay (s)	11.2	0.4	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.2	0.4	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay	2.1					
Intersection Capacity Utilization	21.6%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	120	20	5	115	20	15
Traffic Volume (vph)	120	20	5	115	20	15
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.5	4.5	4.5	4.5	3.5	3.5
Lane Width (m)	2033	0	0	2028	1683	0
Satd. Flow (prot)	0.998	0.972	0	0.998	0.972	0
Flt Permitted	2033	0	0	2028	1683	0
Satd. Flow (perm)	40	40	30	40	30	30
Link Speed (k/h)	90.5	63.5	67.2	63.5	67.2	67.2
Link Distance (m)	8.1	5.7	8.1	5.7	8.1	8.1
Travel Time (s)	1	1	3	1	3	6
Confl. Peds. (#/hr)	0.87	0.87	0.87	0.87	0.87	0.87
Peak Hour Factor	1%	0%	0%	3%	4%	0%
Heavy Vehicles (%)	138	23	6	132	23	17
Adj. Flow (vph)	161	0	0	138	40	0
Shared Lane Traffic (%)	Free	Free	Free	Free	Stop	Stop
Lane Group Flow (vph)	Free	Free	Free	Free	Stop	Stop
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary	Other					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	21.9%					
ICU Level of Service A	ICU Level of Service A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

10: 1888 Gordon Street Access & Poppy Drive East

12-12-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	120	20	5	115	20	15
Traffic Volume (veh/h)	120	20	5	115	20	15
Future Volume (Veh/h)	120	20	5	115	20	15
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	138	23	6	132	23	17
Pedestrians	3	3	1	3	1	1
Lane Width (m)	4.5	4.5	3.5	4.5	3.5	3.5
Walking Speed (m/s)	1.2	1.2	1.2	1.2	1.2	1.2
Percent Blockage	0	0	0	0	0	0
Right turn flare (veh)	None	None	None	None	None	None
Median type	None	None	None	None	None	None
Median storage (veh)	311	311	311	311	311	311
Upstream signal (m)	311	311	311	311	311	311
pX, platoon unblocked	162	162	162	162	162	162
vC, conflicting volume	162	162	162	162	162	162
vC1, stage 1 conf vol	162	162	162	162	162	162
vC2, stage 2 conf vol	162	162	162	162	162	162
vCu, unblocked vol	162	162	162	162	162	162
iC, single (s)	4.1	4.1	4.1	4.1	4.1	4.1
iC, 2 stage (s)	2.2	2.2	2.2	2.2	2.2	2.2
p0 queue free %	100	100	100	100	97	98
ICM capacity (veh/h)	1428	1428	1428	1428	684	888
Direction_Lane #	EB 1	WB 1	NB 1	EB 1	WB 1	NB 1
Volume Total	161	138	40	161	138	40
Volume Left	0	6	23	0	6	23
Volume Right	23	0	17	23	0	17
ESH	1700	1428	758	1700	1428	758
Volume to Capacity	0.09	0.00	0.05	0.09	0.00	0.05
Queue Length 95th (m)	0.0	0.1	1.3	0.0	0.1	1.3
Control Delay (s)	0.0	0.4	10.0	0.0	0.4	10.0
Lane LOS	A	A	B	A	A	B
Approach Delay (s)	0.0	0.4	10.0	0.0	0.4	10.0
Approach LOS	B	B	B	B	B	B
Intersection Summary	Intersection Summary					
Average Delay	1.3					
Intersection Capacity Utilization	21.9%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

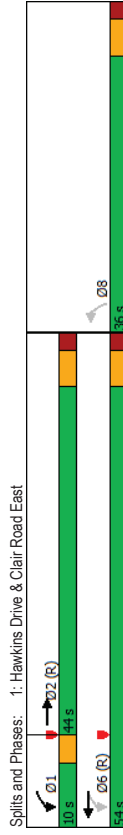
12-13-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	520	15	90	995	35	105
Future Volume (vph)	520	15	90	995	35	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	4.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)		7.5		7.5		
Satd. Flow (prot)	3362	0	1785	3433	1743	0
Flt Permitted			0.387		0.988	
Satd. Flow (perm)	3362	0	725	3433	1743	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	4					122
Link Speed (k/h)	60			60		50
Link Distance (m)	1607			130.4		64.6
Travel Time (s)	9.6			7.8		4.7
Confl. Peds. (#/hr)		5		5		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	14%	0%	4%	8%	6%
Bus Blockages (#/hr)	2	0	0	0	0	0
Adj. Flow (vph)	605	17	105	1157	41	122
Shared Lane Traffic (%)						
Lane Group Flow (vph)	622	0	105	1157	163	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2		1	6		
Permitted Phases	2		6	8		8
Detector Phase			1	6		8
Switch Phase						
Minimum Initial (s)	10.0		7.0	10.0	7.0	
Minimum Split (s)	35.0		10.0	35.0	35.0	
Total Split (s)	44.0		10.0	54.0	36.0	
Total Split (%)	48.9%		11.1%	60.0%	40.0%	
Maximum Green (s)	38.0		7.0	48.0	30.0	
Yellow Time (s)	4.0		3.0	4.0	4.0	
All-Red Time (s)	2.0		0.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		3.0	6.0	6.0	
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	C-Min	None	C-Min	None	C-Min	None
Walk Time (s)	11.0		11.0	8.0		
Flesh Dont Walk (s)	18.0		18.0	18.0		
Pedestrian Calls (#/hr)	7		7	12		
Act Effect Green (s)	57.9		69.5	66.5	11.5	
Actuated g/C Ratio	0.64		0.77	0.74	0.13	
v/c Ratio	0.29		0.16	0.46	0.49	
Control Delay	4.6		4.4	6.5	17.4	
Queue Delay	0.0		0.0	0.0	0.0	

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-13-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Total Delay	4.6	4.4	6.5	17.4		
LOS	A	A	A	B		
Approach Delay	4.6		6.3	17.4		
Approach LOS	A		A	B		
Intersection Summary						
Area Type:	Other					
Cycle Length:	90					
Actuated Cycle Length:	90					
Offset:	2 (2%), Referenced to phase 2EBT and 6:WBT, Start of Green					
Natural Cycle:	80					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.49					
Intersection Signal Delay:	6.7					
Intersection LOS:	A					
Intersection Capacity Utilization:	51.7%					
Analysis Period (min):	15					



Splits and Phases: 1: Hawkins Drive & Clair Road East

Phasings
1: Hawkins Drive & Clair Road East

12-13-2023

	EBT	WBL	WBT	NBL
Lane Group	2	1	6	
Protected Phases				
Permitted Phases	6	8		
Minimum Initial (s)	10.0	7.0	10.0	7.0
Minimum Split (s)	35.0	10.0	35.0	35.0
Total Split (s)	44.0	10.0	54.0	36.0
Total Split (%)	48.9%	11.1%	60.0%	40.0%
Maximum Green (s)	38.0	7.0	48.0	30.0
Yellow Time (s)	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	0.0	2.0	2.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	C-Min	None	C-Min	None
Walk Time (s)	11.0		11.0	8.0
Flash Dont Walk (s)	18.0		18.0	18.0
Pedestrian Calls (#/hr)	7		7	12
90th %ile Green (s)	39.4	9.6	52.0	26.0
90th %ile Term Code	Coord	Gap	Coord	Ped
70th %ile Green (s)	57.9	7.1	66.0	10.0
70th %ile Term Code	Coord	Gap	Coord	Gap
50th %ile Green (s)	60.3	7.0	70.3	7.7
50th %ile Term Code	Coord	Min	Coord	Gap
30th %ile Green (s)	61.0	7.0	71.0	7.0
30th %ile Term Code	Coord	Min	Coord	Min
10th %ile Green (s)	71.0	0.0	71.0	7.0
10th %ile Term Code	Coord	Skip	Coord	Min

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBTL - Start of Green
Control Type: Actuated-Coordinated

Queues
1: Hawkins Drive & Clair Road East

12-13-2023

	EBT	WBL	WBT	NBL
Lane Group	622	105	1157	163
Lane Group Flow (vph)	0.29	0.16	0.46	0.49
v/c Ratio	4.6	4.4	6.5	17.4
Control Delay	0.0	0.0	0.0	0.0
Queue Delay	4.6	4.4	6.5	17.4
Total Delay	8.7	2.7	28.1	8.4
Queue Length 50th (m)	20.5	13.0	78.3	m17.7
Queue Length 95th (m)	136.7		106.4	40.6
Internal Link Dist (m)		25.0		
Turn Bay Length (m)				
Base Capacity (vph)	2165	648	2535	662
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	8	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.16	0.46	0.25

Intersection Summary
m Volume for 95th percentile queue is metered by upstream signal.

12-13-2023
 HCM Signalized Intersection Capacity Analysis
 1: Hawkins Drive & Clair Road East

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←	←	←	←	←	←
Traffic Volume (vph)	520	15	90	995	35	105
Future Volume (vph)	520	15	90	995	35	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Total Lost time (s)	6.0	3.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	0.90	1.00
Flt Protected	1.00	0.95	1.00	0.99		
Satd. Flow (prot)	3362	1783	3433	1742		
Flt Permitted	1.00	0.39	1.00	0.99		
Satd. Flow (perm)	3362	726	3433	1742		
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	605	17	105	1157	41	122
RTOR Reduction (vph)	1	0	0	0	106	0
Lane Group Flow (vph)	621	0	105	1157	57	0
Confl. Peds. (#/hr)	5	5				
Heavy Vehicles (%)	5%	14%	0%	4%	8%	6%
Bus Blockages (#/hr)	2	0	0	0	0	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2	1	6			
Permitted Phases		6	8			
Actuated Green, G (s)	57.4	66.5	66.5	11.5		
Effective Green, g (s)	57.4	66.5	66.5	11.5		
Actuated g/C Ratio	0.64	0.74	0.74	0.13		
Clearance Time (s)	6.0	3.0	6.0	6.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	2144	608	2536	222		
v/s Ratio Prot	0.18	0.01	c0.34			
v/s Ratio Perm		0.12	c0.03			
v/c Ratio	0.29	0.17	0.46	0.25		
Uniform Delay, d1	7.2	3.4	4.6	35.4		
Progression Factor	0.48	1.00	1.00	1.20		
Incremental Delay, d2	0.3	0.1	0.6	0.6		
Delay (s)	3.8	3.5	5.2	43.0		
Level of Service	A	A	A	D		
Approach Delay (s)	3.8		5.1	43.0		
Approach LOS	A		A	D		
Intersection Summary						
HCM 2000 Control Delay	7.7 HCM 2000 Level of Service A					
HCM 2000 Volume to Capacity ratio	0.44					
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0					
Intersection Capacity Utilization	51.77% ICU Level of Service A					
Analysis Period (min)	15					
c Critical Lane Group						

12-13-2023
 Lanes, Volumes, Timings
 2: Hawkins Drive & Poppy Drive East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	60	65	0	40	80	10	10	50	40	5	40	35
Future Volume (vph)	60	65	0	40	80	10	10	50	40	5	40	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	1882	0	0	1807	0	0	1967	0	0	1804	0
Flt Permitted	0	0.977			0.985			0.995			0.997	
Satd. Flow (perm)	0	1882	0	0	1807	0	0	1967	0	0	1804	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		63.5			196.9			136.5			121.9	
Travel Time (s)		5.7			17.7			12.3			11.0	
Confl. Peds. (#/hr)	24	15	15	24	15	17	17	17	17	17	17	15
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	9%	8%	0%	0%	4%	0%	0%	0%	0%	0%	0%	20%
Adj. Flow (vph)	76	82	0	51	101	13	13	63	51	6	51	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	158	0	0	165	0	0	127	0	0	101	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	29.4%											
Analysis Period (min)	15											
ICU Level of Service	A											

2: Hawkins Drive & Poppy Drive East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	65	0	40	80	10	10	50	40	5	40	35
Future Volume (Veh/h)	60	65	0	40	80	10	10	50	40	5	40	35
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	76	82	0	51	101	13	13	63	51	6	51	44
Pedestrians	15	15	0	17	17	0	15	15	0	24	24	0
Lane Width (m)	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Walking Speed (m/s)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Percent Blockage	2	2	1	1	1	2	2	2	2	3	3	3
Right turn flare (veh)												
Median type	None	None	None	None	None	None	None	None	None	None	None	None
Median storage (veh)												
Upstream signal (m)	375	375	375	375	375	375	375	375	375	375	375	375
pX platoon unblocked												
VC, conflicting volume	138	97	543	489	114	567	482	146				
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCU, unblocked vol	138	97	543	489	114	567	482	146				
IC, single (s)	4.2	4.1	7.1	6.5	6.2	7.1	6.5	6.4				
IC, 2 stage (s)	2.3	2.2	3.5	4.0	3.3	3.5	4.0	3.5				
p0 queue free %	94	97	96	85	94	88	88	95				
CM capacity (veh/h)	1369	1485	342	422	916	319	426	821				
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	158	165	127	101								
Volume Left	76	51	13	6								
Volume Right	0	13	51	44								
cSH	1369	1485	523	526								
Volume to Capacity	0.06	0.03	0.24	0.19								
Queue Length 95th (m)	1.4	0.9	7.6	5.6								
Control Delay (s)	4.0	2.5	14.1	13.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	4.0	2.5	14.1	13.5								
Approach LOS	B	B										
Intersection Summary												
Average Delay	7.6											
Intersection Capacity Utilization	29.4%											
Analysis Period (min)	15											
ICU Level of Service	A											

3: Poppy Drive East & Fanley Drive

12-13-2023

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	130	200	10	10	85
Future Volume (vph)	30	130	200	10	10	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	1874	1965	0	1471	0
Flt Permitted	0.991				0.995	
Satd. Flow (perm)	0	1874	1965	0	1471	0
Link Speed (k/h)	40	40	40	40	30	30
Link Distance (m)	220.5	90.5	55.2			
Travel Time (s)	19.8	8.1	6.6			
Confl. Peds. (#/hr)	8			8		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	30%	6%	0%	9%	12%	
Adj. Flow (vph)	33	143	220	11	11	93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	176	231	0	104	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	36.0%					
Analysis Period (min)	15					
ICU Level of Service A						

3: Poppy Drive East & Farley Drive

12-13-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	30	130	200	10	10	85
Traffic Volume (veh/h)	30	130	200	10	10	85
Future Volume (Veh/h)	30	130	200	10	10	85
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	33	143	220	11	11	93
Pedestrians					8	
Lane Width (m)					3.5	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)					None	
Median type					None	
Median storage (veh)					220	
Upstream signal (m)					220	
pX platoon unblocked					239	
VC conflicting volume					442	234
VC1, stage 1 conf vol					239	234
VC2, stage 2 conf vol					4.4	6.3
IC, single (s)					2.5	3.4
IC, 2 stage (s)					97	88
p0 queue free %					1172	540
IC capacity (veh/h)					1172	776
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	176	231	104			
Volume Left	33	0	11			
Volume Right	0	11	83			
cSH	1172	1700	742			
Volume to Capacity	0.03	0.14	0.14			
Queue Length 95th (m)	0.7	0.0	3.9			
Control Delay (s)	1.7	0.0	10.6			
Lane LOS	A		B			
Approach Delay (s)	1.7	0.0	10.6			
Approach LOS	B		B			
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization			36.0%			A
Analysis Period (min)			15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	SBR
Lane Configurations	45	25	80	105	70	120	165	1175	115	35	700	80
Traffic Volume (vph)	45	25	80	105	70	120	165	1175	115	35	700	80
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5	0	0	7.5	0	0	7.5	0	0	7.5	0	0
Satd. Flow (prot)	0	1456	0	1679	0	1684	3259	0	1678	3292	0	0
Flt Permitted	0.772	0.772	0.772	0.810	0.810	0.810	0.269	0.129	0.269	0.129	0.269	0.129
Satd. Flow (perm)	0	1140	0	1383	0	1383	0	536	3259	0	228	3292
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	63	38	38	38	38	38	16	16	16	16	18	18
Link Speed (k/h)	40	40	40	40	40	40	60	60	60	60	60	60
Link Distance (m)	93.0	220.5	220.5	220.5	220.5	220.5	196.0	196.0	196.0	196.0	180.5	180.5
Travel Time (s)	8.4	19.8	19.8	19.8	19.8	19.8	11.8	11.8	11.8	11.8	10.8	10.8
Conf. Peds. (#/hr)	4	2	2	2	2	2	3	3	3	3	8	8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	75%	22%	0%	0%	50%	8%	7%	16%	4%	5%	20%	20%
Bus Blockages (#/hr)	0	0	0	2	2	0	0	0	0	0	0	0
Adj. Flow (vph)	47	26	83	109	73	125	172	1224	120	36	729	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	156	0	307	0	172	1344	0	36	812	0	0
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8	8	4	4	5	2	1	6	6	6	6	6
Permitted Phases	8	8	4	4	5	2	1	6	6	6	6	6
Detector Phase	8	8	4	4	5	2	1	6	6	6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	35.0	30.0	35.0	30.0	35.0	30.0	35.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	49.0	31.0	49.0	31.0	49.0	31.0	49.0
Total Split (%)	34.4%	34.4%	34.4%	34.4%	34.4%	54.4%	34.4%	54.4%	34.4%	54.4%	34.4%	54.4%
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	43.0	25.0	43.0	25.0	43.0	25.0	43.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	None	None	None	C-Min	None
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	17.0	8.0	17.0	8.0	17.0	8.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	12.0	16.0	12.0	16.0	12.0	16.0	12.0
Pedestrian Calls (#/hr)	1	1	1	1	1	3	1	3	1	3	1	3
Act Efect Green (s)	21.5	21.5	21.5	21.5	21.5	50.5	21.5	50.5	21.5	50.5	21.5	50.5
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24	0.66	0.24	0.66	0.24	0.66	0.24	0.66
v/c Ratio	0.49	0.49	0.49	0.49	0.49	0.73	0.49	0.73	0.49	0.73	0.49	0.73
Control Delay	22.1	22.1	22.1	22.1	22.1	19.8	22.1	19.8	22.1	19.8	22.1	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	22.1	51.0	8.8	19.8	A	B	6.3	10.9	A	B		
LOS	C	D	A	B								
Approach Delay	22.1	51.0	18.5									
Approach LOS	C	D	B									

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 19.9

Intersection LOS: B

Intersection Capacity Utilization 79.1%

Analysis Period (min) 15

Splits and Phases: 4: Gordon Street & Poppy Drive West/Poppy Drive East



Phasings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	8	7.0	7.0	4	4	4	5	2	1	6		
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0		
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	35.0	35.0	30.0	35.0		
Total Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	49.0	49.0	31.0	48.0		
Total Split (%)	34.4%	34.4%	34.4%	34.4%	34.4%	34.4%	54.4%	54.4%	34.4%	53.3%		
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	8.0	43.0	7.0	42.0		
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0		
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0		
Lead/Lag							Lead	Lag	Lead	Lag		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min		
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0		
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0		
Pedestrian Calls (#/hr)	1	1	1	1	1	1	3	3	1	3		
90th %ile Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	8.0	43.0	7.0	42.0		
90th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Coord	Coord	Max	Coord		
70th %ile Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	8.0	43.0	7.0	42.0		
70th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Coord	Coord	Max	Coord		
50th %ile Green (s)	23.4	23.4	23.4	23.4	23.4	23.4	8.7	44.6	7.0	42.9		
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Min	Coord		
30th %ile Green (s)	19.7	19.7	19.7	19.7	19.7	19.7	7.5	58.3	0.0	47.8		
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Skip	Coord		
10th %ile Green (s)	14.3	14.3	14.3	14.3	14.3	14.3	7.0	63.7	0.0	53.7		
10th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Coord	Skip	Coord		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green

Control Type: Actuated-Coordinated

Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	156	307	172	1344	36	812
Lane Group Flow (vph)	0.49	0.86	0.37	0.73	0.14	0.48
v/c Ratio	22.1	51.0	8.8	19.8	6.3	10.9
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	22.1	51.0	8.8	19.8	6.3	10.9
Total Delay	22.1	51.0	8.8	19.8	6.3	10.9
Queue Length 50th (m)	13.6	45.9	11.1	103.8	2.0	25.8
Queue Length 95th (m)	31.8	#84.3	20.2	140.7	m2.5	m31.1
Internal Link Dist (m)	69.0	196.5		172.0	70.0	156.5
Turn Bay Length (m)			91.0	470	1836	253
Base Capacity (vph)	362	411	470	1836	253	1679
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.75	0.37	0.73	0.14	0.48
Intersection Summary						
#	95th percentile volume exceeds capacity, queue may be longer.					
	Queue shown is maximum after two cycles.					
m	Volume for 95th percentile queue is metered by upstream signal.					

HCM Signalized Intersection Capacity Analysis
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+										
Traffic Volume (vph)	45	25	80	105	70	120	165	1175	115	35	700	80
Future Volume (vph)	45	25	80	105	70	120	165	1175	115	35	700	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frbp. ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.93	0.93	0.93	0.95	0.95	0.95	1.00	0.99	1.00	0.95	1.00	0.98
Flt Protected	0.99	0.99	0.98	0.98	0.98	0.95	1.00	0.99	1.00	0.95	1.00	0.98
Satd. Flow (prot)	1456	1678	1678	1894	3268	1678	1894	3268	1678	1678	3291	3291
Flt Permitted	0.77	0.81	0.81	0.81	0.81	0.81	0.27	1.00	0.13	0.13	1.00	1.00
Satd. Flow (perm)	1140	1383	1383	1383	536	3258	536	3258	227	3291	3291	3291
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	47	26	83	109	73	125	172	1224	120	36	729	83
RTOR Reduction (vph)	0	48	0	0	29	0	0	7	0	0	9	0
Lane Group Flow (vph)	0	108	0	0	278	0	172	1337	0	36	803	0
Conf. Peds. (#/hr)	4	2	2	2	4	4	3	8	8	8	8	3
Heavy Vehicles (%)	75%	22%	0%	0%	50%	5%	8%	7%	16%	4%	5%	20%
Bus Blockages (#/hr)	0	0	0	2	2	0	0	0	0	0	0	0
Turn Type	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8			4			5	2		1		6
Permitted Phases				4			2			6		6
Actuated Green, G (s)	21.5	21.5	21.5	21.5	56.5	49.3	56.5	49.3	49.9	45.7	45.7	45.7
Effective Green, g (s)	21.5	21.5	21.5	21.5	56.5	49.3	56.5	49.3	49.9	45.7	45.7	45.7
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.63	0.55	0.63	0.55	0.55	0.51	0.51	0.51
Clearance Time (s)	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	272			330	454	1784	454	1784	193	1671	1671	1671
v/s Ratio Prot					c0.03	c0.41			0.01	0.24	0.24	0.24
v/s Ratio Perm	0.09	0.20	0.21	0.21	0.21	0.09	0.21	0.09	0.09	0.48	0.48	0.48
v/c Ratio	0.40	0.84	0.84	0.38	0.75	0.19	0.38	0.75	0.19	0.48	0.48	0.48
Uniform Delay, d1	28.8	32.6	32.6	7.7	15.6	10.9	14.4	10.9	14.4	14.4	14.4	14.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.68	0.68	0.68	0.68	0.68
Incremental Delay, d2	1.0	17.4	17.4	0.5	2.9	0.3	0.6	0.6	0.6	0.6	0.6	0.6
Delay (s)	29.8	50.1	50.1	8.3	18.5	9.6	10.4	10.4	10.4	10.4	10.4	10.4
Level of Service	C	D	D	A	B	A	B	A	B	A	B	B
Approach Delay (s)	29.8			50.1	17.4		17.4		10.4		10.4	
Approach LOS	C			D	B		B		B		B	B
Intersection Summary												
HCM 2000 Control Delay	19.5 HCM 2000 Level of Service B											
HCM 2000 Volume to Capacity ratio	0.76											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0											
Intersection Capacity Utilization	79.1% ICU Level of Service D											
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

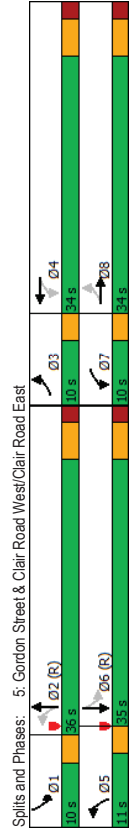
12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	155	450	90	145	885	150	165	1035	125	90	585	235
Traffic Volume (vph)	155	450	90	145	885	150	165	1035	125	90	585	235
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	7.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	7.5	3261	0	1572	3355	0	1586	3288	0	1678	3251	0
Satd. Flow (prot)	0.143	0.316	0	0.128	0	0.138	0	0.138	0	0.138	0	0.138
Flt Permitted	245	3261	0	519	3355	0	213	3288	0	243	3251	0
Satd. Flow (perm)	27	60	Yes	22	22	Yes	15	15	Yes	71	60	Yes
Right Turn on Red	60	268.6	217.7	60	180.5	60	180.5	60	180.5	60	180.5	60
Satd. Flow (RTOR)	16.1	22	22	13.1	13.1	22	10.8	10.8	21	21	21	14.0
Link Speed (k/h)	31	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Travel Time (s)	0.90	7%	11%	3%	6%	10%	4%	21%	4%	2%	8%	8%
Confl. Peds. (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Confl. Bikes (#/hr)	172	500	100	161	983	167	183	1150	139	100	650	261
Peak Hour Factor	172	600	0	161	1150	0	183	1289	0	100	911	0
Heavy Vehicles (%)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Bus Blockages (#/hr)	3	8	7	4	5	2	1	6	4	2	6	1
Adj. Flow (vph)	3	8	7	4	5	2	1	6	4	2	6	1
Shared Lane Traffic (%)	3	8	7	4	5	2	1	6	4	2	6	1
Lane Group Flow (vph)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Turn Type	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Protected Phases	10.0	34.0	10.0	34.0	11.0	36.0	10.0	35.0	10.0	35.0	10.0	35.0
Permitted Phases	11.1%	37.8%	11.1%	37.8%	12.2%	40.0%	11.1%	38.9%	11.1%	38.9%	11.1%	38.9%
Detector Phase	7.0	28.0	7.0	28.0	8.0	30.0	7.0	29.0	7.0	29.0	7.0	29.0
Switch Phase	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Minimum Initial (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0
Flash Dont Walk (s)	10	10	10	10	10	10	10	10	10	10	10	10
Pedestrian Calls (#/hr)	38.0	28.0	38.0	28.0	41.4	32.0	38.0	29.0	38.0	29.0	38.0	29.0
Act Effect Green (s)	0.42	0.31	0.42	0.31	0.46	0.36	0.42	0.32	0.42	0.32	0.42	0.32
Actuated g/C Ratio	0.82	0.58	0.53	1.09	0.83	1.09	0.83	1.09	0.83	1.09	0.83	1.09
v/c Ratio	47.4	27.5	25.2	86.7	51.9	81.3	20.5	34.0	20.5	34.0	20.5	34.0
Control Delay	47.4	27.5	25.2	86.7	51.9	81.3	20.5	34.0	20.5	34.0	20.5	34.0

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	27.5	25.2	86.7	51.9	81.3	20.5	34.0	20.5	34.0	20.5	34.0
LOS	D	C	C	F	D	F	D	F	D	C	C	C
Approach Delay	31.9	79.2	77.7	32.7	77.7	77.7	32.7	77.7	77.7	32.7	77.7	32.7
Approach LOS	C	E	E	C	E	E	C	E	E	C	E	C
Intersection Summary	Other											
Area Type	Other											
Cycle Length	90											
Actuated Cycle Length	90											
Offset: 0 (0%)	Referenced to phase 2/NBTL and 6/SBTL, Start of Green, Master Intersection											
Natural Cycle	110											
Control Type	Actuated-Coordinated											
Maximum v/c Ratio	1.09											
Intersection Signal Delay	60.4											
Intersection LOS	E											
Intersection Capacity Utilization	93.5%											
Analysis Period (min)	15											



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	7	4	2	6	6	6	6
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	11.0	36.0	10.0	35.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	12.2%	40.0%	11.1%	38.9%
Maximum Green (s)	7.0	28.0	7.0	28.0	8.0	30.0	7.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	9.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	10	10	10	10	9	9	10	9
90th %ile Green (s)	7.0	28.0	7.0	28.0	8.0	30.0	7.0	29.0
90th %ile Term Code	Max	Ped	Max	Max	Coord	Coord	Max	Coord
70th %ile Green (s)	7.0	28.0	7.0	28.0	8.0	30.0	7.0	29.0
70th %ile Term Code	Max	Hold	Max	Max	Coord	Coord	Max	Coord
50th %ile Green (s)	7.0	28.0	7.0	28.0	8.0	30.0	7.0	29.0
50th %ile Term Code	Max	Hold	Max	Max	Coord	Coord	Max	Coord
30th %ile Green (s)	7.0	28.0	7.0	28.0	8.0	30.0	7.0	29.0
30th %ile Term Code	Max	Hold	Max	Max	Coord	Coord	Max	Coord
10th %ile Green (s)	7.0	28.0	7.0	28.0	8.0	40.0	0.0	29.0
10th %ile Term Code	Max	Hold	Max	Max	Coord	Coord	Skip	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBL and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	172	600	161	1150	183	1289	100	911
v/c Ratio	0.82	0.58	0.53	1.09	0.83	1.09	0.46	0.83
Control Delay	47.4	27.5	25.2	86.7	51.9	81.3	20.5	34.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	27.5	25.2	86.7	51.9	81.3	20.5	34.0
Queue Length 50th (m)	18.4	45.7	26.4	~129.0	24.2	~141.7	9.7	74.3
Queue Length 95th (m)	#49.3	63.4	29.4	#166.6	mm#41.5	#185.3	18.8	#101.0
Internal Link Dist (m)	244.6		193.7		156.5		209.4	
Turn Bay Length (m)	70.0	32.0		72.0		163.0		
Base Capacity (vph)	211	1033	301	1058	220	1179	216	1095
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.58	0.53	1.09	0.83	1.09	0.46	0.83

Intersection Summary
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
5. Gordon Street & Clair Road West/Clair Road East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	155	450	90	145	885	150	165	1035	125	90	585	235
Traffic Volume (vph)	155	450	90	145	885	150	165	1035	125	90	585	235
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Total Lost Time (s)	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Flpb. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.98	1.00	0.96
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1630	3261	1568	3356	1568	3288	1677	3251				
Flt Permitted	0.14	1.00	0.32	1.00	0.32	1.00	0.13	1.00	0.14	1.00		
Satd. Flow (perm)	245	3261	522	3356	214	3288	244	3251				
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	172	500	100	161	983	167	183	1150	139	100	650	261
RTOR Reduction (vph)	0	19	0	0	15	0	0	10	0	0	48	0
Lane Group Flow (vph)	172	581	0	161	1135	0	183	1279	0	100	863	0
Confl. Peds. (#/hr)	31	22	22	31	12	31	12	21	21	21		
Confl. Bikes (#/hr)	7%	6%	7%	11%	3%	6%	10%	4%	21%	4%	2%	8%
Heavy Vehicles (%)	0	0	0	0	0	0	0	0	3	3	0	3
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA
Protected Phases	3	8	7	4	5	2	1	6				
Permitted Phases	8		4		2		6					
Actuated Green, G (s)	35.0	28.0	35.0	28.0	39.4	31.4	34.6	29.0				
Effective Green, g (s)	35.0	28.0	35.0	28.0	39.4	31.4	34.6	29.0				
Actuated g/C Ratio	0.39	0.31	0.39	0.31	0.44	0.35	0.38	0.32				
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	203	1014	284	1044	215	1147	182	1047				
v/s Ratio Prot	0.07	0.18	0.04	0.34	0.08	0.39	0.03	0.27				
v/s Ratio Perm	0.26	0.57	0.18	0.57	0.30	0.58	0.18	0.58				
v/c Ratio	0.85	0.57	0.57	1.09	0.85	1.12	0.85	0.82				
Uniform Delay, d1	22.3	26.0	19.1	31.0	19.0	29.3	21.8	28.1				
Progression Factor	1.00	1.00	1.23	1.15	1.72	0.95	1.00	1.00				
Incremental Delay, d2	26.4	0.8	2.2	52.6	20.1	61.1	3.4	7.4				
Delay (s)	48.8	26.8	25.6	88.2	52.8	88.8	25.2	35.5				
Level of Service	D	C	C	F	D	F	C	D				
Approach Delay (s)	31.7	80.5	84.3	84.3	84.3	84.3	34.5	C				
Approach LOS	C	F	F	F	F	F	C	C				
Intersection Summary												
HCM 2000 Control Delay	63.3											
HCM 2000 Volume to Capacity ratio	1.09											
Actuated Cycle Length (s)	90.0											
Intersection Capacity Utilization	93.5%											
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings
6. Farley Drive & Clair Road East

12-13-2023

EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
110	475	50	10	945	90	75	15	15	55	20	140
110	475	50	10	945	90	75	15	15	55	20	140
1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
131.0	0.0	0.0	64.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0
1	0	0	1	0	1	0	1	0	0	0	0
7.5	3204	0	7.5	3330	0	1639	1591	0	7.5	0	1832
1716	3204	0	1785	3330	0	1639	1591	0	0	0	1832
0.173	0.429		0.429			0.419			0.901		0.901
312	3204	0	802	3330	0	717	1591	0	0	0	1668
Yes	Yes		Yes			Yes		Yes	Yes		Yes
16	15		15			17			105		105
60	60		60			30			40		40
217.7	160.7		160.7			63.9			196.5		196.5
9	8		8			9	14		10		14
0.89	0.89		0.89			0.89	0.89		0.89		0.89
4%	10%		5%			0%	4%		16%		8%
124	534		56			11	1062		17		62
124	590		0			11	1163		0		241
NA	pm+pt		NA			NA	NA		NA		NA
5	2		1			6			8		4
2	2		6			8			4		4
5	2		1			6			8		4
7.0	10.0		7.0			10.0	7.0		7.0		7.0
10.0	35.0		10.0			35.0	32.0		32.0		32.0
11.0	48.0		10.0			47.0	32.0		32.0		32.0
12.2%	53.3%		11.1%			52.2%	35.6%		35.6%		35.6%
8.0	42.0		7.0			41.0	26.0		26.0		26.0
3.0	4.0		3.0			4.0	4.0		4.0		4.0
0.0	2.0		0.0			2.0	2.0		2.0		2.0
0.0	0.0		0.0			0.0	0.0		0.0		0.0
3.0	6.0		3.0			6.0	6.0		6.0		6.0
Yes	Yes		Yes			Yes	Yes		Yes		Yes
3.0	3.0		3.0			3.0	3.0		3.0		3.0
None	C-Min		None			C-Min	None		None		None
11.0	11.0		11.0			11.0	18.0		18.0		18.0
18.0	18.0		18.0			18.0	18.0		18.0		18.0
3	3		3			5	5		5		5
65.9	61.3		62.9			52.9	14.7		14.7		14.7
0.73	0.68		0.70			0.59	0.16		0.16		0.16
0.36	0.27		0.02			0.59	0.72		0.12		0.67
6.8	7.1		1.5			10.6	66.0		18.4		27.8
0.0	0.0		0.0			0.1	0.0		0.0		0.0

Lanes, Volumes, Timings
6: Farley Drive & Clair Road East

12-13-2023

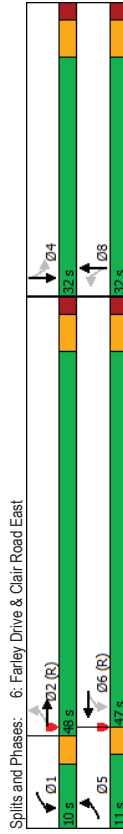
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	6.8	7.1	1.5	10.7	66.0	18.4						27.8
LOS	A	A	A	B	E	B						C
Approach Delay	7.1			10.6			52.3					27.8
Approach LOS	A			B			D					C

Intersection Summary
Other

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72
Intersection LOS: B
Intersection Capacity Utilization 69.3%
ICU Level of Service C
Analysis Period (min) 15



Phasings
6: Farley Drive & Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		8				4	
Permitted Phases	2			6			8				4	
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	11.0	48.0	10.0	47.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (%)	12.2%	53.3%	11.1%	52.2%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%	35.6%
Maximum Green (s)	8.0	42.0	7.0	41.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0	11.0	8.0	11.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	3	3	5	3	5	5	5	5	5	5	5	5
90th %ile Green (s)	8.0	42.0	7.0	41.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
90th %ile Term Code	Max	Coord	Max	Coord	Ped	Ped	Ped	Ped	Ped	Ped	Ped	Ped
70th %ile Green (s)	8.1	61.7	0.0	50.6	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3
70th %ile Term Code	Gap	Coord	Skip	Coord	Gap	Gap	Gap	Gap	Gap	Gap	Gap	Gap
50th %ile Green (s)	7.2	64.6	0.0	54.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
50th %ile Term Code	Gap	Coord	Skip	Coord	Gap	Gap	Gap	Gap	Gap	Gap	Gap	Gap
30th %ile Green (s)	7.0	67.4	0.0	57.4	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
30th %ile Term Code	Min	Coord	Skip	Coord	Gap	Gap	Gap	Gap	Gap	Gap	Gap	Gap
10th %ile Green (s)	7.0	71.0	0.0	61.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
10th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Hold	Hold	Hold	Hold

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Control Type: Actuated-Coordinated

Queues
6: Farley Drive & Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	124	590	11	1163	84	34	241
Lane Group Flow (vph)	0.36	0.27	0.02	0.59	0.72	0.12	0.67
v/c Ratio	6.8	7.1	1.5	10.6	66.0	18.4	27.8
Control Delay	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Queue Delay	6.8	7.1	1.5	10.7	66.0	18.4	27.8
Total Delay	m24.0	m56.0	m0.2	114.7	26.4	9.2	40.0
Queue Length 50th (m)	193.7	64.0	20.0	136.7	39.9	172.5	
Queue Length 95th (m)	353	2188	636	1962	207	471	566
Internal Link Dist (m)	0	0	0	115	0	0	0
Turn Bay Length (m)	0	0	0	0	0	0	0
Base Capacity (vph)	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0.35	0.27	0.02	0.63	0.41	0.07	0.43
Reduced v/c Ratio	Intersection Summary						
m	Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	110	475	50	10	945	90	75	15	15	55	20	140
Traffic Volume (vph)	110	475	50	10	945	90	75	15	15	55	20	140
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.5	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8	4.8	4.8
Lane Width	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	1.00	0.95	1.00	0.95	1.00	1.00	1.00	0.99	1.00	0.98	0.98	0.98
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	0.95	1.00	0.95	1.00	0.99	1.00	0.95	1.00	0.93	0.91	0.99	0.99
Frt	1716	3203	1781	3330	1625	1591	1828	1591	1828	1828	1828	1828
Flt Protected	0.17	1.00	0.43	1.00	0.42	1.00	0.42	1.00	0.90	0.90	0.90	0.90
Flt Permitted	312	3203	805	3330	716	1591	1668	1591	1668	1668	1668	1668
Satd. Flow (perm)	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Peak-hour factor, PHF	124	534	56	11	1062	101	84	17	17	62	22	157
Adj. Flow (vph)	0	6	0	0	6	0	0	14	0	0	0	88
RTOR Reduction (vph)	124	584	0	11	1157	0	84	20	0	0	0	153
Lane Group Flow (vph)	9	8	8	8	9	14	10	10	10	10	10	14
Confl. Bikes (#/hr)	4%	10%	5%	0%	6%	0%	4%	0%	16%	8%	0%	3%
Heavy Vehicles (%)	pm+pt	NA	NA	pm+pt	NA	NA	NA	NA	NA	NA	NA	NA
Turn Type	5	2	1	6	8	8	8	8	8	8	8	8
Protected Phases	2	6	6	6	8	8	8	8	8	8	8	8
Permitted Phases	63.3	58.9	54.2	52.8	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
Actuated Green, G (s)	63.3	58.9	54.2	52.8	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
Effective Green, g (s)	0.70	0.65	0.60	0.59	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Actuated g/C Ratio	3.0	6.0	3.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	336	2096	499	1953	116	259	272	259	272	272	272	272
Lane Grp Cap (vph)	c0.03	0.18	0.00	c0.35	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
v/s Ratio Prot	0.37	0.28	0.02	0.59	0.72	0.08	0.09	0.08	0.09	0.09	0.09	0.09
v/s Ratio Perm	6.3	6.6	7.2	11.8	35.7	31.9	34.7	31.9	34.7	34.7	34.7	34.7
Uniform Delay, d1	0.99	0.94	0.28	0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.5	0.2	0.0	1.2	1.99	0.1	2.7	0.1	2.7	2.7	2.7	2.7
Incremental Delay, d2	6.7	6.4	2.0	9.5	55.7	32.0	37.3	32.0	37.3	37.3	37.3	37.3
Delay (s)	A	A	A	A	E	C	D	C	D	D	D	D
Level of Service	6.5	6.5	9.4	9.4	48.9	37.3	37.3	37.3	37.3	37.3	37.3	37.3
Approach Delay (s)	A	A	A	A	D	D	D	D	D	D	D	D
Approach LOS	Intersection Summary											
Intersection Summary	HCM 2000 Control Delay											
HCM 2000 Control Delay	13.5 HCM 2000 Level of Service											
HCM 2000 Level of Service	B											
HCM 2000 Volume to Capacity ratio	0.59											
Actuated Cycle Length (s)	90.0 Sum of lost time (s)											
Intersection Capacity Utilization	68.3% ICU Level of Service											
ICU Level of Service	C											
Analysis Period (min)	15											
Analysis Period (min)	c Critical Lane Group											

Lanes, Volumes, Timings
7. Farley Drive & Internal E-W Street

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	5	0	75	10	70	0	10	25	15	15	40
Future Volume (vph)	25	5	0	75	10	70	0	10	25	15	15	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1760	0	0	1722	0	0	1669	0	0	1869	0
Flt Permitted	0.960			0.976							0.989	
Satd. Flow (perm)	0	1760	0	0	1722	0	0	1669	0	0	1869	0
Link Speed (k/h)	30			30				30			30	
Link Distance (m)	57.2			91.1				54.0			63.9	
Travel Time (s)	6.9			10.9				6.5			7.7	
Confl. Peds. (#/hr)	1		2	2		1	16		5	5		16
Confl. Bikes (#/hr)			1			1						
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	3%	0%	0%	0%	0%	0%	0%	6%	0%	20%	4%	0%
Adj. Flow (vph)	34	7	0	103	14	96	0	14	34	21	21	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	213	0	0	48	0	0	97	0
Sign Control		Stop		Stop			Stop		Stop		Stop	

Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	27.9%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop		Stop			Stop		Stop		Stop	
Traffic Volume (vph)	25	5	0	75	10	70	0	10	25	15	15	40
Future Volume (vph)	25	5	0	75	10	70	0	10	25	15	15	40
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	34	7	0	103	14	96	0	14	34	21	21	55
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	41	213	48	97								
Volume Left (vph)	34	103	0	21								
Volume Right (vph)	0	96	34	55								
Head (s)	0.21	-0.17	-0.40	-0.21								
Departure Headway (s)	4.7	4.1	4.2	4.3								
Degree Utilization, x	0.05	0.24	0.06	0.12								
Capacity (veh/h)	737	840	801	779								
Control Delay (s)	7.9	8.4	7.4	7.9								
Approach Delay (s)	7.9	8.4	7.4	7.9								
Approach LOS	A	A	A	A								

Intersection Summary												
Delay	8.1											
Level of Service	A											
Intersection Capacity Utilization	27.9%											
Analysis Period (min)	15											
ICU Level of Service	A											

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	5	5	5	35	90	0
Future Volume (vph)	5	5	5	35	90	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1709	0	0	1691	1773	0
Flt Permitted	0.976			0.994		
Satd. Flow (perm)	1709	0	0	1691	1773	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	31.6			55.2	54.0	
Travel Time (s)	3.8			6.6	6.5	
Confl. Peds. (#/hr)	3	18	36			36
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	0%	0%	12%	6%	0%
Adj. Flow (vph)	7	7	7	47	120	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	54	120	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	25.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	5	5	5	35	90	0
Future Volume (vph)	5	5	5	35	90	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	7	7	7	47	120	0
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	14	54	120			
Volume Left (vph)	7	7	0			
Volume Right (vph)	7	0	0			
Head (s)	-0.20	0.20	0.10			
Departure Headway (s)	4.1	4.2	4.1			
Degree Utilization, x	0.02	0.06	0.14			
Capacity (veh/h)	842	829	872			
Control Delay (s)	7.1	7.5	7.7			
Approach Delay (s)	7.1	7.5	7.7			
Approach LOS	A	A	A			
Intersection Summary						
Delay	7.6					
Level of Service	A					
Intersection Capacity Utilization	25.3%			ICU Level of Service A		
Analysis Period (min)	15					

Lanes, Volumes, Timings

12-13-2023

9: Hawkins Drive & Internal E-W Street

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations						
Traffic Volume (vph)	15	0	0	125	80	25
Future Volume (vph)	15	0	0	125	80	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1642	0	0	1990	2023	0
Flt Permitted	0.950					
Satd. Flow (perm)	1642	0	0	1990	2023	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Confl. Peds. (#/hr)			12			12
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	16%	100%	0%	5%	0%	0%
Adj. Flow (vph)	19	0	0	160	103	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	0	0	160	135	0
Sign Control	Stop	Free	Free	Free	Free	Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	18.4%					
ICU Level of Service A						
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

12-13-2023

9: Hawkins Drive & Internal E-W Street

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations						
Traffic Volume (veh/h)	15	0	0	125	80	25
Future Volume (Veh/h)	15	0	0	125	80	25
Sign Control	Stop	Free	Free	Free	Free	Free
Grade	0%			0%	0%	0%
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	19	0	0	160	103	32
Pedestrians	12					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	None
Median type						
Median storage (veh)						
Upstream signal (m)					65	
pX platoon unblocked						
vC, conflicting volume	291	131	147			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	291	131	147			
iC, single (s)	6.6	7.2	4.1			
iC, 2 stage (s)						
p0 queue free %	97	100	100			
IF (s)	3.6	4.2	2.2			
qM capacity (veh/h)	664	703	1431			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	19	160	135			
Volume Left	19	0	0			
Volume Right	0	0	32			
vSH	664	1431	1700			
Volume to Capacity	0.03	0.00	0.08			
Queue Length 95th (m)	0.7	0.0	0.0			
Control Delay (s)	10.6	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.6	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay	0.6					
Intersection Capacity Utilization	18.4%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	105	5	5	135	0	40	0	15	0	0	60
Future Volume (vph)	20	105	5	5	135	0	40	0	15	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	4.5	4.5	4.5	4.5	3.6	3.5	3.6	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	1848	0	0	1972	0	1740	0	0	0	0	1593
Flt Permitted	0.993			0.998			0.965					
Satd. Flow (perm)	0	1848	0	0	1972	0	1740	0	0	0	0	1593
Link Speed (kph)	40			40			30					50
Link Distance (m)	90.5			63.5			67.2					112.0
Travel Time (s)	8.1			5.7			8.1					8.1
Confl. Peds. (#/hr)									6			
Peak Hour Factor	0.92	0.89	0.89	0.89	0.89	0.92	0.89	0.92	0.89	0.92	0.92	0.92
Heavy Vehicles (%)	2%	14%	0%	0%	6%	2%	2%	0%	0%	2%	2%	2%
Adj. Flow (vph)	22	118	6	6	152	0	45	0	17	0	0	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	146	0	0	158	0	0	62	0	0	0	65
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.0%
Analysis Period (min)	15
ICU Level of Service A	

HCM Unsignalized Intersection Capacity Analysis

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	105	5	5	135	0	40	0	15	0	0	60
Future Volume (Veh/h)	20	105	5	5	135	0	40	0	15	0	0	60
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.89	0.89	0.89	0.89	0.92	0.89	0.92	0.89	0.92	0.92	0.92
Hourly flow rate (vph)	22	118	6	6	152	0	45	0	17	0	0	65
Pedestrians							6					
Lane Width (m)							4.5					
Walking Speed (m/s)							1.2					
Percent Blockage							1					
Right turn flare (veh)												
Median type							None					
Median storage (veh)												
Upstream signal (m)							311					
pX, platoon unblocked												
vC, conflicting volume	152			124			394	329	127	352	332	152
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	152			124			394	329	127	352	332	152
iC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
iC, 2 stage (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			91	100	98	100	100	93
qM capacity (veh/h)	1429			1475			517	579	923	579	576	894
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	146	158	62	65								
Volume Left	22	6	45	0								
Volume Right	6	0	17	65								
vSH	1429	1475	588	894								
Volume to Capacity	0.02	0.00	0.11	0.07								
Queue Length 95th (m)	0.4	0.1	2.8	1.9								
Control Delay (s)	1.2	0.3	11.8	9.3								
Lane LOS	A	A	B	A								
Approach Delay (s)	1.2	0.3	11.8	9.3								
Approach LOS	B	A	A	A								
Intersection Summary												
Average Delay	3.7											
Intersection Capacity Utilization	32.0%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings
11: Internal N-S Street & Internal E-W Street

12-13-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	91.1			71.6	112.0	
Travel Time (s)	6.6			5.2	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 0.0%	ICU Level of Service A					
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
11: Internal N-S Street & Internal E-W Street

12-13-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	0	0	0	0	0	0
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Head (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	3.9	3.9	3.9	3.9	3.9	3.9
Degree Utilization, x	0.00	0.00	0.00	0.00	0.00	0.00
Capacity (veh/h)	917	917	917	917	917	917
Control Delay (s)	6.9	6.9	6.9	6.9	6.9	6.9
Approach Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A	A	A
Intersection Summary	Other					
Delay	0.0					
Level of Service	A					
Intersection Capacity Utilization	0.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

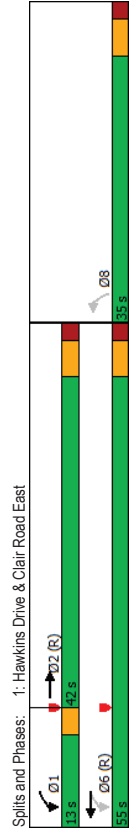
12-13-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Traffic Volume (vph)	1035	50	160	665	35	125
Future Volume (vph)	1035	50	160	665	35	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)		7.5		7.5		
Satd. Flow (prot)	3458	0	1785	3535	1850	0
Flt Permitted			0.194		0.989	
Satd. Flow (perm)	3458	0	364	3535	1850	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	6		13		128	
Link Speed (k/h)	60		60		50	
Link Distance (m)	1607		130.4		64.6	
Travel Time (s)	9.6		7.8		4.7	
Confl. Peds. (#/hr)		13	13		1	
Confl. Bikes (#/hr)	1					
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Adj. Flow (vph)	1056	51	163	679	36	128
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1107	0	163	679	164	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2	1	6	8		
Permitted Phases	2	1	6	8		
Detector Phase	2	1	6	8		
Switch Phase						
Minimum Initial (s)	10.0	7.0	10.0	10.0	7.0	
Minimum Split (s)	35.0	10.0	35.0	35.0	35.0	
Total Split (s)	42.0	13.0	55.0	35.0	35.0	
Total Split (%)	46.7%	14.4%	61.1%	38.9%		
Maximum Green (s)	36.0	10.0	49.0	29.0		
Yellow Time (s)	4.0	3.0	4.0	4.0		
All-Red Time (s)	2.0	0.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.0	3.0	6.0	6.0		
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Recall Mode	C-Min	None	C-Min	None		
Walk Time (s)	11.0	18.0	11.0	8.0		
Flash Don't Walk (s)	18.0	18.0	18.0	18.0		
Pedestrian Calls (#/hr)	7		7	12		
Act Effect Green (s)	54.2	69.6	66.6	11.4		
Actuated g/C Ratio	0.60	0.77	0.74	0.13		
v/C Ratio	0.53	0.38	0.26	0.48		
Control Delay	5.8	6.3	5.0	15.7		

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-13-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Queue Delay	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	6.3	5.0	15.7		
LOS	A	A	A	A	B	
Approach Delay	5.8		5.3	15.7		
Approach LOS	A		A	B		
Intersection Summary	Other					
Area Type:	Other					
Cycle Length:	90					
Actuated Cycle Length:	90					
Offset: 2 (2%):	Referenced to phase 2EBT and 6'WBT. Start of Green					
Natural Cycle:	80					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.53					
Intersection Signal Delay:	6.4					
Intersection LOS:	A					
Intersection Capacity Utilization:	62.1%					
Analysis Period (min):	15					



Phasings
1: Hawkins Drive & Clair Road East

12-13-2023

	EBT	WBL	WBT	NBL
Lane Group	2	1	6	
Protected Phases				
Permitted Phases	6	8		
Minimum Initial (s)	10.0	7.0	10.0	7.0
Minimum Split (s)	35.0	10.0	35.0	35.0
Total Split (s)	42.0	13.0	55.0	35.0
Total Split (%)	46.7%	14.4%	61.1%	38.9%
Maximum Green (s)	36.0	10.0	49.0	29.0
Yellow Time (s)	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	0.0	2.0	2.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	C-Min	None	C-Min	None
Walk Time (s)	11.0		11.0	8.0
Flash Dont Walk (s)	18.0		18.0	18.0
Pedestrian Calls (#/hr)	7		7	12
90th %ile Green (s)	36.0	13.0	52.0	26.0
90th %ile Term Code	Coord	Max	Coord	Ped
70th %ile Green (s)	54.8	10.7	68.5	9.5
70th %ile Term Code	Coord	Gap	Coord	Gap
50th %ile Green (s)	58.4	9.3	70.7	7.3
50th %ile Term Code	Coord	Gap	Coord	Gap
30th %ile Green (s)	60.7	7.3	71.0	7.0
30th %ile Term Code	Coord	Gap	Coord	Min
10th %ile Green (s)	61.0	7.0	71.0	7.0
10th %ile Term Code	Coord	Min	Coord	Min

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBTL - Start of Green
Control Type: Actuated-Coordinated

Queues
1: Hawkins Drive & Clair Road East

12-13-2023

	EBT	WBL	WBT	NBL
Lane Group	1107	163	679	164
Lane Group Flow (vph)	0.53	0.38	0.26	0.48
v/c Ratio	5.8	6.3	5.0	15.7
Control Delay	0.1	0.0	0.0	0.0
Queue Delay	5.8	6.3	5.0	15.7
Total Delay	5.8	6.3	5.0	15.7
Queue Length 50th (m)	19.0	4.1	13.0	5.5
Queue Length 95th (m)	30.9	20.2	42.2	m17.9
Internal Link Dist (m)	136.7		106.4	40.6
Turn Bay Length (m)		25.0		
Base Capacity (vph)	2083	451	2617	682
Starvation Cap Reductn	103	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.56	0.36	0.26	0.24

Intersection Summary
m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
1: Hawkins Drive & Clair Road East

12-13-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Traffic Volume (vph)	1035	50	160	665	35	125
Future Volume (vph)	1035	50	160	665	35	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Total Lost time (s)	6.0	3.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Fpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.99	1.00	1.00	1.00	0.89	1.00
Flt Protected	1.00	0.95	1.00	1.00	0.99	1.00
Satd. Flow (prot)	3468	1784	3535	1849	1849	1849
Flt Permitted	1.00	0.19	1.00	0.99	0.99	0.99
Satd. Flow (perm)	3458	364	3535	1849	1849	1849
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1066	51	163	679	36	128
RTOR Reduction (vph)	2	0	0	0	112	0
Lane Group Flow (vph)	1105	0	163	679	52	0
Conf. Peds. (#/hr)	13	13			1	
Conf. Bikes (#/hr)	1					
Heavy Vehicles (%)	2%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Turn Type	NA	pm+pt	NA	Perm	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		8	
Actuated Green, G (s)	54.1	66.6	66.6	11.4		
Effective Green, g (s)	54.1	66.6	66.6	11.4		
Actuated g/C Ratio	0.60	0.74	0.74	0.13		
Clearance Time (s)	6.0	3.0	6.0	6.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	2078	419	2615	234		
v/s Ratio Prot	c0.32	c0.04	0.19			
v/s Ratio Perm		0.25		c0.03		
v/c Ratio	0.53	0.39	0.26	0.22		
Uniform Delay, d1	10.5	5.0	3.8	35.3		
Progression Factor	0.39	1.00	1.00	1.16		
Incremental Delay, d2	0.8	0.6	0.2	0.5		
Delay (s)	4.9	5.6	4.0	41.5		
Level of Service	A	A	A	D		
Approach Delay (s)	4.9		4.3	41.5		
Approach LOS	A		A	D		

Intersection Summary	
HCM 2000 Control Delay	A
HCM 2000 Volume to Capacity ratio	7.5
HCM 2000 Level of Service	A
Actuated Cycle Length (s)	90.0
Sum of lost time (s)	15.0
Intersection Capacity Utilization	62.1%
ICU Level of Service	B
Analysis Period (min)	15
c Critical Lane Group	

Lanes, Volumes, Timings
2: Hawkins Drive & Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Traffic Volume (vph)	70	125	10	60	60	5	10	50	40	15	95	45
Future Volume (vph)	70	125	10	60	60	5	10	50	40	15	95	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Satd. Flow (prot)	0	2040	0	0	1829	0	0	1967	0	0	1964	0
Flt Permitted	0.983			0.977			0.995				0.995	
Satd. Flow (perm)	0	2040	0	0	1829	0	0	1967	0	0	1964	0
Link Speed (k/h)		40		40			40				40	
Link Distance (m)		63.5		196.9			136.5				121.9	
Travel Time (s)		5.7		17.7			12.3				11.0	
Conf. Peds. (#/hr)	33		13	13		33	8		4	4		8
Conf. Bikes (#/hr)		1										
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	83	149	12	71	71	6	12	60	48	18	113	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	244	0	0	148	0	0	120	0	0	185	0
Sign Control		Free		Free			Stop				Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	31.5%
ICU Level of Service	A
Analysis Period (min)	15

2: Hawkins Drive & Poppy Drive East

12-13-2023

3: Poppy Drive East & Fanley Drive

12-13-2023

LCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	125	10	60	60	5	10	50	40	15	95	45
Future Volume (Veh/h)	70	125	10	60	60	5	10	50	40	15	95	45
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	83	149	12	71	71	6	12	60	48	18	113	54
Pedestrians	8			4			13				33	
Lane Width (m)	4.5			3.6			4.5				4.5	
Walking Speed (m/s)	1.2			1.2			1.2				1.2	
Percent Blockage	1			0			1				3	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	375											
pX platoon unblocked												
VC, conflicting volume	110			174			668	586	172	652	589	115
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCU, unblocked vol	110			174			668	586	172	652	589	115
IC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.3
IC, 2 stage (s)												
IF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	94			95			95	83	94	93	69	94
CM capacity (veh/h)	1441			1396			232	362	862	271	361	887
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	244	148	120	185								
Volume Left	83	71	12	18								
Volume Right	12	6	48	54								
cSH	1441	1396	440	420								
Volume to Capacity	0.06	0.05	0.27	0.44								
Queue Length 95th (m)	1.5	1.3	8.8	17.6								
Control Delay (s)	2.9	3.9	16.2	20.2								
Lane LOS	A	A	C	C								
Approach Delay (s)	2.9	3.9	16.2	20.2								
Approach LOS	C	C	C	C								
Intersection Summary												
Average Delay	10.0											
Intersection Capacity Utilization	31.5%											
ICU Level of Service	A											
Analysis Period (min)	15											

LCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	240	145	15	20	60				15	20	60
Future Volume (vph)	60	240	145	15	20	60				15	20	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	4.5	4.5				4.5	4.5	4.5
Satd. Flow (prot)	0	2069	1991	0	1669	0				1669	0	1669
Flt Permitted	0	0.990				0.988						
Satd. Flow (perm)	0	2069	1991	0	1669	0				1669	0	1669
Link Speed (k/h)	40	40	40			30						
Link Distance (m)	220.5	90.5	55.2			55.2						
Travel Time (s)	19.8	8.1	6.6			6.6						
Confl. Peds. (#/hr)	15					15						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88				0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	4%	0%	0%	0%				0%	0%	0%
Adj. Flow (vph)	68	273	165	17	23	68				23	68	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	341	182	0	91	0				91	0	0
Sign Control	Free	Free	Free	Free	Free	Free				Stop	Stop	Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	41.3%											
ICU Level of Service	A											
Analysis Period (min)	15											

3: Poppy Drive East & Farley Drive

12-13-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	240	145	15	20	60
Future Volume (Veh/h)	60	240	145	15	20	60
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	68	273	165	17	23	68
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (m)						
pX platoon unblocked						
vC, conflicting volume						
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCn, unblocked vol						
IC, single (s)						
IC, 2 stage (s)						
p0 queue free %						
CM capacity (veh/h)						
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	341	182	91			
Volume Left	68	0	23			
Volume Right	0	17	68			
cSH	1371	1700	687			
Volume to Capacity	0.05	0.11	0.13			
Queue Length 95th (m)	1.3	0.0	3.6			
Control Delay (s)	1.9	0.0	11.0			
Lane LOS	A	B	B			
Approach Delay (s)	1.9	0.0	11.0			
Approach LOS	B					
Intersection Summary						
Average Delay		2.7				
Intersection Capacity Utilization		41.3%				
Analysis Period (min)		15				
						A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations											
Traffic Volume (vph)	65	50	135	105	60	80	160	107.5	180	105	111.5
Future Volume (vph)	65	50	135	105	60	80	160	107.5	180	105	111.5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0
Taper Length (m)	7.5	0	7.5	0	183.3	0	2006	340.5	0	1728	347.4
Satd. Flow (prot)	0	1757	0	0	1833	0	2006	340.5	0	1728	347.4
Flt Permitted	0.802	0.802	0.802	0.648	0.648	0.146	0.146	0.146	0.146	0.142	0.142
Satd. Flow (perm)	0	1423	0	0	1252	0	308	340.5	0	257	347.4
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	65	27	27	27	27	27	29	29	29	27	27
Link Speed (k/h)	40	40	40	40	40	40	60	60	60	60	60
Link Distance (m)	93.0	220.5	220.5	220.5	220.5	220.5	196.0	196.0	196.0	180.5	180.5
Travel Time (s)	8.4	19.8	19.8	19.8	19.8	19.8	11.8	11.8	17	17	10.8
Conf. Peds. (#/hr)	18	3	3	3	3	3	6	6	17	17	6
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	18%	0%	1%	0%	3%	2%	2%	2%	1%	1%	2%
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0
Adj. Flow (vph)	66	51	138	107	61	82	163	109.7	184	107	113.8
Shared Lane Traffic (%)											
Lane Group Flow (vph)	0	255	0	0	250	0	163	1281	0	107	1194
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA
Protected Phases	8	8	4	4	5	2	1	2	1	6	6
Permitted Phases	8	8	4	4	2	2	6	2	6	6	6
Detector Phase	8	8	4	4	5	2	1	2	1	6	6
Switch Phase											
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	35.0	35.0	30.0	35.0	35.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	49.0	49.0	31.0	48.0	48.0
Total Split (%)	34.4%	34.4%	34.4%	34.4%	34.4%	34.4%	54.4%	54.4%	11.1%	53.3%	53.3%
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	8.0	43.0	7.0	42.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	8.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	16.0	12.0	12.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6	6	6	6
Act Efect Green (s)	19.7	19.7	19.7	19.7	19.7	19.7	59.5	50.0	57.7	47.4	47.4
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.22	0.66	0.56	0.64	0.53	0.53
v/c Ratio	0.70	0.70	0.70	0.85	0.85	0.85	0.46	0.67	0.38	0.65	0.65
Control Delay	34.1	34.1	34.1	54.6	54.6	54.6	10.4	17.9	12.2	11.9	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1

Lanes, Volumes, Timings

4: Gordon Street & Poppy Drive West/Poppy Drive East

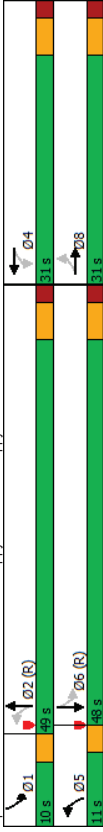
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	34.1			54.6			10.4	17.9		12.2	12.0	
LOS	C			D			B	B		B	B	
Approach Delay	34.1			54.6			17.0			12.0		
Approach LOS	C			D			B			B		

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 19.2
 Intersection LOS: B
 Intersection Capacity Utilization: 78.6%
 ICU Level of Service: D
 Analysis Period (min): 15

Splits and Phases: 4: Gordon Street & Poppy Drive West/Poppy Drive East



Phasings

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	8		4		5		2	1
Permitted Phases								6
Minimum Initial (s)	7.0	7.0	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	10.0	35.0	10.0	35.0
Total Split (s)	31.0	31.0	31.0	31.0	11.0	49.0	10.0	48.0
Total Split (%)	34.4%	34.4%	34.4%	34.4%	12.2%	54.4%	11.1%	53.3%
Maximum Green (s)	25.0	25.0	25.0	25.0	8.0	43.0	7.0	42.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	17.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	12.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	6	6
90th %ile Green (s)	25.0	25.0	25.0	25.0	8.0	43.0	7.0	42.0
90th %ile Term Code	Max	Max	Max	Max	Max	Coord	Max	Coord
70th %ile Green (s)	23.9	23.9	23.9	23.9	9.1	43.0	8.1	42.0
70th %ile Term Code	Hold	Hold	Gap	Gap	Max	Coord	Max	Coord
50th %ile Green (s)	20.6	20.6	20.6	20.6	8.1	47.0	7.4	46.3
50th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Coord	Gap	Coord
30th %ile Green (s)	17.1	17.1	17.1	17.1	7.1	50.9	7.0	50.8
30th %ile Term Code	Hold	Hold	Gap	Gap	Gap	Coord	Min	Coord
10th %ile Green (s)	11.9	11.9	11.9	11.9	7.0	66.1	0.0	56.1
10th %ile Term Code	Hold	Hold	Gap	Gap	Min	Coord	Skip	Coord

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated

Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	255	250	163	1281	107	1194
Lane Group Flow (vph)	0.70	0.85	0.46	0.67	0.38	0.65
v/c Ratio	34.1	54.6	10.4	17.9	12.2	11.9
Control Delay	0.0	0.0	0.0	0.0	0.0	0.1
Queue Delay	34.1	54.6	10.4	17.9	12.2	12.0
Total Delay	31.6	38.8	9.3	86.5	4.9	51.1
Queue Length 50th (m)	55.0	#65.8	19.1	124.0	m3.3	m25.4
Queue Length 95th (m)	69.0	196.5	172.0	70.0	156.5	156.5
Internal Link Dist (m)						
Turn Bay Length (m)	442	367	359	1904	284	1834
Base Capacity (vph)	0	0	0	0	0	70
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.68	0.45	0.67	0.38	0.68

Intersection Summary
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

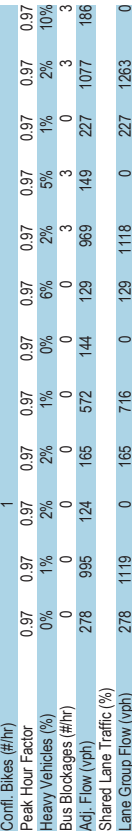
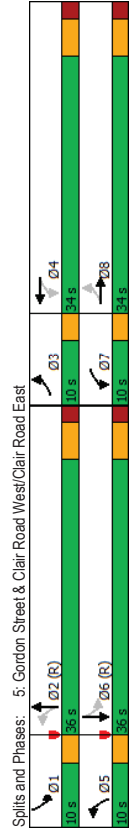
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	65	50	135	105	60	80	160	1075	180	105	1115	55	
Future Volume (vph)	65	50	135	105	60	80	160	1075	180	105	1115	55	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	3.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	
Frbp. ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	1.00	0.99	1.00	1.00	1.00	1.00	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.93	0.99	0.98	0.96	0.98	0.98	0.95	1.00	0.98	1.00	0.99	1.00	
Flt Protected	1752	1891	2005	3407	1727	3474							
Satd. Flow (prot)	0.80	0.80	0.65	0.15	1.00	0.14	1.00						
Flt Permitted	1423	1252	308	3407	258	3474							
Satd. Flow (perm)	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Peak-hour factor, PHF	66	51	138	107	61	82	163	1097	184	107	1138	56	
Adj. Flow (vph)	0	51	0	0	21	0	0	13	0	0	3	0	
RTOR Reduction (vph)	0	204	0	0	229	0	163	1268	0	107	1191	0	
Lane Group Flow (vph)	18	3	3	3	18	6	17	17	17	17	6	6	
Conf. Peds. (#/hr)	18%	0%	0%	1%	0%	3%	2%	2%	1%	1%	2%	0%	
Heavy Vehicles (%)	0	0	0	2	2	2	0	0	0	0	0	0	
Bus Blockages (#/hr)	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA	
Turn Type	8	8	4	4	4	4	5	2	2	1	6	6	
Protected Phases	8	8	4	4	4	4	5	2	2	1	6	6	
Permitted Phases	19.7	19.7	19.7	57.3	49.4	53.3	47.4	53.3	47.4	53.3	47.4	47.4	
Actuated Green, G (s)	19.7	19.7	19.7	57.3	49.4	53.3	47.4	53.3	47.4	53.3	47.4	47.4	
Effective Green, g (s)	0.22	0.22	0.22	0.64	0.55	0.59	0.53	0.59	0.53	0.59	0.53	0.53	
Actuated g/C Ratio	6.0	6.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0	3.0	6.0	6.0	
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	311	274	345	1870	249	1829							
Lane Grp Cap (vph)	0.14	0.14	0.14	0.26	0.26	0.26	0.03	0.34	0.23	0.23	0.34	0.34	
v/s Ratio Perm	0.66	0.66	0.84	0.47	0.68	0.43	0.65	0.65	0.43	0.43	0.65	0.65	
v/c Ratio	32.1	33.6	9.4	14.6	10.0	15.3							
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Progression Factor	4.9	19.3	1.0	2.0	0.1	0.2							
Incremental Delay, d2	37.0	52.9	10.4	16.6	19.2	10.9							
Delay (s)	D	D	D	B	B	B	B	B	B	B	B	B	
Level of Service	D	D	D	B	B	B	B	B	B	B	B	B	
Approach Delay (s)	37.0	52.9	15.9	11.6	11.6	11.6							
Approach LOS	D	D	D	B	B	B							
Intersection Summary													
HCM 2000 Control Delay	18.7											HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72												
Actuated Cycle Length (s)	90.0											Sum of lost time (s)	15.0
Intersection Capacity Utilization	78.6%											ICU Level of Service	D
Analysis Period (min)	15												
c Critical Lane Group													

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.4	66.9	37.6	29.3	33.2	44.7	87.8	94.4				
LOS	E	E	D	C	C	D	F	F				
Approach Delay	67.8			30.9			43.6			93.4		
Approach LOS	E			C			D			F		
Intersection Summary												
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset: 0 (0%):	Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection											
Natural Cycle:	100											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	1.12											
Intersection Signal Delay:	62.9											
Intersection Capacity Utilization:	99.4%											
Analysis Period (min):	15											

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	270	965	120	160	555	140	125	940	145	220	1045	180
Future Volume (vph)	270	965	120	160	555	140	125	940	145	220	1045	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	7.5	3458	0	1711	3405	0	1646	3380	0	1728	3349	0
Satd. Flow (prot)	0.238	0.143	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133
Flt Permitted	433	3458	0	257	3405	0	230	3380	0	241	3349	0
Satd. Flow (perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	15	60	36	60	20	60	20	60	20	60	20	60
Satd. Flow (RTOR)	268.6	217.7	180.5	217.7	180.5	217.7	180.5	217.7	180.5	217.7	180.5	217.7
Link Speed (k/h)	16.1	21	21	13.1	13.1	34	18	10.8	26	26	14.0	18
Link Distance (m)												
Travel Time (s)												
Confl. Peds. (#/hr)	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Confl. Bikes (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0	1%	2%	1%	0%	6%	2%	5%	1%	2%	10%	2%
Heavy Vehicles (%)	0	0	0	0	0	0	0	0	0	0	0	0
Bus Blockages (#/hr)	278	995	124	165	572	144	129	969	149	227	1077	188
Adj. Flow (vph)												
Shared Lane Traffic (%)												
Lane Group Flow (vph)	278	1119	0	165	716	0	129	1118	0	227	1263	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	1	6				
Permitted Phases	8	4	2	6								
Detector Phase	3	8	7	4	5	2	1	6				
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	36.0	10.0	36.0	10.0	36.0	10.0	36.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%	40.0%	11.1%	40.0%	11.1%	40.0%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0	7.0	30.0	7.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0	9.0	19.0
Flash Dont Walk (s)	11	11	11	11	11	11	11	11	11	11	11	11
Pedestrian Calls (#/hr)	36.0	28.0	38.0	28.0	40.0	30.0	40.0	30.0	40.0	30.0	40.0	30.0
Act Effect Green (s)	0.42	0.31	0.42	0.31	0.44	0.33	0.44	0.33	0.44	0.33	0.44	0.33
Actuated g/C Ratio	0.98	1.03	0.75	0.66	0.61	0.98	1.02	1.12	0.98	1.02	1.12	0.98
v/c Ratio	71.4	66.9	37.6	29.3	33.2	44.7	87.8	94.4				
Control Delay												



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	7	4	2	6	6	6	6
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	36.0	10.0	36.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	40.0%	11.1%	40.0%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	11	11	11	11	9	9	9	9
90th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
90th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Max	Coord
70th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
70th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Max	Coord
50th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
50th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Max	Coord
30th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
30th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Max	Coord
10th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	30.0	7.0	30.0
10th %ile Term Code	Max	Max	Max	Max	Coord	Coord	Max	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBT
Lane Group Flow (vph)	278	1119	165	716	129	1118	227	1263
v/c Ratio	0.98	1.03	0.75	0.66	0.61	0.98	1.02	1.12
Control Delay	71.4	66.9	37.6	29.3	33.2	44.7	87.8	94.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.4	66.9	37.6	29.3	33.2	44.7	87.8	94.4
Queue Length 50th (m)	31.6	~115.0	22.0	67.4	0.0	90.5	~25.2	~139.3
Queue Length 95th (m)	#78.3	#156.3	m#43.0	74.1	m#26.2	#144.5	#73.2	#181.9
Internal Link Dist (m)	244.6		193.7		156.5		209.4	
Turn Bay Length (m)	70.0		32.0		72.0		163.0	
Base Capacity (vph)	284	1086	221	1084	212	1140	222	1131
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	1.03	0.75	0.66	0.61	0.98	1.02	1.12

Intersection Summary
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

5. Gordon Street & Clair Road West/Clair Road East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	270	965	120	160	555	140	125	940	145	220	1045	180
Traffic Volume (vph)	270	965	120	160	555	140	125	940	145	220	1045	180
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.98	1.00	1.00	0.97	1.00	0.98	1.00	0.98	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1741	3459	1710	3404	1646	3380	1727	3349	1727	3349	1727	3349
Flt Permitted	0.24	1.00	0.14	1.00	0.14	1.00	0.13	1.00	0.13	1.00	0.13	1.00
Satd. Flow (perm)	437	3459	257	3404	231	3380	242	3349	242	3349	242	3349
Peak-Hour Factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	278	995	124	165	572	144	129	969	149	227	1077	186
RTOR Reduction (vph)	0	10	0	0	25	0	0	13	0	0	15	0
Lane Group Flow (vph)	278	1109	0	165	691	0	129	1105	0	227	1248	0
Confl. Peds. (#/hr)	34	21	21	34	18	34	18	26	26	34	26	18
Confl. Bikes (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Heavy Vehicles (%)	0%	1%	2%	2%	1%	0%	6%	2%	5%	1%	2%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	NA
Protected Phases	3	8	7	4	4	5	2	2	1	6	6	6
Permitted Phases	8	8	4	4	4	2	2	2	1	6	6	6
Actuated Green, G (s)	35.0	28.0	35.0	28.0	37.0	30.0	37.0	30.0	37.0	30.0	37.0	30.0
Effective Green, g (s)	35.0	28.0	35.0	28.0	37.0	30.0	37.0	30.0	37.0	30.0	37.0	30.0
Actuated g/C Ratio	0.39	0.31	0.39	0.31	0.41	0.33	0.41	0.33	0.41	0.33	0.41	0.33
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	271	1076	212	1059	205	1126	214	1116	214	1116	214	1116
v/s Ratio Prot	0.08	0.32	0.06	0.20	0.05	0.33	0.08	0.37	0.08	0.37	0.08	0.37
v/s Ratio Perm	0.32	1.03	0.24	0.85	0.21	0.98	0.35	1.12	0.35	1.12	0.35	1.12
Uniform Delay, d1	24.8	31.0	22.1	26.8	21.0	29.7	22.7	30.0	22.7	30.0	22.7	30.0
Progression Factor	1.00	1.00	1.08	1.03	1.68	0.84	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	61.5	35.5	14.9	1.3	4.4	18.9	78.5	65.5	78.5	65.5	78.5	65.5
Delay (s)	86.3	66.5	38.7	28.8	39.8	43.8	101.2	95.5	101.2	95.5	101.2	95.5
Level of Service	F	E	D	C	D	D	F	F	F	F	F	F
Approach Delay (s)	70.5	30.7	30.7	30.7	43.4	43.4	96.3	96.3	43.4	96.3	96.3	96.3
Approach LOS	E	C	C	C	D	D	F	F	D	F	F	F
Intersection Summary												
HCM 2000 Control Delay	64.4 HCM 2000 Level of Service E											
HCM 2000 Volume to Capacity ratio	1.07											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 18.0											
Intersection Capacity Utilization	99.4% ICU Level of Service F											
Analysis Period (min)	15											
c Critical Lane Group												

6. Farley Drive & Clair Road East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	210	915	155	45	565	100	100	40	35	135	55	165
Traffic Volume (vph)	210	915	155	45	565	100	100	40	35	135	55	165
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Total Lost Time (s)	131.0	0.0	64.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Util. Factor	1	0	1	0	1	0	1	0	1	0	1	0
Frb. ped/bikes	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Frb. ped/bikes	1785	3384	0	1785	3399	0	1705	1716	0	0	1917	0
Flt	0.310	0.204	0.204	0.310	0.204	0.204	0.310	0.204	0.204	0.310	0.204	0.204
Flt Protected	577	3384	0	382	3399	0	799	1716	0	0	1627	0
Satd. Flow (prot)	27	26	26	26	26	26	26	26	26	26	26	26
Flt Permitted	60	60	60	60	60	60	60	60	60	60	60	60
Satd. Flow (perm)	217.7	160.7	160.7	217.7	160.7	160.7	217.7	160.7	160.7	217.7	160.7	160.7
Link Distance (m)	13.1	13	13	13	13	13	13	13	13	13	13	13
Travel Time (s)	20	13	13	13	13	13	20	36	29	29	36	36
Confl. Peds. (#/hr)	2	2	2	2	2	2	2	2	2	2	2	2
Confl. Bikes (#/hr)	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Peak Hour Factor	0%	3%	0%	0%	2%	1%	0%	0%	2%	0%	1%	0%
Heavy Vehicles (%)	219	953	161	47	589	104	104	42	36	141	57	172
Adj. Flow (vph)	219	1114	0	47	693	0	104	78	0	0	370	0
Shared Lane Traffic (%)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Lane Group Flow (vph)	5	2	2	5	2	2	5	2	2	5	2	2
Turn Type	5	2	2	5	2	2	5	2	2	5	2	2
Protected Phases	2	2	2	2	2	2	2	2	2	2	2	2
Permitted Phases	5	2	2	5	2	2	5	2	2	5	2	2
Switch Phase	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Initial (s)	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Minimum Split (s)	15.0	45.0	15.0	45.0	15.0	45.0	15.0	45.0	15.0	45.0	15.0	45.0
Total Split (s)	16.7%	50.0%	11.1%	44.4%	16.7%	50.0%	11.1%	44.4%	16.7%	50.0%	11.1%	44.4%
Maximum Green (s)	12.0	39.0	7.0	34.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	7	7	7	7	7	7	7	7	7	7	7	7
Act Effct Green (s)	56.2	49.2	52.4	42.4	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8
Actuated g/C Ratio	0.65	0.55	0.58	0.47	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
v/c Ratio	0.43	0.60	0.14	0.43	0.52	0.17	0.52	0.17	0.52	0.17	0.52	0.17
Control Delay	4.9	13.7	6.4	13.6	36.9	15.1	42.2	42.2	15.1	42.2	42.2	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
6: Farley Drive & Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	4.9	13.7	6.4	13.6	36.9	15.1						42.2
LOS	A	B	A	B	D	B						D
Approach Delay	12.2			13.1		27.6		C				42.2
Approach LOS	B			B		C						D

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

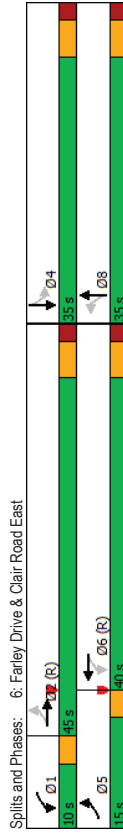
Intersection Signal Delay: 17.8

Intersection LOS: B

Intersection Capacity Utilization: 78.2%

ICU Level of Service: D

Analysis Period (min): 15



Phasings
6: Farley Drive & Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2	1	6	8	4						4
Permitted Phases	2	1	6	8	4							4
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	15.0	45.0	10.0	40.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	16.7%	50.0%	11.1%	44.4%	38.9%	38.9%	38.9%	38.9%	38.9%	38.9%	38.9%	38.9%
Maximum Green (s)	12.0	39.0	7.0	34.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0	11.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	7	7	12	12	12	12	12	12	12	12	12	12
90th %ile Green (s)	12.0	39.0	7.0	34.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
90th %ile Term Code	Max	Coord	Max	Coord	Hold	Hold	Hold	Hold	Max	Max	Max	Max
70th %ile Green (s)	11.8	41.1	7.0	36.3	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9
70th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Hold	Hold	Gap	Gap	Gap	Gap
50th %ile Green (s)	10.0	44.6	7.0	41.6	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4
50th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Hold	Hold	Gap	Gap	Gap	Gap
30th %ile Green (s)	8.5	58.1	0.0	46.6	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9
30th %ile Term Code	Gap	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Gap	Gap	Gap	Gap
10th %ile Green (s)	7.0	63.4	0.0	53.4	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
10th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Gap	Gap	Gap	Gap

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Control Type: Actuated-Coordinated

Queues
6: Farley Drive & Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	219	1114	47	693	104	78	370
v/c Ratio	0.43	0.60	0.14	0.43	0.52	0.17	0.82
Control Delay	4.9	13.7	6.4	13.6	36.9	15.1	42.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.9	13.7	6.4	13.6	36.9	15.1	42.2
Queue Length 50th (m)	4.1	96.2	1.5	41.5	16.1	5.8	54.8
Queue Length 95th (m)	m17.6	m100.3	4.0	66.6	30.3	15.4	81.5
Internal Link Dist (m)	131.0	193.7	64.0	136.7	20.0	39.9	172.5
Turn Bay Length (m)	534	1863	331	1614	257	577	588
Base Capacity (vph)	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.60	0.14	0.43	0.40	0.14	0.66
Intersection Summary							
m	Volume for 95th percentile queue is metered by upstream signal.						

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Traffic Volume (vph)	210	915	155	45	565	100	40	35	135
Future Volume (vph)	210	915	155	45	565	100	40	35	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8
Total Lost time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.98	1.00	0.98	0.98
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.99	0.99
Frt	0.95	1.00	0.95	1.00	0.98	1.00	0.93	1.00	0.98
Frt Protected	1.780	3385	1784	3400	1677	1715	1898	1898	1898
Satd. Flow (prot)	0.31	1.00	0.20	1.00	0.45	1.00	0.84	1.00	0.84
Flt Permitted	581	3385	383	3400	800	1715	1628	1628	1628
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	219	953	161	47	589	104	42	36	141
RTOR Reduction (vph)	0	13	0	0	14	0	27	0	38
Lane Group Flow (vph)	219	1101	0	47	679	0	104	51	0
Confl. Peds. (#/hr)	20	13	13	20	36	29	29	29	36
Confl. Bikes (#/hr)	2	2	2	2	2	2	2	2	2
Heavy Vehicles (%)	0%	3%	0%	0%	1%	0%	0%	2%	1%
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA	NA
Protected Phases	5	2	1	6	8	8	4	4	4
Permitted Phases	2	6	6	42.3	22.8	22.8	22.8	22.8	22.8
Actuated Green, G (s)	55.2	48.0	46.5	42.3	22.8	22.8	22.8	22.8	22.8
Effective Green, g (s)	55.2	48.0	46.5	42.3	22.8	22.8	22.8	22.8	22.8
Actuated g/C Ratio	0.61	0.53	0.52	0.47	0.25	0.25	0.25	0.25	0.25
Clearance Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	488	1805	263	1598	202	434	412	412	412
v/s Ratio Prot	c0.05	c0.33	0.01	0.20	0.03	0.03	0.03	0.03	0.03
v/s Ratio Perm	0.23	0.45	0.18	0.43	0.13	0.12	0.12	0.12	0.12
v/c Ratio	0.45	0.61	0.18	0.43	0.51	0.12	0.12	0.12	0.12
Uniform Delay, d1	8.3	14.5	11.3	15.8	28.9	25.9	31.5	31.5	31.5
Progression Factor	0.61	0.86	0.72	0.76	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1	0.3	0.8	2.2	0.1	10.9	10.9	10.9
Delay (s)	5.2	12.6	8.4	12.8	31.1	26.0	42.5	42.5	42.5
Level of Service	A	B	A	B	C	C	D	D	D
Approach Delay (s)	11.4	12.5	12.5	12.5	28.9	28.9	42.5	42.5	42.5
Approach LOS	B	B	B	B	C	C	D	D	D
Intersection Summary									
HCM 2000 Control Delay	17.3 HCM 2000 Level of Service B								
HCM 2000 Volume to Capacity ratio	0.67								
Actuated Cycle Length (s)	90.0 Sum of lost time (s)								
Intersection Capacity Utilization	78.2% ICU Level of Service D								
Analysis Period (min)	15								
c Critical Lane Group									

Lanes, Volumes, Timings
7. Farley Drive & Internal E-W Street

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	20	5	40	20	60	5	35	60	70	25	140
Future Volume (vph)	85	20	5	40	20	60	5	35	60	70	25	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1797	0	0	1723	0	0	1722	0	0	1934	0
Flt Permitted	0.963			0.984			0.997				0.985	
Satd. Flow (perm)	0	1797	0	0	1723	0	0	1722	0	0	1934	0
Link Speed (k/h)	30			30			30			30		
Link Distance (m)	57.2			91.1			54.0			63.9		
Travel Time (s)	6.9			10.9			6.5			7.7		
Confl. Peds. (#/hr)	5		5	5		5	26		22	22		26
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%
Adj. Flow (vph)	94	22	6	44	22	67	6	39	67	78	28	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	122	0	0	133	0	0	112	0	0	262	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	41.3%											
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	85	20	5	40	20	60	5	35	60	70	25	140
Future Volume (vph)	85	20	5	40	20	60	5	35	60	70	25	140
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	94	22	6	44	22	67	6	39	67	78	28	156
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	122	133	112	262								
Volume Left (vph)	94	44	6	78								
Volume Right (vph)	6	67	67	156								
Head (s)	0.12	-0.24	-0.35	-0.28								
Departure Headway (s)	5.1	4.7	4.5	4.4								
Degree Utilization, x	0.17	0.17	0.14	0.32								
Capacity (veh/h)	650	698	738	771								
Control Delay (s)	9.1	8.7	8.2	9.5								
Approach Delay (s)	9.1	8.7	8.2	9.5								
Approach LOS	A	A	A	A								

Intersection Summary												
Delay	9.0											
Level of Service	A											
Intersection Capacity Utilization	41.3%											
ICU Level of Service	A											
Analysis Period (min)	15											

Lanes, Volumes, Timings
8: Farley Drive & Existing Adjacent Site Access

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	30	10	10	70	65	10
Future Volume (vph)	30	10	10	70	65	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1751	0	0	1868	1847	0
Flt Permitted	0.964			0.994		
Satd. Flow (perm)	1751	0	0	1868	1847	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	31.6			55.2	54.0	
Travel Time (s)	3.8			6.6	6.5	
Confl. Peds. (#/hr)	13	45	45			45
Confl. Bikes (#/hr)	2					
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	34	11	11	80	74	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	0	0	91	85	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.1%					
ICU Level of Service	A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
8: Farley Drive & Existing Adjacent Site Access

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control						
Traffic Volume (vph)	30	10	10	70	65	10
Future Volume (vph)	30	10	10	70	65	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	34	11	11	80	74	11
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	45	91	85			
Volume Left (vph)	34	11	0			
Volume Right (vph)	11	0	11			
Head (s)	0.00	0.02	-0.08			
Departure Headway (s)	4.3	4.1	4.0			
Degree Utilization, x	0.05	0.10	0.09			
Capacity (veh/h)	885	854	880			
Control Delay (s)	7.5	7.6	7.4			
Approach Delay (s)	7.5	7.6	7.4			
Approach LOS	A	A	A			
Intersection Summary						
Delay	7.5					
Level of Service	A					
Intersection Capacity Utilization	29.1%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

9: Hawkins Drive & Internal E-W Street

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations						
Traffic Volume (vph)	40	5	0	120	150	60
Future Volume (vph)	40	5	0	120	150	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1840	0	0	2090	2011	0
Flt Permitted	0.958					
Satd. Flow (perm)	1840	0	0	2090	2011	0
Link Speed (k/h)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Confl. Peds. (#/hr)			8			8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	16%	0%	0%	0%	0%
Adj. Flow (vph)	45	6	0	135	169	67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	0	0	135	236	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	22.1%					
Analysis Period (min)	15					
	ICU Level of Service A					

HCM Unsignalized Intersection Capacity Analysis

9: Hawkins Drive & Internal E-W Street

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations						
Traffic Volume (veh/h)	40	5	0	120	150	60
Future Volume (Veh/h)	40	5	0	120	150	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	45	6	0	135	169	67
Pedestrians	8					
Lane Width (m)	4.1					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)				None	None	
Median type						
Median storage (veh)						
Upstream signal (m)					65	
pX, platoon unblocked						
vC, conflicting volume	346	210	244			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	346	210	244			
iC, single (s)	6.4	6.4	4.1			
iC, 2 stage (s)						
IF (s)	3.5	3.4	2.2			
p0 queue free %	83	99	100			
GM capacity (veh/h)	648	790	1324			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	51	135	236			
Volume Left	45	0	0			
Volume Right	6	0	67			
CSH	662	1324	1700			
Volume to Capacity	0.08	0.00	0.14			
Queue Length 95th (m)	2.0	0.0	0.0			
Control Delay (s)	10.9	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.9	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay	1.3					
Intersection Capacity Utilization	22.1%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	180	30	10	120	0	30	0	10	0	0	35
Future Volume (vph)	35	180	30	10	120	0	30	0	10	0	0	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	4.5	4.5	4.5	4.5	3.6	3.5	3.6	3.5	3.5	3.5	3.5
Satd. Flow (prot)	0	2034	0	0	2044	0	0	1769	0	0	0	1593
Flt Permitted	0.993			0.996			0.964					
Satd. Flow (perm)	0	2034	0	0	2044	0	0	1769	0	0	0	1593
Link Speed (k/h)	40			40			30					50
Link Distance (m)	90.5			63.5			67.2					112.0
Travel Time (s)	8.1			5.7			8.1					8.1
Confl. Peds. (#/hr)	1			1			2					17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	0%	2%	0%	2%	0%	2%	0%	2%	2%
Adj. Flow (vph)	38	196	33	11	130	0	33	0	11	0	0	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	267	0	0	141	0	0	44	0	0	0	38
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 37.7%

Analysis Period (min) 15

ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	180	30	10	120	0	30	0	10	0	0	35
Future Volume (Veh/h)	35	180	30	10	120	0	30	0	10	0	0	35
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	196	33	11	130	0	33	0	11	0	0	38
Pedestrians	2			17			1					
Lane Width (m)	4.5			4.5			3.6					
Walking Speed (m/s)	1.2			1.2			1.2					
Percent Blockage	0			2			0					
Right turn flare (veh)												
Median type	None			None			None					
Median storage (veh)												
Upstream signal (m)	311											
pX platoon unblocked												
vC, conflicting volume	130			230			482		442		230	458
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
VCU, unblocked vol	130			230			482		442		230	458
IC, single (s)	4.1			4.1			7.1		6.5		6.2	6.2
IC, 2 stage (s)	2.2			2.2			3.5		4.0		3.3	3.3
p0 queue free %	97			99			93		100		99	100
qM capacity (veh/h)	1455			1349			464		492		799	482
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	267	141	44	38								
Volume Left	38	11	33	0								
Volume Right	33	0	11	38								
vSH	1455	1349	518	915								
Volume to Capacity	0.03	0.01	0.08	0.04								
Queue Length 95th (m)	0.6	0.2	2.2	1.0								
Control Delay (s)	1.3	0.7	12.6	9.1								
Lane LOS	A	A	B	A								
Approach Delay (s)	1.3	0.7	12.6	9.1								
Approach LOS	B	A	A	A								

Intersection Summary

Average Delay 2.7

Intersection Capacity Utilization 37.7%

ICU Level of Service A

Analysis Period (min) 15

Lanes, Volumes, Timings
11: Internal N-S Street & Internal E-W Street

12-13-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	91.1			71.6	112.0	
Travel Time (s)	6.6			5.2	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 0.0%	ICU Level of Service A					
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
11: Internal N-S Street & Internal E-W Street

12-13-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	91.1			71.6	112.0	
Travel Time (s)	6.6			5.2	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 0.0%	ICU Level of Service A					
Analysis Period (min) 15						

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

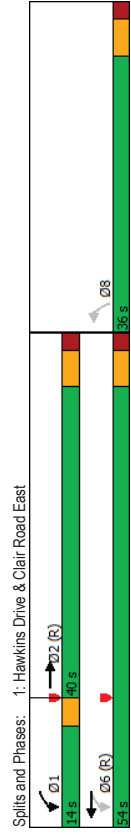
12-13-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	720	45	160	580	35	100
Future Volume (vph)	720	45	160	580	35	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	4.5	4.5	4.5
Storage Length (m)	0.0	25.0	0.0	0.0	0.0	0.0
Storage Lanes	0	1	1	1	1	0
Taper Length (m)		7.5		7.5		
Satd. Flow (prot)	3485	0	1767	3466	1857	0
Flt Permitted			0.306		0.987	
Satd. Flow (perm)	3485	0	588	3466	1857	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	8					104
Link Speed (k/h)	60			60		50
Link Distance (m)	1607			130.4		64.6
Travel Time (s)	9.6			7.8		4.7
Confl. Peds. (#/hr)		6		6		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	0%	1%	3%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Adj. Flow (vph)	750	47	167	604	36	104
Shared Lane Traffic (%)						
Lane Group Flow (vph)	797	0	167	604	140	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2		1	6		
Permitted Phases		6		6	8	
Detector Phase	2	1	6	8		
Switch Phase						
Minimum Initial (s)	10.0	7.0	10.0	3.0	7.0	
Minimum Split (s)	35.0	10.0	35.0	35.0	35.0	
Total Split (s)	40.0	14.0	54.0	36.0	36.0	
Total Split (%)	44.4%	15.6%	60.0%	40.0%	40.0%	
Maximum Green (s)	34.0	11.0	48.0	30.0	30.0	
Yellow Time (s)	4.0	3.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	0.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	3.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lead				
Lead-Lag Optimize?	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	None	C-Min	None	None	
Walk Time (s)	11.0	11.0	11.0	8.0	8.0	
Flesh Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	
Pedestrian Calls (#/hr)	7		7	12		
Act Effect Green (s)	55.5	69.7	66.7	11.3		
Actuated g/C Ratio	0.62	0.77	0.74	0.13		
v/c Ratio	0.37	0.30	0.24	0.43		
Control Delay	5.1	5.2	4.9	16.2		
Queue Delay	0.0	0.0	0.0	0.0		

Lanes, Volumes, Timings
1: Hawkins Drive & Clair Road East

12-13-2023

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Total Delay	5.1	5.2	4.9	16.2		
LOS	A	A	A	B		
Approach Delay	5.1		5.0	16.2		
Approach LOS	A		A	B		
Intersection Summary						
Area Type:	Other					
Cycle Length:	90					
Actuated Cycle Length:	90					
Offset:	2 (2%), Referenced to phase 2EBT and 6:WBT, Start of Green					
Natural Cycle:	80					
Control Type:	Actuated-Coordinated					
Maximum v/c Ratio:	0.43					
Intersection Signal Delay:	6.0					
Intersection LOS:	A					
Intersection Capacity Utilization:	54.5%					
Analysis Period (min):	15					



Phasings
1: Hawkins Drive & Clair Road East

12-13-2023

	EBT	WBL	WBT	NBL
Lane Group	2	1	6	
Protected Phases				
Permitted Phases	6	8		
Minimum Initial (s)	10.0	7.0	10.0	7.0
Minimum Split (s)	35.0	10.0	35.0	35.0
Total Split (s)	40.0	14.0	54.0	36.0
Total Split (%)	44.4%	15.6%	60.0%	40.0%
Maximum Green (s)	34.0	11.0	48.0	30.0
Yellow Time (s)	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	0.0	2.0	2.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	C-Min	None	C-Min	None
Walk Time (s)	11.0	11.0	11.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	7	7	12	
90th %ile Green (s)	37.2	11.8	52.0	26.0
90th %ile Term Code	Coord	Gap	Coord	Ped
70th %ile Green (s)	57.8	8.0	68.8	9.2
70th %ile Term Code	Coord	Gap	Coord	Gap
50th %ile Green (s)	60.7	7.1	70.8	7.2
50th %ile Term Code	Coord	Gap	Coord	Gap
30th %ile Green (s)	61.0	7.0	71.0	7.0
30th %ile Term Code	Coord	Min	Coord	Min
10th %ile Green (s)	61.0	7.0	71.0	7.0
10th %ile Term Code	Coord	Min	Coord	Min

Intersection Summary
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBTL - Start of Green
 Control Type: Actuated-Coordinated

Queues
1: Hawkins Drive & Clair Road East

12-13-2023

	EBT	WBL	WBT	NBL
Lane Group	797	167	604	140
Lane Group Flow (vph)	0.37	0.30	0.24	0.43
v/c Ratio	5.1	5.2	4.9	16.2
Control Delay	0.0	0.0	0.0	0.0
Queue Delay	5.1	5.2	4.9	16.2
Total Delay	5.1	5.2	4.9	16.2
Queue Length 50th (m)	13.7	4.2	11.3	6.5
Queue Length 95th (m)	29.7	20.6	37.3	18.2
Internal Link Dist (m)	136.7		106.4	40.6
Turn Bay Length (m)		25.0		
Base Capacity (vph)	2163	688	2569	688
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.37	0.28	0.24	0.20

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: Hawkins Drive & Clair Road East

12-13-2023

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕	↕	↔	↔	↔	↔
Traffic Volume (vph)	720	45	160	580	35	100
Future Volume (vph)	720	45	160	580	35	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	4.5	4.5
Total Lost time (s)	6.0	3.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.99	1.00	1.00	1.00	0.90	1.00
Flt/Protected	1.00	0.95	1.00	0.99		
Sat'd. Flow (prot)	3485	1766	3466	1857		
Flt/Permitted	1.00	0.31	1.00	0.99		
Sat'd. Flow (perm)	3485	588	3466	1857		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	760	47	167	604	36	104
RTOR Reduction (vph)	3	0	0	0	91	0
Lane Group Flow (vph)	794	0	167	604	49	0
Confl. Peds. (#/hr)	6	6				
Heavy Vehicles (%)	1%	0%	1%	3%	0%	0%
Bus Blockages (#/hr)	2	2	0	0	0	0
Turn Type	NA	pm+pt	NA	Perm		
Protected Phases	2	1	6			
Permitted Phases		6	8			
Actuated Green, G (s)	55.5	66.7	66.7	11.3		
Effective Green, g (s)	55.5	66.7	66.7	11.3		
Actuated g/C Ratio	0.62	0.74	0.74	0.13		
Clearance Time (s)	6.0	3.0	6.0	6.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	2149	530	2568	233		
v/s Ratio Prot	c0.23	c0.03	0.17			
v/s Ratio Perm		0.20	c0.03			
v/c Ratio	0.37	0.32	0.24	0.21		
Uniform Delay, d1	8.6	3.7	3.7	35.3		
Progression Factor	0.45	1.00	1.00	1.13		
Incremental Delay, d2	0.4	0.3	0.2	0.5		
Delay (s)	4.3	4.1	3.9	40.3		
Level of Service	A	A	A	D		
Approach Delay (s)	4.3	3.9	40.3			
Approach LOS	A	A	A	D		
Intersection Summary						
HCM 2000 Control Delay	7.1 HCM 2000 Level of Service A					
HCM 2000 Volume to Capacity ratio	0.34					
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 15.0					
Intersection Capacity Utilization	54.5% ICU Level of Service A					
Analysis Period (min)	15					
c Critical Lane Group						

Lanes, Volumes, Timings
2: Hawkins Drive & Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	40	75	5	50	70	10	5	40	30	5	90	40
Future Volume (vph)	40	75	5	50	70	10	5	40	30	5	90	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	3.6	3.6	3.6	4.5	4.5	4.5	4.5	4.5	4.5
Sat'd. Flow (prot)	0	2046	0	1805	0	0	1971	0	0	0	1950	0
Flt/Permitted	0.984			0.981			0.997				0.998	
Sat'd. Flow (perm)	0	2046	0	1805	0	0	1971	0	0	0	1950	0
Link Speed (k/h)		40		40			40				40	
Link Distance (m)		63.5		196.9			136.5				121.9	
Travel Time (s)		5.7		17.7			12.3				11.0	
Confl. Peds. (#/hr)	12	11	11	12	6	3	3				6	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	9%
Adj. Flow (vph)	43	81	5	54	75	11	5	43	32	5	97	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	129	0	140	0	0	80	0	0	0	145	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	27.3%											
Analysis Period (min)	15											
ICU Level of Service A												

2: Hawkins Drive & Poppy Drive East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	75	5	50	70	10	5	40	30	5	90	40
Future Volume (Veh/h)	40	75	5	50	70	10	5	40	30	5	90	40
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.93	0.93	0.83	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	43	81	5	54	75	11	5	43	32	5	97	43
Pedestrians	6			3			11				12	
Lane Width (m)	4.5			3.6			4.5				4.5	
Walking Speed (m/s)	1.2			1.2			1.2				1.2	
Percent Blockage	1			0			1				1	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	375											
pX platoon unblocked												
VC, conflicting volume	98			97			466	386	98	426	384	98
VC1, stage 1 conf vol												
VC2, stage 2 conf vol												
VCU, unblocked vol	98			97			466	386	98	426	384	98
IC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.3
IC, 2 stage (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			96			99	91	97	99	81	95
CM capacity (veh/h)	1489			1492			381	503	951	451	505	921
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	129	140	80	145								
Volume Left	43	54	5	5								
Volume Right	5	11	32	43								
cSH	1489	1492	605	581								
Volume to Capacity	0.03	0.04	0.13	0.25								
Queue Length 95th (m)	0.7	0.9	3.6	7.8								
Control Delay (s)	2.6	3.1	11.9	13.3								
Lane LOS	A	A	B	B								
Approach Delay (s)	2.6	3.1	11.9	13.3								
Approach LOS	B	B	B	B								
Intersection Summary												
Average Delay	7.4											
Intersection Capacity Utilization	27.3%											
ICU Level of Service	A											
Analysis Period (min)	15											

3: Poppy Drive East & Fanley Drive

12-13-2023

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	45	170	150	15	15	75
Future Volume (vph)	45	170	150	15	15	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.5	4.5	4.5	4.5	3.5	3.5
Satd. Flow (prot)	0	2069	1975	0	1653	0
Flt Permitted	0.990				0.992	
Satd. Flow (perm)	0	2069	1975	0	1653	0
Link Speed (k/h)	40	40	40		30	
Link Distance (m)	220.5	90.5	55.2		55.2	
Travel Time (s)	19.8	8.1	6.6		6.6	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	5%	0%	0%	0%
Adj. Flow (vph)	49	187	165	16	16	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	236	181	0	98	0
Sign Control	Free	Free	Free	Stop	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	37.6%					
ICU Level of Service A						
Analysis Period (min)	15					

3: Poppy Drive East & Farley Drive

12-13-2023

4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	170	150	15	15	75
Future Volume (Veh/h)	45	170	150	15	15	75
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	49	187	165	16	16	82
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (m)						
pX platoon unblocked						
VC conflicting volume						
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCU unblocked vol						
IC, single (s)						
IC, 2 stage (s)						
IF (s)						
p0 queue free %						
CM capacity (veh/h)						
Direction_Lane #	EB 1	WB 1	SB 1			
Volume Total	236	181	98			
Volume Left	49	0	16			
Volume Right	0	16	82			
cSH	1372	1700	772			
Volume to Capacity	0.04	0.11	0.13			
Queue Length 95th (m)	0.9	0.0	3.5			
Control Delay (s)	1.8	0.0	10.3			
Lane LOS	A	B	B			
Approach Delay (s)	1.8	0.0	10.3			
Approach LOS	B	B	B			
Intersection Summary						
Average Delay		2.8				
Intersection Capacity Utilization		37.6%				
Analysis Period (min)		15				
ICU Level of Service		A				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	40	95	115	60	85	125	895	125	80	1060	40
Future Volume (vph)	55	40	95	115	60	85	125	895	125	80	1060	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	0.0	0.0	0.0	0.0	0.0	0.0	91.0	0.0	0.0	70.0	0.0	0.0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Taper Length (m)	7.5	0	0	7.5	0	0	7.5	0	0	7.5	0	0
Satd. Flow (prot)	0	1730	0	0	1896	0	2046	3490	0	1745	3547	0
Flt Permitted	0	0.789	0	0	0.711	0	0.139	0	0	0.185	0	0
Satd. Flow (perm)	0	1381	0	0	1376	0	239	3490	0	339	3547	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)	57	0	0	28	0	0	22	0	0	5	0	0
Link Speed (k/h)	40	40	40	40	40	40	60	60	60	60	60	60
Link Distance (m)	93.0	220.5	220.5	196.0	196.0	196.0	180.5	180.5	180.5	180.5	180.5	180.5
Travel Time (s)	8.4	6	6	19.8	14	10	11.8	10	10	10	10	10
Conf. Peds. (#/hr)	14	6	6	6	6	6	14	10	10	10	10	10
Conf. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	23%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0
Adj. Flow (vph)	60	44	104	126	66	93	137	984	137	88	1165	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	208	0	0	285	0	137	1121	0	88	1209	0
Turn Type	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	8	8	8	4	4	4	2	2	1	6	6	6
Permitted Phases	8	8	8	4	4	4	5	2	5	1	6	6
Detector Phase	8	8	8	4	4	4	5	2	5	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	7.0	7.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	10.0	35.0	10.0	30.0	35.0	35.0
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	10.0	47.0	10.0	47.0	47.0	47.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	36.7%	11.1%	52.2%	11.1%	52.2%	52.2%	52.2%
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0	27.0	7.0	41.0	7.0	41.0	41.0	41.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0
Lead/Lag							Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	None	C-Min	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	17.0	17.0	17.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	16.0	16.0	12.0	12.0	12.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	3	3	3	3	3	3
Act Effct Green (s)	21.0	21.0	21.0	21.0	21.0	21.0	57.9	48.8	56.7	46.5	46.5	46.5
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23	0.23	0.64	0.54	0.63	0.52	0.52	0.52
v/c Ratio	0.57	0.57	0.57	0.83	0.83	0.83	0.41	0.59	0.27	0.66	0.66	0.66
Control Delay	27.1	27.1	27.1	49.5	49.5	49.5	10.2	16.9	5.4	9.6	9.6	9.6

Lanes, Volumes, Timings
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	27.1	49.5	49.5	10.2	16.9	16.2	5.4	9.7	5.4	9.7	5.4	9.7
LOS	C	D	D	B	B	B	A	A	A	A	A	A
Approach Delay	27.1	49.5	49.5			16.2						9.4
Approach LOS	C	D	D			B						A

Phasings
4: Gordon Street & Poppy Drive West/Poppy Drive East

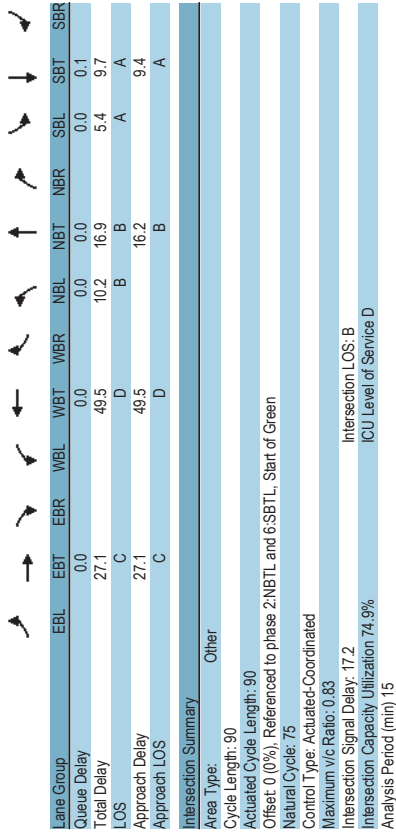
12-13-2023

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases								
Permitted Phases	8	4	4	5	2	1	6	6
Minimum Initial (s)	7.0	7.0	7.0	7.0	10.0	7.0	10.0	10.0
Minimum Split (s)	30.0	30.0	30.0	30.0	35.0	10.0	35.0	35.0
Total Split (s)	33.0	33.0	33.0	33.0	47.0	10.0	47.0	47.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	11.1%	11.1%	52.2%	52.2%
Maximum Green (s)	27.0	27.0	27.0	27.0	41.0	7.0	41.0	41.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	8.0	8.0	8.0	8.0	17.0	17.0	17.0	17.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	12.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	5	5	5	5	3	3	3	3
90th %ile Green (s)	27.0	27.0	27.0	27.0	41.0	7.0	41.0	41.0
90th %ile Term Code	Hold	Hold	Max	Max	Coord	Max	Coord	Coord
70th %ile Green (s)	25.1	25.1	25.1	25.1	42.0	7.9	41.2	41.2
70th %ile Term Code	Hold	Hold	Gap	Gap	Coord	Gap	Coord	Coord
50th %ile Green (s)	21.7	21.7	21.7	21.7	46.2	7.1	45.6	45.6
50th %ile Term Code	Hold	Hold	Gap	Gap	Coord	Coord	Coord	Coord
30th %ile Green (s)	18.2	18.2	18.2	18.2	49.8	7.0	49.8	49.8
30th %ile Term Code	Hold	Hold	Gap	Gap	Min	Coord	Min	Coord
10th %ile Green (s)	13.0	13.0	13.0	13.0	65.0	0.0	55.0	55.0
10th %ile Term Code	Hold	Hold	Gap	Gap	Min	Coord	Skip	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Control Type: Actuated-Coordinated

Splits and Phases: 4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023



Queues
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group	208	285	137	1121	88	1209
Lane Group Flow (vph)	0.57	0.83	0.41	0.59	0.27	0.66
v/c Ratio	27.1	49.5	10.2	16.9	5.4	9.6
Control Delay	0.0	0.0	0.0	0.0	0.0	0.1
Queue Delay	27.1	49.5	10.2	16.9	5.4	9.7
Total Delay	23.7	44.4	8.1	71.4	3.1	44.1
Queue Length 50th (m)	42.8	69.7	17.5	105.0	m4.1	34.1
Queue Length 95th (m)	69.0	196.5	172.0	70.0	156.5	156.5
Internal Link Dist (m)						
Turn Bay Length (m)	454	432	337	1902	326	1835
Base Capacity (vph)	0	0	0	0	0	51
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.66	0.41	0.59	0.27	0.68
Intersection Summary						
m	Volume for 95th percentile queue is metered by upstream signal.					

HCM Signalized Intersection Capacity Analysis
4: Gordon Street & Poppy Drive West/Poppy Drive East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	55	40	95	115	60	85	125	895	125	80	1060	40	
Future Volume (vph)	55	40	95	115	60	85	125	895	125	80	1060	40	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	4.2	4.2	4.2	4.5	4.5	4.5	4.8	3.5	3.5	3.3	3.5	3.5	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95	
Frbp. ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.93	0.93	0.93	0.96	0.96	0.96	1.00	0.98	1.00	0.95	1.00	0.99	
Flt Protected	0.99	0.99	0.98	0.98	0.98	0.98	1.00	0.98	1.00	0.95	1.00	0.99	
Satd. Flow (prot)	1727	1727	1893	1893	1893	2045	3489	1744	3546	1744	3546	1744	
Flt Permitted	0.79	0.79	0.71	0.71	0.71	0.14	1.00	0.18	1.00	0.18	1.00	0.18	
Satd. Flow (perm)	1382	1382	1375	1375	1375	298	3489	339	3546	339	3546	339	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Adj. Flow (vph)	60	44	104	126	66	93	137	984	137	88	1165	44	
RTOR Reduction (vph)	0	44	0	0	21	0	0	10	0	0	2	0	
Lane Group Flow (vph)	0	164	0	0	264	0	137	1111	0	88	1207	0	
Confl. Peds. (#/hr)	14	6	6	6	6	14	10	10	10	10	10	10	
Confl. Bikes (#/hr)													
Heavy Vehicles (%)	23%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	2	2	2	0	0	0	0	0	0	
Turn Type	Perm	NA	NA	Perm	NA	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	
Protected Phases		8		4		4		5		2		1	
Permitted Phases	8			4		4		2		2		6	
Actuated Green, G (s)	21.0			21.0		21.0		55.7		48.2		52.3	
Effective Green, g (s)	21.0			21.0		21.0		55.7		48.2		52.3	
Actuated g/C Ratio	0.23			0.23		0.23		0.62		0.54		0.58	
Clearance Time (s)	6.0			6.0		6.0		3.0		6.0		6.0	
Vehicle Extension (s)	3.0			3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	322			320		320		330		1868		287	
v/s Ratio Prot				c0.03		c0.03		0.32		0.02		c0.34	
v/s Ratio Perm	0.12			c0.19		c0.19		0.22		0.16		0.16	
v/c Ratio	0.51			0.82		0.42		0.59		0.31		0.66	
Uniform Delay, d1	30.0			32.7		9.9		14.2		9.4		15.9	
Progression Factor	1.00			1.00		1.00		1.00		1.00		0.63	
Incremental Delay, d2	1.4			15.6		0.8		1.4		0.4		1.2	
Delay (s)	31.4			48.4		10.8		15.6		6.3		9.0	
Level of Service	C			D		D		B		A		A	
Approach Delay (s)	31.4			48.4		15.1		15.1		8.8		8.8	
Approach LOS	C			D		D		B		A		A	
Intersection Summary													
HCM 2000 Control Delay	16.6											HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68												
Actuated Cycle Length (s)	90.0											Sum of lost time (s)	15.0
Intersection Capacity Utilization	74.9%											ICU Level of Service	D
Analysis Period (min)	15												
c Critical Lane Group													

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

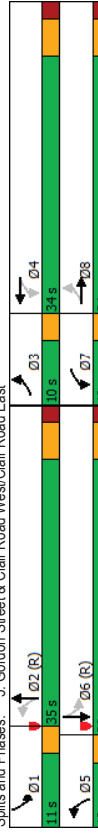
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	190	605	90	175	485	135	105	785	105	210	960	125
Traffic Volume (vph)	190	605	90	175	485	135	105	785	105	210	960	125
Future Volume (vph)	190	605	90	175	485	135	105	785	105	210	960	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	0.0	32.0	0.0	32.0	0.0	72.0	0.0	163.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	7.5	3485	0	7.5	3391	0	7.5	3484	0	1728	3481	0
Satd. Flow (prot)	1745	3485	0	1711	3391	0	1646	3484	0	1728	3481	0
Flt Permitted	0.248			0.191			0.130			0.139		
Satd. Flow (perm)	450	3485	0	341	3391	0	225	3484	0	252	3481	0
Right Turn on Red		Yes		Yes		Yes		Yes		Yes		Yes
Satd. Flow (RTOR)	19			41			17			17		17
Link Speed (k/h)	60			60			60			60		60
Link Distance (m)	268.6			217.7			180.5			233.4		233.4
Travel Time (s)	16.1			13.1			10.8			14.0		14.0
Confl. Peds. (#/hr)	36			26			36			21		21
Confl. Bikes (#/hr)										3		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	0%	4%
Adj. Flow (vph)	196	624	93	180	500	139	108	809	108	216	990	129
Shared Lane Traffic (%)												
Lane Group Flow (vph)	196	717	0	180	639	0	108	917	0	216	1119	0
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	1	6				
Permitted Phases	8		4	2	2	6	6					
Detector Phase	3	8	7	4	5	2	1	6				
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0	10.0	35.0	10.0	35.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	38.9%	12.2%	40.0%	12.2%	40.0%	12.2%	40.0%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	29.0	8.0	30.0	8.0	30.0	8.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Last Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	10.0	9.0	10.0	9.0	10.0	9.0	10.0	9.0	10.0	9.0	10.0
Flesh Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	12			12			7			7		7
Act Effect Green (s)	33.7	23.4		33.7	23.5		41.6	30.8		46.5		35.6
Actuated g/C Ratio	0.37	0.26		0.37	0.26		0.46	0.34		0.52		0.40
v/c Ratio	0.72	0.78		0.76	0.70		0.48	0.76		0.72		0.81
Control Delay	34.6	36.1		39.2	32.7		27.5	24.5		30.8		31.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0		0.0

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	34.6	36.1		39.2	32.7		27.5	24.5		30.8		31.5
LOS	C	D		D	C		C	C		C		C
Approach Delay	35.8			34.1			24.8			31.4		
Approach LOS	D			C			C			C		C

Intersection Summary
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2/NBTL and 6/SBTL, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 31.3
Intersection LOS: C
Intersection Capacity Utilization: 65.9%
ICU Level of Service: E
Analysis Period (min): 15



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Protected Phases	3	8	7	4	5	2	1	6
Permitted Phases	8	7	4	2	6	1	6	
Minimum Initial (s)	7.0	10.0	7.0	10.0	7.0	10.0	7.0	10.0
Minimum Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	10.0	35.0
Total Split (s)	10.0	34.0	10.0	34.0	10.0	35.0	11.0	36.0
Total Split (%)	11.1%	37.8%	11.1%	37.8%	11.1%	38.9%	12.2%	40.0%
Maximum Green (s)	7.0	28.0	7.0	28.0	7.0	29.0	8.0	30.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	None	Min	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	9.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	12	12	12	12	7	7	7	7
90th %ile Green (s)	7.0	28.0	7.0	28.0	7.0	29.0	8.0	30.0
90th %ile Term Code	Max	Max	Max	Max	Coord	Max	Coord	Max
70th %ile Green (s)	7.0	26.2	7.0	26.2	8.8	29.0	9.8	30.0
70th %ile Term Code	Max	Gap	Max	Hold	Max	Coord	Max	Coord
50th %ile Green (s)	7.0	24.1	7.0	24.1	8.5	29.0	11.9	32.4
50th %ile Term Code	Max	Gap	Max	Hold	Gap	Coord	Max	Coord
30th %ile Green (s)	7.0	21.1	7.0	21.1	7.3	31.5	12.4	36.6
30th %ile Term Code	Max	Gap	Max	Hold	Gap	Coord	Gap	Coord
10th %ile Green (s)	8.1	17.8	8.2	17.9	0.0	35.7	10.3	49.0
10th %ile Term Code	Gap	Gap	Gap	Hold	Skip	Coord	Gap	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	196	717	180	639	108	917	216	1119
v/c Ratio	0.72	0.78	0.76	0.70	0.48	0.76	0.72	0.81
Control Delay	34.6	36.1	39.2	32.7	27.5	24.5	30.8	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.6	36.1	39.2	32.7	27.5	24.5	30.8	31.5
Queue Length 50th (m)	23.0	61.4	22.2	39.2	5.6	63.4	20.4	97.8
Queue Length 95th (m)	#39.5	77.1	m#40.2	61.1	m25.1	63.9	#62.2	#147.2
Internal Link Dist (m)	244.6	193.7	72.0	156.5	209.4	163.0	302	1387
Turn Bay Length (m)	70.0	32.0	72.0	163.0	72.0	163.0	302	1387
Base Capacity (vph)	272	1097	237	1083	225	1205	302	1387
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.65	0.76	0.59	0.48	0.76	0.72	0.81

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

5. Gordon Street & Clair Road West/Clair Road East

12-13-2023

6. Farley Drive & Clair Road East

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	190	605	90	175	485	135	105	785	105	210	960	125
Future Volume (vph)	190	605	90	175	485	135	105	785	105	210	960	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Frbp. ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98	1.00	0.97	1.00	0.97	1.00	0.98	1.00	0.98	1.00	0.98
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Sat'd Flow (prot)	1741	3484	1709	3392	1646	3486	1727	3480	1727	3480	1727	3480
Flt Permitted	0.25	1.00	0.19	1.00	0.19	1.00	0.13	1.00	0.14	1.00	0.14	1.00
Sat'd Flow (perm)	454	3484	344	3392	225	3486	253	3480	253	3480	253	3480
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	196	624	93	180	500	139	108	809	108	216	990	129
RTOR Reduction (vph)	0	14	0	30	0	0	11	0	0	0	10	0
Lane Group Flow (vph)	196	703	0	180	609	0	108	906	0	216	1109	0
Confl. Bikes (#/hr)	36	26	26	36	21	36	21	19	19	19	19	21
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	0%	4%
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	3	8	7	4	5	2	1	6	5	2	1	6
Permitted Phases	8	4	4	2	2	2	2	2	2	2	2	2
Actuated Green, G (s)	30.7	23.5	30.7	23.5	37.1	30.8	37.1	30.8	37.1	30.8	37.1	30.8
Effective Green, g (s)	30.7	23.5	30.7	23.5	37.1	30.8	37.1	30.8	37.1	30.8	37.1	30.8
Actuated g/C Ratio	0.34	0.26	0.34	0.26	0.41	0.34	0.41	0.34	0.41	0.34	0.41	0.34
Clearance Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	257	909	226	885	192	1192	192	1192	192	1192	296	1353
v/s Ratio Prot	0.06	0.20	c0.06	0.18	0.04	0.26	0.04	0.26	0.04	0.26	c0.08	c0.32
v/s Ratio Perm	0.76	0.77	c0.21	0.80	0.69	0.56	0.76	0.73	0.82	0.73	0.82	0.73
v/c Ratio	23.0	30.8	22.9	29.9	18.6	26.3	16.4	24.7	16.4	24.7	16.4	24.7
Uniform Delay, d1	1.00	1.00	1.07	1.04	1.73	0.77	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.6	4.1	15.9	2.0	3.0	3.8	8.7	5.6	8.7	5.6	8.7	5.6
Delay (s)	35.6	34.9	40.3	33.1	35.3	24.0	25.1	30.3	25.1	30.3	25.1	30.3
Level of Service	D	C	D	C	D	C	D	C	D	C	D	C
Approach Delay (s)	35.1	34.7	34.7	34.7	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2
Approach LOS	D	C	D	C	D	C	D	C	D	C	D	C
Intersection Summary												
HCM 2000 Control Delay	30.7 HCM 2000 Level of Service C											
HCM 2000 Volume to Capacity ratio	0.82											
Actuated Cycle Length (s)	90.0											
Intersection Capacity Utilization	85.9%											
Analysis Period (min)	15											
c Critical Lane Group												

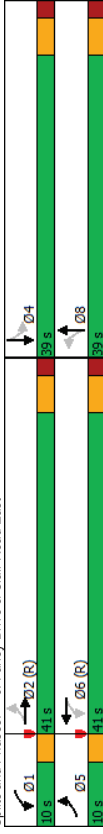
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	135	590	155	35	485	100	135	60	40	140	55	170
Future Volume (vph)	135	590	155	35	485	100	135	60	40	140	55	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	131.0	0.0	64.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0
Taper Length (m)	7.5	3408	0	7.5	3339	0	1705	1743	0	7.5	0	1947
Sat'd Flow (prot)	1767	3408	0	1785	3339	0	1743	1743	0	1767	0	1947
Flt Permitted	0.337	0	0.318	0	0.318	0	0.452	0.452	0	0.337	0	0.828
Sat'd Flow (perm)	621	3408	0	595	3339	0	802	1743	0	621	0	1631
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sat'd Flow (RTOR)	43	0	32	0	32	0	42	42	0	43	0	55
Link Speed (k/h)	60	60	60	60	60	60	60	60	60	60	60	60
Link Distance (m)	217.7	160.7	160.7	160.7	160.7	160.7	63.9	63.9	160.7	160.7	160.7	196.5
Travel Time (s)	13.1	9.6	9.6	9.6	9.6	9.6	7.7	7.7	9.6	9.6	9.6	17.7
Confl. Peds. (#/hr)	17	9	9	9	9	9	23	23	21	21	21	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	147	64	168	38	527	109	147	65	43	152	60	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	809	0	38	636	0	147	108	0	397	0	397
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6	6	8	8	8	8	8	8	8
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Switch Phase	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Initial (s)	10.0	35.0	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0
Minimum Split (s)	10.0	41.0	10.0	41.0	10.0	41.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	11.1%	45.6%	11.1%	45.6%	11.1%	45.6%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%
Maximum Green (s)	7.0	35.0	7.0	35.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)	6	6	6	6	6	6	8	8	8	8	8	8
Act Effct Green (s)	55.8	47.1	51.9	41.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7
Actuated g/C Ratio	0.62	0.52	0.58	0.46	0.67	0.27	0.67	0.27	0.67	0.27	0.67	0.27
v/c Ratio	0.30	0.45	0.09	0.41	0.67	0.27	0.67	0.27	0.67	0.27	0.67	0.27
Control Delay	6.7	13.0	5.6	13.8	42.9	15.1	39.1	39.1	39.1	39.1	39.1	39.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	13.0	5.6	13.8	42.9	15.1	39.1	39.1	39.1	39.1	39.1	39.1

6: Farley Drive & Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	B	A	B	A	B	D	B	B	D	D	D
Approach Delay	12.0			13.3			31.1					39.1
Approach LOS	B			B			C					D
Intersection Summary												
Area Type: Other												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Natural Cycle: 80												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.81												
Intersection Signal Delay: 19.3												
Intersection Capacity Utilization 73.7%												
Analysis Period (min) 15												

Splits and Phases: 6: Farley Drive & Clair Road East



6: Farley Drive & Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	5	2		1	6		8		8		4	4
Permitted Phases	2			6								
Minimum Initial (s)	7.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	35.0	10.0	35.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Total Split (s)	10.0	41.0	10.0	41.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (%)	11.1%	45.6%	11.1%	45.6%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%
Maximum Green (s)	7.0	35.0	7.0	35.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None	None
Walk Time (s)	11.0			11.0			8.0		8.0		8.0	8.0
Flash Dont Walk (s)	18.0			18.0			18.0		18.0		18.0	18.0
Pedestrian Calls (#/hr)	6			6			8		8		8	8
90th %ile Green (s)	9.8	34.2	7.6	32.0	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2
90th %ile Term Code	Max	Coord	Gap	Coord	Hold	Hold	Hold	Hold	Hold	Gap	Gap	Gap
70th %ile Green (s)	9.9	39.4	7.0	36.5	28.6	28.6	28.6	28.6	28.6	28.6	28.6	28.6
70th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	8.5	43.0	7.0	41.5	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
50th %ile Term Code	Gap	Coord	Min	Coord	Hold	Hold	Hold	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	7.4	56.8	0.0	46.4	21.2	21.2	21.2	21.2	21.2	21.2	21.2	21.2
30th %ile Term Code	Gap	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Hold	Gap	Gap	Gap
10th %ile Green (s)	7.0	62.3	0.0	52.3	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
10th %ile Term Code	Min	Coord	Skip	Coord	Hold	Hold	Hold	Hold	Hold	Gap	Gap	Gap
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												
Control Type: Actuated-Coordinated												

Queues
6: Farley Drive & Clair Road East

12-13-2023

	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group	147	809	38	636	147	108	397
Lane Group Flow (vph)	0.30	0.45	0.09	0.41	0.67	0.21	0.81
v/c Ratio	6.7	13.0	5.6	13.8	42.9	15.1	39.1
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	6.7	13.0	5.6	13.8	42.9	15.1	39.1
Total Delay	m25.9	88.5	2.4	62.8	40.1	18.8	81.7
Queue Length 50th (m)	131.0	64.0	20.0	136.7	39.9	172.5	
Queue Length 95th (m)	493	1811	437	1587	294	666	633
Internal Link Dist (m)	0	0	0	0	0	0	0
Turn Bay Length (m)	0	0	0	0	0	0	0
Base Capacity (vph)	0	0	0	0	0	0	0
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0.30	0.45	0.09	0.40	0.50	0.16	0.63
Reduced v/c Ratio	Volume for 95th percentile queue is metered by upstream signal.						
Intersection Summary							

HCM Signalized Intersection Capacity Analysis
6: Farley Drive & Clair Road East

12-13-2023

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↖	↖	↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	135	590	155	35	485	100	135	60	40
Future Volume (vph)	135	590	155	35	485	100	135	60	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.1	3.5	3.5	4.8
Total Lost time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	0.98
Frbp. ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.99
Frt	0.95	1.00	0.95	1.00	0.95	1.00	0.94	1.00	0.98
Flt Protected	1762	3407	1783	3340	1688	1743	1933		
Satd. Flow (perm)	0.34	1.00	0.32	1.00	0.45	1.00	0.83		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	641	168	38	527	109	147	65	43
RTOR Reduction (vph)	0	21	0	0	17	0	30	0	40
Lane Group Flow (vph)	147	788	0	38	619	0	147	78	0
Conf. Peds. (#/hr)	17	9	9	9	17	23	21	21	23
Heavy Vehicles (%)	1%	1%	0%	0%	4%	0%	0%	0%	0%
Turn Type	pm-pt	NA	pm-pt	NA	NA	NA	Perm	NA	Perm
Protected Phases	5	2	1	6	8	8	4		
Permitted Phases	2	6	6	6	8	8	4		
Actuated Green, G (s)	53.3	46.0	46.1	41.8	24.7	24.7	24.7	24.7	24.7
Effective Green, g (s)	53.3	46.0	46.1	41.8	24.7	24.7	24.7	24.7	24.7
Actuated g/C Ratio	0.59	0.51	0.51	0.46	0.27	0.27	0.27	0.27	0.27
Clearance Time (s)	3.0	6.0	3.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	477	1741	361	1551	220	478	447		
v/s Ratio Prot	c0.03	c0.23	0.01	0.19	0.04	0.04			
v/s Ratio Perm	0.15	0.05	0.05	0.18	0.18	0.18	c0.22		
v/c Ratio	0.31	0.45	0.11	0.40	0.67	0.16	0.80		
Uniform Delay, d1	8.6	14.0	11.0	15.8	29.0	24.8	30.3		
Progression Factor	0.66	0.83	0.60	0.77	1.00	1.00	1.00		
Incremental Delay, d2	0.3	0.6	0.1	0.8	7.5	0.2	9.6		
Delay (s)	6.0	12.2	6.7	13.0	36.5	25.0	40.0		
Level of Service	A	B	A	B	D	C	D		
Approach Delay (s)	11.2	12.7	12.7	31.6	40.0	40.0	40.0		
Approach LOS	B	B	B	C	D	D	D		
Intersection Summary									
HCM 2000 Control Delay	18.9				HCM 2000 Level of Service				B
HCM 2000 Volume to Capacity ratio	0.57								
Actuated Cycle Length (s)	90.0								
Sum of lost time (s)	15.0								
Intersection Capacity Utilization	73.7%				ICU Level of Service				D
Analysis Period (min)	15								
Critical Lane Group	c								

Lanes, Volumes, Timings
7. Farley Drive & Internal E-W Street

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	25	10	60	20	95	0	45	50	85	20	125
Future Volume (vph)	105	25	10	60	20	95	0	45	50	85	20	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.8	4.8	4.8
Satd. Flow (prot)	0	1795	0	0	1712	0	0	1745	0	0	1960	0
Flt Permitted		0.964			0.983						0.982	
Satd. Flow (perm)	0	1795	0	0	1712	0	0	1745	0	0	1960	0
Link Speed (kph)		30			30			30			30	
Link Distance (m)		57.2			91.1			54.0			63.9	
Travel Time (s)		6.9			10.9			6.5			7.7	
Confl. Peds. (#/hr)	6	6	6	6	6	6	26	22	22	22	26	26
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	121	29	11	69	23	109	0	52	57	98	23	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	161	0	0	201	0	0	109	0	0	265	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	42.5%
ICU Level of Service A	
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
7. Farley Drive & Internal E-W Street

12-13-2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	105	25	10	60	20	95	0	45	50	85	20	125
Future Volume (vph)	105	25	10	60	20	95	0	45	50	85	20	125
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	121	29	11	69	23	109	0	52	57	98	23	144
Direction_Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	161	201	109	265								
Volume Left (vph)	121	69	0	98								
Volume Right (vph)	11	109	57	144								
Head (s)	0.11	-0.26	-0.31	-0.25								
Departure Headway (s)	5.2	4.8	4.9	4.7								
Degree Utilization, x	0.23	0.27	0.15	0.35								
Capacity (veh/h)	632	687	664	710								
Control Delay (s)	9.8	9.6	8.7	10.2								
Approach Delay (s)	9.8	9.6	8.7	10.2								
Approach LOS	A	A	A	B								

Intersection Summary	
Delay	9.7
Level of Service	A
Intersection Capacity Utilization	42.5%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings

8: Farley Drive & Existing Adjacent Site Access

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	40	15	5	60	70	25
Future Volume (vph)	40	15	5	60	70	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1748	0	0	1871	1813	0
Flt Permitted	0.965			0.996		
Satd. Flow (perm)	1748	0	0	1871	1813	0
Link Speed (kph)	30			30	30	
Link Distance (m)	31.6			55.2	54.0	
Travel Time (s)	3.8			6.6	6.5	
Confl. Peds. (#/hr)	5	49	43			43
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	49	18	6	73	85	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	0	0	79	115	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.8%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis

8: Farley Drive & Existing Adjacent Site Access

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	40	15	5	60	70	25
Future Volume (vph)	40	15	5	60	70	25
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	49	18	6	73	85	30
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	67	79	115			
Volume Left (vph)	49	6	0			
Volume Right (vph)	18	0	30			
Head (s)	-0.01	0.02	-0.16			
Departure Headway (s)	4.3	4.2	4.0			
Degree Utilization, x	0.08	0.09	0.13			
Capacity (veh/h)	800	834	884			
Control Delay (s)	7.7	7.6	7.6			
Approach Delay (s)	7.7	7.6	7.6			
Approach LOS	A	A	A			
Intersection Summary						
Delay	7.6					
Level of Service	A					
Intersection Capacity Utilization	28.8%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings
9: Hawkins Drive & Internal E-W Street

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group	W					
Lane Configurations						
Traffic Volume (vph)	50	0	5	90	135	70
Future Volume (vph)	50	0	5	90	135	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.1	4.1	4.5	4.5	4.5	4.5
Satd. Flow (prot)	1905	0	0	2084	1994	0
Flt Permitted	0.950			0.997		
Satd. Flow (perm)	1905	0	0	2084	1994	0
Link Speed (kph)	30			40	40	
Link Distance (m)	71.6			121.9	64.6	
Travel Time (s)	8.6			11.0	5.8	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	62	0	6	111	167	86
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	0	0	117	253	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	21.4%					
Analysis Period (min)	15					
ICU Level of Service A						

HCM Unsignalized Intersection Capacity Analysis
9: Hawkins Drive & Internal E-W Street

12-13-2023

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	W					
Lane Configurations						
Traffic Volume (veh/h)	50	0	5	90	135	70
Future Volume (Veh/h)	50	0	5	90	135	70
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	62	0	6	111	167	86
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)				None	None	
Median type						
Median storage (veh)						
Upstream signal (m)					65	
pX, platoon unblocked						
vC, conflicting volume	333	210	253			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	333	210	253			
iC, single (s)	6.4	6.2	4.1			
iC, 2 stage (s)						
p0 queue free %	3.5	3.3	2.2			
p0 queue free %	91	100	100			
qM capacity (veh/h)	663	835	1324			
Direction_Lane #	EB 1	NB 1	SB 1			
Volume Total	62	117	253			
Volume Left	62	6	0			
Volume Right	0	0	86			
vSH	663	1324	1700			
Volume to Capacity	0.09	0.00	0.15			
Queue Length 95th (m)	2.5	0.1	0.0			
Control Delay (s)	11.0	0.4	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.0	0.4	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay	1.7					
Intersection Capacity Utilization	21.4%					
Analysis Period (min)	15					
ICU Level of Service A						

Lanes, Volumes, Timings

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	45	120	20	5	115	0	20	0	15	0	0	40
Traffic Volume (vph)	45	120	20	5	115	0	20	0	15	0	0	40
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	3.6	4.5	4.5	4.5	4.5	3.6	3.5	3.6	3.5	3.5	3.5	3.5
Lane Width (m)	0	2011	0	0	2028	0	1702	0	0	0	1593	0
Satd. Flow (prot)	0.988			0.998			0.972					
Flt Permitted	0	2011	0	0	2028	0	1702	0	0	0	1593	0
Satd. Flow (perm)	40			40			30				20	
Link Speed (k/h)	90.5			63.5			67.2				112.0	
Link Distance (m)	8.1			5.7			8.1				20.2	
Travel Time (s)												
Confl. Peds. (#/hr)	1			1			3				6	
Peak Hour Factor	0.92	0.87	0.87	0.87	0.87	0.92	0.87	0.92	0.87	0.92	0.92	0.92
Heavy Vehicles (%)	2%	1%	0%	0%	3%	2%	4%	2%	0%	2%	2%	2%
Adj. Flow (vph)	49	138	23	6	132	0	23	0	17	0	0	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	210	0	0	138	0	0	40	0	0	0	43
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	33.1%
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

10: 1888 Gordon Street Access/Internal N-S Street & Poppy Drive East

12-13-2023

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	45	120	20	5	115	0	20	0	15	0	0	40
Traffic Volume (veh/h)	45	120	20	5	115	0	20	0	15	0	0	40
Future Volume (Veh/h)	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Grade	0.92	0.87	0.87	0.87	0.87	0.92	0.87	0.92	0.87	0.92	0.92	0.92
Peak Hour Factor	49	138	23	6	132	0	23	0	17	0	0	43
Hourly flow rate (vph)	3			6			1					
Pedestrians	4.5			4.5			3.6					
Lane Width (m)	1.2			1.2			1.2					
Walking Speed (m/s)	0			1			0					
Percent Blockage												
Right turn flare (veh)												
Median type	None			None			None					
Median storage (veh)												
Upstream signal (m)	311											
dx, platoon unblocked												
vC, conflicting volume	132			162			438		392		404	135
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	132			162			438		392		404	135
IC, single (s)	4.1			4.1			7.1		6.5		7.1	6.5
IC, 2 stage (s)	2.2			2.2			3.5		4.0		3.5	4.0
p0 queue free %	97			100			95		100		98	100
q0 capacity (veh/h)	1453			1428			484		523		888	515

Direction	Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total		210	138	40	43
Volume Left		49	6	23	0
Volume Right		23	0	17	43
CSH		1453	1428	600	911
Volume to Capacity		0.03	0.00	0.07	0.05
Queue Length 95th (m)		0.8	0.1	1.7	1.2
Control Delay (s)		2.0	0.4	11.4	9.1
Lane LOS		A	A	B	A
Approach Delay (s)		2.0	0.4	11.4	9.1
Approach LOS		B	A		A

Intersection Summary	
Average Delay	3.1
Intersection Capacity Utilization	33.1%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings

11: Internal N-S Street & Internal E-W Street

12-13-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Satd. Flow (prot)	1842	0	0	1842	1842	0
Flt Permitted						
Satd. Flow (perm)	1842	0	0	1842	1842	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	91.1			71.6	112.0	
Travel Time (s)	10.9			8.6	13.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization	0.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

11: Internal N-S Street & Internal E-W Street

12-13-2023

	EBT	EBR	WBL	WBT	NBL	NBR
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total (vph)	0	0	0			
Volume Left (vph)	0	0	0			
Volume Right (vph)	0	0	0			
Head (s)	0.00	0.00	0.00			
Departure Headway (s)	3.9	3.9	3.9			
Degree Utilization, x	0.00	0.00	0.00			
Capacity (veh/h)	917	917	917			
Control Delay (s)	6.9	6.9	6.9			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A	A	A			
Intersection Summary						
Delay	0.0					
Level of Service	A					
Intersection Capacity Utilization	0.0%					
ICU Level of Service	A					
Analysis Period (min)	15					

Lanes, Volumes, Timings

5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	155	445	90	145	870	115	165	1000	125	85	575	235
Future Volume (vph)	155	445	90	145	870	115	165	1000	125	85	575	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	50.0	32.0	0.0	72.0	0.0	50.0	163.0	50.0	70.0	50.0	70.0
Storage Lanes	1	1	1	0	1	0	1	1	1	1	1	1
Taper Length (m)	7.5	368	1493	7.5	3375	0	1586	3412	1304	1678	3479	1461
Satd. Flow (prot)	1631	0.142	0.397	1631	0.288	0	1631	0.134	1631	0.134	1631	0.134
Flt Permitted	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (perm)	243	3368	1444	650	3375	0	479	3412	1263	236	3479	1426
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	109	109	109	109	109	109	109	109	109	109	109	109
Link Speed (k/h)	60	60	60	60	60	60	60	60	60	60	60	60
Link Distance (m)	268.6	268.6	268.6	268.6	268.6	268.6	268.6	268.6	268.6	268.6	268.6	268.6
Travel Time (s)	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
Confl. Peds. (#/hr)	31	22	22	31	12	31	12	21	21	21	21	12
Confl. Bikes (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	6%	7%	11%	3%	6%	10%	4%	21%	4%	2%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	172	494	100	161	967	128	183	1111	139	94	639	261
Shared Lane Traffic (%)	17.2	49.4	10.0	16.1	109.5	0	18.3	111.1	13.9	9.4	63.9	26.1
Lane Group Flow (vph)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Turn Type	3	8	8	7	4	5	2	2	1	6	6	6
Protected Phases	8	8	8	7	4	2	2	2	2	2	2	1
Detector Phase	3	8	8	7	4	5	2	2	2	2	2	1
Switch Phase	7.0	10.0	10.0	7.0	10.0	7.0	10.0	10.0	10.0	7.0	10.0	10.0
Minimum Initial (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0	35.0
Minimum Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	36.0	36.0	10.0	36.0	36.0	36.0
Total Split (s)	11.1%	37.8%	37.8%	11.1%	37.8%	11.1%	40.0%	40.0%	11.1%	40.0%	40.0%	40.0%
Maximum Green (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	4.0
Yellow Time (s)	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time Adjust (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0
Total Lost Time (s)	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag
Lead/Lag	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead-Lag Optimize?	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	None	Min	Min	None	Min	None	C-Min	C-Min	None	C-Min	C-Min	C-Min
Recall Mode	9.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0
Walk Time (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Flash Dont Walk (s)	10	10	10	10	10	10	9	9	9	9	9	9
Pedestrian Calls (#/hr)	36.2	28.1	28.1	38.1	28.0	40.5	31.9	39.9	29.9	29.9	29.9	29.9
Act Effect Green (s)	0.42	0.31	0.31	0.42	0.31	0.45	0.35	0.44	0.33	0.33	0.33	0.33
Actuated g/C Ratio	0.81	0.47	0.47	0.81	0.47	0.81	0.92	0.27	0.43	0.55	0.41	0.41
v/C Ratio	46.6	26.8	26.8	5.1	23.5	70.0	22.5	38.0	9.2	19.6	26.8	6.1
Control Delay												

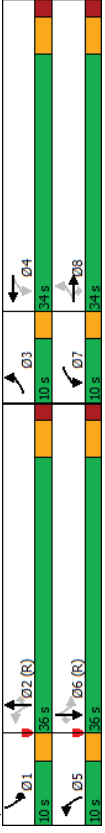
Lanes, Volumes, Timings

5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.6	26.8	26.8	5.1	23.5	70.0	22.5	38.0	9.2	19.6	26.8	6.1
LOS	D	C	A	C	E	C	D	A	B	C	C	A
Approach Delay	28.4			64.1			33.3				20.7	
Approach LOS	C			E			C				C	
Intersection Summary	Other											
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset: 0 (0%):	Referenced to phase 2/NBTL and 6/SBTL, Start of Green, Master Intersection											
Natural Cycle:	90											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	1.03											
Intersection Signal Delay:	38.3											
Intersection Capacity Utilization:	86.8%											
Analysis Period (min):	15											
Intersection LOS:	D											
ICU Level of Service:	E											

Splits and Phases: 5: Gordon Street & Clair Road West/Clair Road East



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	3	8	8	7	4	5	2	2	1	6	6
Protected Phases	8	4	4	2	2	2	2	2	6	6	6
Permitted Phases	7.0	10.0	10.0	7.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Initial (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0
Minimum Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	36.0	36.0	10.0	36.0	36.0
Total Split (s)	11.1%	37.8%	37.8%	11.1%	37.8%	11.1%	40.0%	40.0%	11.1%	40.0%	40.0%
Total Split (%)	7.0	28.0	28.0	7.0	28.0	7.0	30.0	30.0	7.0	30.0	30.0
Maximum Green (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
Yellow Time (s)	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
All-Red Time (s)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead-Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	None	Min	Min	None	Min	None	C-Min	C-Min	None	C-Min	C-Min
Recall Mode	9.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	9.0	10.0	10.0
Walk Time (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Flash Dont Walk (s)	10	10	10	10	10	10	9	9	9	9	9
Pedestrian Calls (#/hr)	7.0	28.0	28.0	7.0	28.0	7.0	30.0	30.0	7.0	30.0	30.0
90th %ile Green (s)	Max	Ped	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
90th %ile Term Code	7.0	28.0	28.0	7.0	28.0	7.0	30.0	30.0	7.0	30.0	30.0
70th %ile Green (s)	Max	Hold	Hold	Max	Max	Max	Coord	Coord	Max	Coord	Coord
70th %ile Term Code	7.0	28.0	28.0	7.0	28.0	7.0	30.0	30.0	7.0	30.0	30.0
50th %ile Green (s)	Max	Hold	Hold	Max	Max	Max	Coord	Coord	Max	Coord	Coord
50th %ile Term Code	7.0	28.0	28.0	7.0	28.0	7.0	30.0	30.0	7.0	30.0	30.0
30th %ile Green (s)	Max	Hold	Hold	Max	Max	Max	Coord	Coord	Max	Coord	Coord
30th %ile Term Code	7.6	28.3	28.3	7.3	28.0	7.0	39.4	39.4	0.0	29.4	29.4
10th %ile Green (s)	Max	Hold	Hold	Gap	Max	Max	Coord	Coord	Skip	Coord	Coord
10th %ile Term Code											

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%). Referenced to phase 2:NBT and 6:SBTL. Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	172	494	100	161	1095	183	1111	139	94	639	261
Lane Group Flow (vph)	0.81	0.47	0.19	0.46	1.03	0.61	0.92	0.27	0.43	0.55	0.41
v/c Ratio	46.6	26.8	5.1	23.5	70.0	22.5	38.0	9.2	19.6	26.8	6.1
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	46.6	26.8	5.1	23.5	70.0	22.5	38.0	9.2	19.6	26.8	6.1
Total Delay	46.6	26.8	5.1	23.5	70.0	22.5	38.0	9.2	19.6	26.8	6.1
Queue Length 50th (m)	18.4	37.9	0.0	25.7	~17.4	19.9	105.2	7.6	9.1	49.5	2.4
Queue Length 95th (m)	#49.5	53.1	9.8	32.0	#156.6	32.8	#145.8	m16.6	17.9	66.8	19.5
Internal Link Dist (m)	244.6			193.7			156.5		209.4		
Turn Bay Length (m)	70.0		50.0	32.0		72.0	50.0	163.0	63.0		50.0
Base Capacity (vph)	212	1049	525	347	1061	301	1208	517	217	1159	636
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.47	0.19	0.46	1.03	0.61	0.92	0.27	0.43	0.55	0.41

Intersection Summary
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

12-13-2023
 HCM Signalized Intersection Capacity Analysis
 5: Gordon Street & Clair Road West/Clair Road East

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	155	445	90	145	870	115	165	1000	125	85	575	235
Future Volume (vph)	155	445	90	145	870	115	165	1000	125	85	575	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	3.0	0.95	6.0	3.0	6.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85
Flt	1.00	1.00	0.85	1.00	0.98	1.00	1.00	0.85	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1630	3368	1444	1566	3377	1585	3412	1263	1677	3479	1426	426
Flt Permitted	0.14	1.00	1.00	0.40	1.00	0.29	1.00	1.00	0.13	1.00	1.00	1.00
Satd. Flow (perm)	244	3368	1444	654	3377	481	3412	1263	237	3479	1426	426
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	172	494	100	161	967	128	183	1111	139	94	639	281
RTOR Reduction (vph)	0	0	69	0	12	0	0	0	71	0	0	161
Lane Group Flow (vph)	172	494	31	161	1083	0	183	1111	68	94	639	100
Confl. Bikes (#/hr)	31	22	22	31	12	31	12	21	21	21	21	12
Heavy Vehicles (%)	7%	6%	7%	11%	3%	6%	10%	4%	21%	4%	2%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	3	8	8	7	4	5	2	2	2	1	6	6
Permitted Phases	8	8	8	4	4	2	2	2	2	6	6	6
Actuated Green, G (s)	35.2	28.1	28.1	35.2	28.1	38.2	31.2	31.2	31.2	35.4	29.8	29.8
Effective Green, G (s)	35.2	28.1	28.1	35.2	28.1	38.2	31.2	31.2	31.2	35.4	29.8	29.8
Actuated g/C Ratio	0.39	0.31	0.31	0.39	0.31	0.42	0.35	0.35	0.35	0.39	0.33	0.33
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	3.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	204	1051	450	327	1054	290	1182	437	182	1151	472	472
v/s Ratio Prot	0.07	0.15	0.04	0.04	0.32	0.05	0.33	0.03	0.03	0.18	0.18	0.18
v/s Ratio Perm	0.26	0.47	0.02	0.15	0.02	0.22	0.05	0.17	0.05	0.17	0.17	0.17
v/c Ratio	22.1	24.9	21.8	18.7	30.9	17.5	28.5	20.3	24.7	21.6	21.6	21.6
Uniform Delay, d1	1.00	1.00	1.00	1.26	1.18	1.00	0.97	0.90	1.15	1.00	1.00	1.00
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.8	0.3	0.1	1.0	32.8	3.7	13.4	0.6	2.5	1.9	1.9	1.0
Delay (s)	47.9	25.3	21.8	24.5	69.2	20.6	39.0	24.0	22.8	26.6	22.7	22.7
Level of Service	D	C	C	C	E	C	D	C	C	C	C	C
Approach Delay (s)	29.9			63.5			35.2			25.2		
Approach LOS	C			E			D			C		C
Intersection Summary												
HCM 2000 Control Delay	40.0 HCM 2000 Level of Service D											
HCM 2000 Volume to Capacity ratio	0.95											
Actuated Cycle Length (s)	Sum of lost time (s) 18.0											
Intersection Capacity Utilization	86.8% ICU Level of Service E											
Analysis Period (min)	15											
c Critical Lane Group												

12-13-2023
 Lanes, Volumes, Timings
 5: Gordon Street & Clair Road West/Clair Road East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	270	970	120	160	560	120	125	920	145	215	1020	180
Future Volume (vph)	270	970	120	160	560	120	125	920	145	215	1020	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	50.0	50.0	32.0	0.0	72.0	0.0	72.0	50.0	163.0	50.0	50.0
Storage Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Taper Length (m)	7.5	3535	1566	1711	3418	0	1646	3479	1503	1728	3479	1434
Satd. Flow (prot)	1745	3535	1566	1711	3418	0	1646	3479	1503	1728	3479	1434
Flt Permitted	0.229			0.148			0.140			0.136		
Satd. Flow (perm)	416	3535	1515	266	3418	0	242	3479	1449	246	3479	1394
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	109			29			60		128		60	
Link Speed (k/h)	60			60			60		60		60	
Link Distance (m)	288.6			217.7			180.5		233.4		233.4	
Travel Time (s)	34	16.1	21	21	13.1	34	18	10.8	26	26	14.0	18
Confl. Peds. (#/hr)	34			21			18		26		14.0	
Confl. Bikes (#/hr)	1			1			1		1		1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	2%	2%	1%	0%	6%	2%	5%	1%	2%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	3	3
Adj. Flow (vph)	278	1000	124	165	577	124	129	948	149	222	1052	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	278	1000	124	165	701	0	129	948	149	222	1052	186
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	3	8	8	7	4	5	2	2	2	1	6	6
Permitted Phases	8	8	8	4	4	2	2	2	2	6	6	6
Detector Phase	3	8	8	7	4	5	2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0	10.0
Minimum Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0	35.0
Total Split (s)	11.0	35.0	35.0	10.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0	35.0
Total Split (%)	12.2%	38.9%	38.9%	11.1%	37.8%	11.1%	38.9%	38.9%	11.1%	38.9%	38.9%	38.9%
Maximum Green (s)	8.0	29.0	29.0	7.0	28.0	7.0	29.0	29.0	7.0	29.0	29.0	29.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	None	C-Min	C-Min	None	C-Min	C-Min	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	9.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	11	11	11	11	11	11	9	9	9	9	9	9
Act Effct Green (s)	39.8	28.3	28.3	37.3	27.1	38.5	28.5	28.5	40.0	29.4	29.4	29.4
Actuated g/C Ratio	0.44	0.31	0.31	0.41	0.30	0.43	0.32	0.32	0.44	0.33	0.33	0.33
v/c Ratio	0.90	0.90	0.23	0.73	0.67	0.61	0.86	0.27	0.93	0.92	0.92	0.92
Control Delay	52.1	41.5	7.0	35.5	30.5	31.9	30.3	6.5	64.3	44.2	8.6	8.6

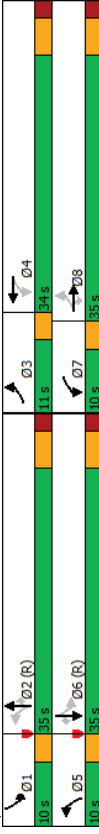
Lanes, Volumes, Timings

5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.1	41.5	7.0	35.5	30.5		31.9	30.3	6.5	64.3	44.2	8.6
LOS	D	D	A	D	C	C	C	C	A	E	D	A
Approach Delay	40.6											
Approach LOS	D											
ICU Level of Service F	27.6											
Intersection Summary												
Area Type: Other												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection												
Natural Cycle: 90												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.93												
Intersection Signal Delay: 36.4												
Intersection Capacity Utilization 91.2%												
Analysis Period (min) 15												

Splits and Phases: 5: Gordon Street & Clair Road West/Clair Road East



Phasings

5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases	8	10	10	7	10	7	10	10	7	10	10	7
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0	7.0
Minimum Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0	10.0
Total Split (%)	11.0	38.9%	38.9%	11.1%	37.8%	11.1%	38.9%	38.9%	11.1%	38.9%	38.9%	11.1%
Maximum Green (s)	8.0	29.0	29.0	7.0	28.0	7.0	29.0	29.0	7.0	29.0	29.0	7.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	11	11		11			9	9		9		9
90th %ile Green (s)	8.0	29.0	29.0	7.0	28.0	7.0	29.0	29.0	7.0	29.0	29.0	7.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord	Max
70th %ile Green (s)	8.0	29.0	29.0	7.0	28.0	7.0	29.0	29.0	7.0	29.0	29.0	7.0
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord	Max
50th %ile Green (s)	8.0	29.0	29.0	7.0	28.0	7.0	29.0	29.0	7.0	29.0	29.0	7.0
50th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord	Max
30th %ile Green (s)	8.0	29.0	29.0	7.0	28.0	7.0	29.0	29.0	7.0	29.0	29.0	7.0
30th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord	Max
10th %ile Green (s)	10.3	25.6	25.6	8.2	23.5	7.0	26.7	26.7	11.5	31.2	31.2	11.5
10th %ile Term Code	Max	Gap	Gap	Gap	Gap	Hold	Min	Coord	Coord	Max	Coord	Coord
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green, Master Intersection												
Control Type: Actuated-Coordinated												

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	278	1000	124	165	701	129	948	149	222	1052	186
v/c Ratio	0.90	0.90	0.23	0.73	0.67	0.61	0.86	0.27	0.93	0.92	0.34
Control Delay	52.1	41.5	7.0	35.5	30.5	31.9	30.3	6.5	64.3	44.2	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.1	41.5	7.0	35.5	30.5	31.9	30.3	6.5	64.3	44.2	8.6
Queue Length 50th (m)	30.9	89.7	1.9	22.2	65.6	4.5	85.3	3.9	~23.8	97.0	5.3
Queue Length 95th (m)	#67.1	#126.1	14.1	m#41.7	75.1	m29.1	#63.7	m13.8	#70.8	#138.7	21.0
Internal Link Dist (m)	244.6			193.7		165.5				209.4	
Turn Bay Length (m)	70.0		50.0	32.0		72.0		50.0	163.0		50.0
Base Capacity (vph)	309	1139	562	226	1083	213	1121	553	239	1138	552
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.88	0.22	0.73	0.65	0.61	0.85	0.27	0.93	0.92	0.34
Intersection Summary											
~ Volume exceeds capacity, queue is theoretically infinite.											
# 95th percentile volume exceeds capacity, queue may be longer.											
m Queue shown is maximum after two cycles.											
m Volume for 95th percentile queue is metered by upstream signal.											

HCM Signalized Intersection Capacity Analysis
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

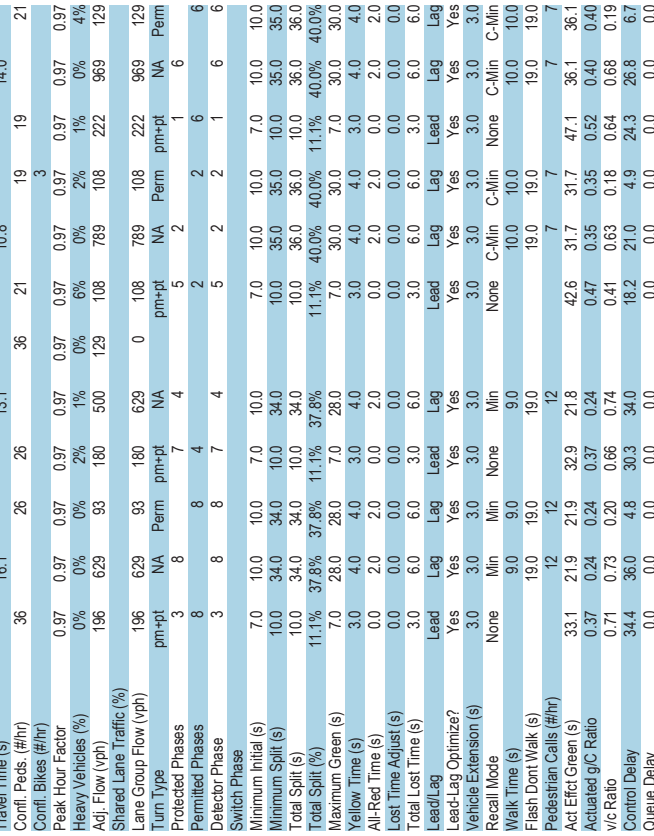
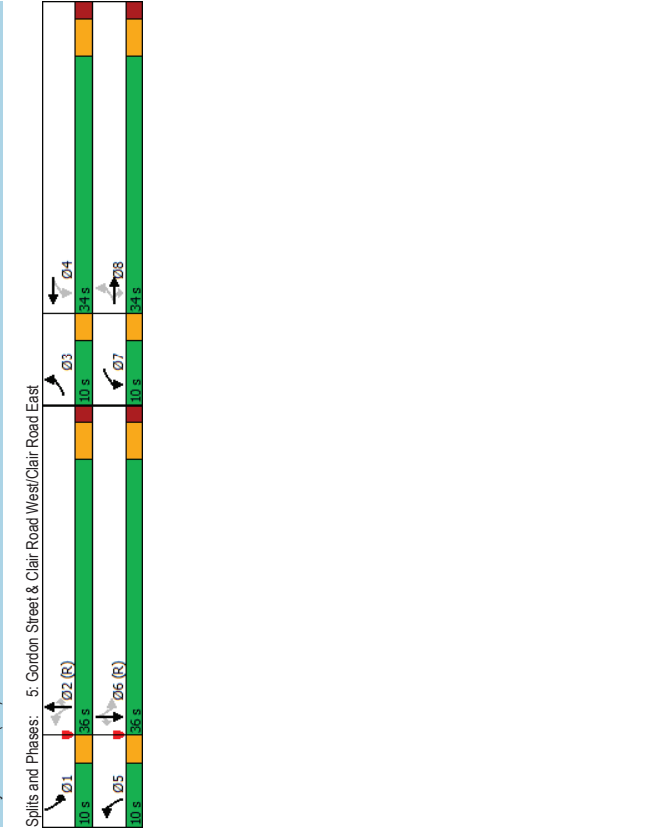
	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	270	970	120	160	560	120	920	145	215	1020	180
Future Volume (vph)	270	970	120	160	560	120	920	145	215	1020	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.5	3.5	3.3	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frbp. ped/bikes	1.00	1.00	0.97	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.97
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.97	1.00	0.85	1.00	0.95	1.00
Flt Protected	1.00	1.00	0.85	1.00	0.95	1.00	0.95	1.00	1.00	0.85	1.00
Satd. Flow (prot)	1742	3535	1515	1710	3420	1646	3479	1449	1727	3479	1394
Flt Permitted	0.23	1.00	1.00	0.15	1.00	0.14	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	420	3535	1515	266	3420	243	3479	1449	247	3479	1394
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	278	1000	124	165	577	124	948	149	222	1052	186
RTOR Reduction (vph)	0	0	75	0	20	0	0	0	87	0	97
Lane Group Flow (vph)	278	1000	49	165	681	0	129	948	62	222	1052
Conf. Peds. (#/hr)	34	21	21	34	18	18	18	26	26	26	18
Conf. Bikes (#/hr)	1										
Heavy Vehicles (%)	0%	1%	2%	2%	1%	0%	6%	2%	5%	1%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm
Protected Phases	3	8	7	4	4	5	2	2	1	6	6
Permitted Phases	8	8	4	4	4	2	2	2	6	6	6
Actuated Green, G (s)	36.9	28.4	28.4	34.3	27.1	35.5	28.5	28.5	37.3	29.4	29.4
Effective Green, g (s)	36.9	28.4	28.4	34.3	27.1	35.5	28.5	28.5	37.3	29.4	29.4
Actuated g/C Ratio	0.41	0.32	0.32	0.38	0.30	0.39	0.32	0.32	0.41	0.33	0.33
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	297	1115	478	216	1029	204	1101	458	232	1136	455
v/s Ratio Prot	0.09	0.28	0.03	0.23	0.20	0.05	0.27	0.04	0.08	0.30	0.06
v/s Ratio Perm	0.30	0.90	0.10	0.76	0.66	0.20	0.63	0.86	0.13	0.96	0.93
Uniform Delay, d1	21.8	29.4	21.8	21.4	27.4	20.5	28.9	21.9	20.6	29.3	21.8
Progression Factor	1.00	1.00	1.00	1.08	1.04	1.49	0.78	0.91	1.00	1.00	1.00
Incremental Delay, d2	35.3	9.6	0.1	13.5	1.5	5.1	7.3	0.5	46.6	14.0	1.0
Delay (s)	E 57.1	D 39.0	C 21.9	D 36.5	C 30.0	D 35.7	C 29.8	D 20.4	C 67.1	D 43.2	C 22.8
Level of Service	E	D	C	D	C	D	C	C	C	E	D
Approach Delay (s)	41.1			31.3		29.3			44.3		
Approach LOS	D			C		C			D		
Intersection Summary											
HCM 2000 Control Delay	37.4										
HCM 2000 Level of Service	D										
HCM 2000 Volume to Capacity ratio	0.97										
Actuated Cycle Length (s)	90.0										
Sum of lost time (s)	18.0										
Intersection Capacity Utilization	91.2%										
ICU Level of Service	F										
Analysis Period (min)	15										
c Critical Lane Group											

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lanes, Volumes, Timings
5: Gordon Street & Clair Road West/Clair Road East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	34.4	36.0	4.8	30.3	34.0		18.2	21.0	4.9	24.3	26.8	6.7
LOS	C	D	A	C	C		B	C	A	C	C	A
Approach Delay	32.5			33.2			18.9			24.4		
Approach LOS	C			C			B			C		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	190	610	90	175	485	125	105	765	105	215	940	125
Future Volume (vph)	190	610	90	175	485	125	105	765	105	215	940	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	50.0	32.0	0.0	72.0	0.0	50.0	163.0	50.0	163.0	50.0	163.0
Storage Lanes	1	1	1	0	1	0	1	1	1	1	1	1
Taper Length (m)	7.5	357.0	1597.0	1711.0	3400.0	0	1646.0	3570.0	1566.0	1728.0	3570.0	1536.0
Satd. Flow (prot)	0.233	0.240	0.240	0.185	0.206		0.206	0.206	0.206	0.206	0.206	0.206
Flt Permitted	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (perm)	423	3570	1539	428	3400	0	319	3570	1517	373	3570	1488
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	109	109	109	37	37	109	109	109	109	109	109	110
Link Speed (k/h)	60	60	60	60	60	60	60	60	60	60	60	60
Link Distance (m)	268.6	217.7	217.7	180.5	180.5	233.4	180.5	233.4	180.5	233.4	180.5	233.4
Travel Time (s)	16.1	26	26	13.1	13.1	36	21	10.8	19	19	14.0	21
Confl. Peds. (#/hr)	36	26	26	36	21	36	21	10.8	19	19	14.0	21
Confl. Bikes (#/hr)	3	3	3	3	3	3	3	3	3	3	3	3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	0%	4%
Adj. Flow (vph)	196	629	93	180	500	129	108	789	108	222	969	129
Shared Lane Traffic (%)	196	629	93	180	500	129	108	789	108	222	969	129
Lane Group Flow (vph)	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Turn Type	3	8	8	4	4	5	2	2	2	6	6	6
Protected Phases	3	8	8	4	4	5	2	2	2	6	6	6
Permitted Phases	3	8	8	4	4	5	2	2	2	6	6	6
Detector Phase	3	8	8	4	4	5	2	2	2	6	6	6
Switch Phase	3	8	8	4	4	5	2	2	2	6	6	6
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0	35.0
Total Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	36.0	36.0	10.0	36.0	36.0	36.0
Total Split (%)	11.1%	37.8%	37.8%	11.1%	37.8%	11.1%	40.0%	40.0%	11.1%	40.0%	40.0%	40.0%
Maximum Green (s)	7.0	28.0	28.0	7.0	28.0	7.0	30.0	30.0	7.0	30.0	30.0	30.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	None	C-Min	C-Min	None	C-Min	C-Min	C-Min
Flesh Dont Walk (s)	19.0	19.0	19.0	9.0	9.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	12	12	12	12	12	12	7	7	7	7	7	7
Act Effect Green (s)	33.1	21.9	21.9	32.9	21.8	42.6	31.7	31.7	47.1	36.1	36.1	36.1
Actuated g/C Ratio	0.37	0.24	0.24	0.37	0.24	0.47	0.35	0.35	0.52	0.40	0.40	0.40
v/c Ratio	0.71	0.73	0.20	0.66	0.74	0.41	0.63	0.18	0.64	0.68	0.68	0.19
Control Delay	34.4	36.0	4.8	30.3	34.0		18.2	21.0	4.9	24.3	26.8	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8		7	4	5	2		1	6	
Permitted Phases	8	8	4	2		2		2	6		6
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0
Total Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	36.0	36.0	10.0	36.0	36.0
Total Split (%)	11.1%	37.8%	37.8%	11.1%	37.8%	11.1%	40.0%	40.0%	11.1%	40.0%	40.0%
Maximum Green (s)	7.0	28.0	28.0	7.0	28.0	7.0	30.0	30.0	7.0	30.0	30.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	9.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	12	12		12		7		7		7	7
90th %ile Green (s)	7.0	28.0	28.0	7.0	28.0	7.0	30.0	30.0	7.0	30.0	30.0
90th %ile Term Code	Max	Ped	Ped	Max	Ped	Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	7.0	24.0	24.0	7.0	24.0	9.5	30.0	30.0	11.0	31.5	31.5
70th %ile Term Code	Max	Hold	Hold	Max	Gap	Gap	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	8.5	21.9	21.9	8.5	21.9	8.4	28.6	28.6	13.0	33.2	33.2
50th %ile Term Code	Max	Gap	Gap	Max	Hold	Gap	Coord	Coord	Gap	Coord	Coord
30th %ile Green (s)	10.6	19.4	19.4	10.1	18.9	7.4	31.2	31.2	11.3	35.1	35.1
30th %ile Term Code	Gap	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Gap	Coord	Coord
10th %ile Green (s)	8.2	16.1	16.1	8.1	16.0	0.0	38.9	38.9	8.9	50.8	50.8
10th %ile Term Code	Gap	Gap	Gap	Gap	Hold	Skip	Coord	Coord	Gap	Coord	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	196	629	93	180	629	108	789	108	222	969	129
v/c Ratio	0.71	0.73	0.20	0.66	0.74	0.41	0.63	0.18	0.64	0.68	0.19
Control Delay	34.4	36.0	4.8	30.3	34.0	18.2	21.0	4.9	24.3	26.8	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	36.0	4.8	30.3	34.0	18.2	21.0	4.9	24.3	26.8	6.7
Queue Length 50th (m)	23.4	55.4	0.0	22.5	59.2	4.0	67.6	3.3	20.6	79.0	2.2
Queue Length 95th (m)	#41.5	67.6	8.5	#57.6	59.0	21.7	49.6	8.1	#53.2	109.1	14.6
Internal Link Dist (m)	244.6			193.7			166.5		209.4		
Turn Bay Length (m)	70.0		50.0	32.0		72.0		50.0	163.0		50.0
Base Capacity (vph)	276	1110	553	272	1083	266	1270	610	349	1432	663
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.57	0.17	0.66	0.58	0.41	0.62	0.18	0.64	0.68	0.19

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

12-13-2023

5: Gordon Street & Clair Road West/Clair Road East

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	190	610	90	175	485	125	105	765	105	215	940	125
Future Volume (vph)	190	610	90	175	485	125	105	765	105	215	940	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frbp. ped/bikes	1.00	1.00	0.96	1.00	0.99	1.00	1.00	0.97	1.00	1.00	1.00	0.97
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97	1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1741	3570	1539	1708	3400	1645	3570	1517	1726	3570	1488	1488
Flt Permitted	0.23	1.00	1.00	0.24	1.00	0.18	1.00	1.00	0.21	1.00	1.00	1.00
Satd. Flow (perm)	428	3570	1539	432	3400	320	3570	1517	374	3570	1488	1488
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	196	629	93	180	500	129	108	789	108	222	969	129
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	196	629	23	180	601	0	108	789	38	222	969	62
Confl. Bikes (#/hr)	36	26	26	36	21	36	21	19	19	19	19	21
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	0%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	3	8	7	4	5	2	1	6	1	6	6	6
Permitted Phases	8	8	4	4	2	2	2	2	2	6	6	6
Actuated Green, G (s)	30.3	22.0	22.0	29.9	21.8	38.2	31.7	31.7	44.9	35.4	35.4	35.4
Effective Green, g (s)	30.3	22.0	22.0	29.9	21.8	38.2	31.7	31.7	44.9	35.4	35.4	35.4
Actuated g/C Ratio	0.34	0.24	0.24	0.33	0.24	0.42	0.35	0.35	0.50	0.39	0.39	0.39
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grip Cap (vph)	265	872	376	258	823	231	1257	534	339	1404	585	585
v/s Ratio Prot	c0.18	0.18	0.06	0.18	0.03	0.22	0.03	0.22	c0.07	c0.27	c0.27	c0.27
v/s Ratio Perm	0.74	0.72	0.06	0.70	0.73	0.47	0.63	0.07	0.65	0.69	0.11	0.11
Uniform Delay, d1	23.0	31.2	26.1	23.0	31.4	16.9	24.2	19.4	14.7	22.7	17.3	17.3
Progression Factor	1.00	1.00	1.00	1.02	0.99	1.19	0.75	0.95	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.3	3.0	0.1	7.2	3.0	1.3	2.1	0.2	4.5	2.8	0.4	0.4
Delay (s)	33.3	34.2	26.1	30.7	34.1	21.5	20.3	18.5	19.3	25.5	17.7	17.7
Level of Service	C	C	C	C	C	C	C	B	B	B	C	B
Approach Delay (s)	33.2	33.2	33.4	33.4	33.4	20.2	20.2	20.2	23.7	23.7	23.7	23.7
Approach LOS	C	C	C	C	C	C	C	C	C	C	C	C
Intersection Summary												
HCM 2000 Control Delay	26.9 HCM 2000 Level of Service C											
HCM 2000 Volume to Capacity ratio	0.73											
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 18.0											
Intersection Capacity Utilization	85.0% ICU Level of Service E											
Analysis Period (min)	15											
c Critical Lane Group												

12-13-2023

5: Gordon Street & Clair Road West/Clair Road East

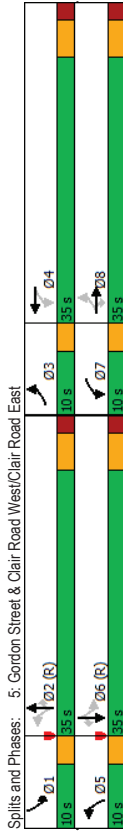
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (vph)	155	450	90	145	885	150	165	1035	125	90	585	235
Future Volume (vph)	155	450	90	145	885	150	165	1035	125	90	585	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	50.0	50.0	32.0	0.0	72.0	50.0	50.0	163.0	50.0	50.0	50.0
Storage Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Taper Length (m)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00	0.97	0.99	0.99	0.99	1.00	0.97	1.00	0.97	1.00	0.97	1.00
Frt	0.850	0.850	0.850	0.978	0.978	0.978	0.850	0.850	0.850	0.850	0.850	0.850
Flt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1631	3368	1493	1572	3355	0	1586	3412	1304	1678	3479	1461
Flt Permitted	0.138	0.397	0.397	0.397	0.397	0.275	0.138	0.138	0.138	0.138	0.138	0.138
Satd. Flow (perm)	236	3368	1444	650	3355	0	457	3412	1263	243	3479	1426
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	60	109	109	23	23	60	60	60	109	60	109	234
Link Speed (k/h)	288.6	217.7	217.7	180.5	180.5	233.4	233.4	233.4	233.4	233.4	233.4	233.4
Link Distance (m)	16.1	22	22	13.1	13.1	10.8	10.8	21	21	21	14.0	14.0
Confl. Peds. (#/hr)	31	22	22	31	12	12	21	21	21	21	12	12
Confl. Bikes (#/hr)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Peak Hour Factor	7%	6%	7%	11%	3%	6%	10%	4%	21%	4%	2%	8%
Heavy Vehicles (%)	0	0	0	0	0	0	0	0	3	0	3	3
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	3	3
Adj. Flow (vph)	172	500	100	161	983	167	183	1150	139	100	650	261
Shared Lane Traffic (%)	172	500	100	161	1150	0	183	1150	139	100	650	261
Lane Group Flow (vph)	No	No	No	No	No	No	No	No	No	No	No	No
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane												
Headway Factor	1.04	1.01	1.01	1.04	1.01	1.01	1.04	1.02	1.03	1.04	1.02	1.03
Turning Speed (k/h)	25	15	25	15	25	15	25	15	25	15	25	15
Number of Detectors	1	2	1	1	2	1	2	1	2	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Left	Left	Right	Thru	Right	Left	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	10.0	2.0	10.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	0.6	2.0	0.6	2.0	0.6	2.0
Detector 1 Type	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
Detector 2 Size(m)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

Lanes, Volumes, Timings

5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	
Detector 2 Type	C+Ex											
Detector 2 Channel	C+Ex											
Detector 2 Extend (s)	0.0											
Turn Type	pm-pt	NA	Perm	pm-pt	NA	pm-pt	NA	Perm	pm-pt	NA	Perm	
Permitted Phases	3	8	8	7	4	5	2	2	2	1	6	
Protected Phases	8	8	8	4	4	2	2	2	2	6	6	
Detector Phase	3	8	8	7	4	5	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	10.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0	
Total Split (s)	10.0	35.0	35.0	10.0	35.0	10.0	35.0	35.0	10.0	35.0	35.0	
Total Split (%)	11.1%	38.9%	38.9%	11.1%	38.9%	11.1%	38.9%	38.9%	11.1%	38.9%	38.9%	
Maximum Green (s)	7.0	29.0	29.0	7.0	29.0	7.0	29.0	29.0	7.0	29.0	29.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min	Min	None	Min	None	C-Min	C-Min	None	C-Min	C-Min	
Walk Time (s)	9.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	9.0	10.0	10.0	
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	
Pedestrian Calls (#/hr)	10	10	10	10	10	10	9	9	9	9	9	
Act Effct Green (s)	39.0	29.0	29.0	39.0	29.0	39.0	31.0	31.0	39.0	29.0	29.0	
Actuated G/C Ratio	0.43	0.32	0.32	0.43	0.32	0.44	0.34	0.34	0.43	0.32	0.32	
v/c Ratio	0.82	0.46	0.19	0.46	1.05	0.64	0.98	0.27	0.46	0.58	0.42	
Control Delay	47.4	26.0	4.9	21.6	73.2	24.9	47.9	11.6	21.0	27.9	6.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.4	26.0	4.9	21.6	73.2	24.9	47.9	11.6	21.0	27.9	6.8	
LOS	D	C	A	C	E	C	D	B	C	C	A	
Approach Delay	28.0											
Approach LOS	C											
Intersection Summary	E D											
Area Type	Other											
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection												
Natural Cycle: 90												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.05												
Intersection Signal Delay: 42.2												
Intersection Capacity Utilization 89.3%												
Analysis Period (min) 15												



Phasings

5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	
Protected Phases	3	8	8	7	4	5	2	2	2	1	6	
Permitted Phases	8	8	8	4	4	2	2	2	2	6	6	
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0	
Minimum Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0	
Total Split (s)	10.0	35.0	35.0	10.0	35.0	10.0	35.0	35.0	10.0	35.0	35.0	
Total Split (%)	11.1%	38.9%	38.9%	11.1%	38.9%	11.1%	38.9%	38.9%	11.1%	38.9%	38.9%	
Maximum Green (s)	7.0	29.0	29.0	7.0	29.0	7.0	29.0	29.0	7.0	29.0	29.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min	Min	None	Min	None	C-Min	C-Min	None	C-Min	C-Min	
Walk Time (s)	9.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	9.0	10.0	10.0	
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	
Pedestrian Calls (#/hr)	10	10	10	10	10	10	9	9	9	9	9	
90th %ile Term Code	Max	Hold	Hold	Max	Max	Max	Coord	Coord	Max	Coord	Coord	
70th %ile Term Code	Max	Hold	Hold	Max	Max	Max	Coord	Coord	Max	Coord	Coord	
50th %ile Term Code	Max	Hold	Hold	Max	Max	Max	Coord	Coord	Max	Coord	Coord	
30th %ile Term Code	Max	Hold	Hold	Max	Max	Max	Coord	Coord	Max	Coord	Coord	
10th %ile Term Code	Max	Hold	Hold	Max	Max	Max	Coord	Coord	Max	Coord	Coord	
Intersection Summary	E D											
Cycle Length: 90												
Actuated Cycle Length: 90												
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection												
Control Type: Actuated-Coordinated												

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	172	500	100	161	1150	183	1150	139	100	650	261
v/c Ratio	0.82	0.46	0.19	0.46	1.05	0.64	0.98	0.27	0.46	0.68	0.42
Control Delay	47.4	26.0	4.9	21.6	73.2	24.9	47.9	11.6	21.0	27.9	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	26.0	4.9	21.6	73.2	24.9	47.9	11.6	21.0	27.9	6.8
Queue Length 50th (m)	18.0	37.7	0.0	24.6	~124.9	14.7	~94.6	4.3	9.9	51.4	3.4
Queue Length 95th (m)	#49.4	52.8	9.7	29.2	#163.2	m27.0	#158.2	m11.8	19.3	69.5	21.3
Internal Link Dist (m)	244.6			193.7		166.5			209.4		
Turn Bay Length (m)	70.0		50.0	32.0		72.0		50.0	163.0		50.0
Base Capacity (vph)	210	1085	539	353	1096	288	1175	506	216	1121	618
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.46	0.19	0.46	1.05	0.64	0.98	0.27	0.46	0.68	0.42

Intersection Summary
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 m Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	155	450	90	145	885	150	165	1035	125	90	585
Future Volume (vph)	155	450	90	145	885	150	165	1035	125	90	585
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.5	3.5	3.3	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frbp. ped/bikes	1.00	1.00	0.97	1.00	0.99	1.00	1.00	0.97	1.00	1.00	0.98
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.85	1.00	0.85
Satd. Flow (prot)	1630	3368	1444	1566	3356	1685	3412	1263	1677	3479	1426
Flt Permitted	0.14	1.00	1.00	0.40	1.00	0.28	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	237	3368	1444	654	3356	460	3412	1263	244	3479	1426
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	172	500	100	161	983	167	183	1150	139	100	650
RTOR Reduction (vph)	0	0	68	0	16	0	0	0	72	0	159
Lane Group Flow (vph)	172	500	32	161	1134	0	183	1150	67	100	650
Conf. Peds. (#/hr)	31	22	22	31	22	31	12	21	21	21	12
Conf. Bikes (#/hr)											
Heavy Vehicles (%)	7%	6%	7%	11%	3%	6%	10%	4%	21%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	0	3
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt
Protected Phases	3	8	8	7	4	4	5	2	2	1	6
Permitted Phases	8		8	4		4	2		2	6	6
Actuated Green, G (s)	36.0	29.0	29.0	36.0	29.0	37.4	30.4	30.4	30.4	34.6	29.0
Effective Green, g (s)	36.0	29.0	29.0	36.0	29.0	37.4	30.4	30.4	30.4	34.6	29.0
Actuated g/C Ratio	0.40	0.32	0.32	0.40	0.32	0.42	0.34	0.34	0.34	0.38	0.32
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	203	1085	465	332	1081	278	1152	426	182	1121	459
v/s Ratio Prot	c0.07	0.15	0.04	c0.34	c0.05	c0.34	0.22	0.05	0.18	0.19	0.07
v/c Ratio Perm	0.27	0.46	0.07	0.48	1.05	0.66	1.00	0.16	0.58	0.58	0.22
Uniform Delay, d1	22.0	24.3	21.1	18.2	30.5	18.1	29.8	20.8	21.3	25.4	22.3
Progression Factor	1.00	1.00	1.00	1.20	1.15	1.06	0.95	1.45	1.00	1.00	1.00
Incremental Delay, d2	26.4	0.3	0.1	0.9	39.1	4.0	22.1	0.6	3.4	2.2	1.1
Delay (s)	48.4	24.6	21.2	22.8	74.0	23.2	50.3	30.9	24.7	27.6	23.4
Level of Service	D	C	C	C	E	C	D	C	C	C	C
Approach Delay (s)	29.5			67.8		45.1			26.2		
Approach LOS	C			E		D			C		C

Intersection Summary	
HCM 2000 Control Delay	44.8
HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99
Actuated Cycle Length (s)	90.0
Sum of lost time (s)	18.0
Intersection Capacity Utilization	89.3%
ICU Level of Service	E
Analysis Period (min)	15
c Critical Lane Group	

Lanes, Volumes, Timings

5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	270	965	120	160	555	140	125	940	145	220	1045	180
Future Volume (vph)	270	965	120	160	555	140	125	940	145	220	1045	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.3	3.5	3.3	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	50.0	32.0	0.0	72.0	0.0	72.0	50.0	163.0	50.0	50.0	50.0
Storage Lanes	1	1	1	0	1	0	1	1	1	1	1	1
Taper Length (m)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Ped Bike Factor	0.99	0.97	1.00	0.99	1.00	0.99	1.00	0.96	1.00	0.97	1.00	0.97
Frt	0.850	0.850	0.970	0.970	0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850
Flt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1745	3535	1566	1711	3405	0	1646	3479	1503	1728	3479	1434
Flt Permitted	0.224	0.147	0.147	0.138	0.138	0.135	0.135	0.135	0.135	0.135	0.135	0.135
Satd. Flow (perm)	407	3535	1515	264	3405	0	239	3479	1449	244	3479	1394
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	60	109	60	60	60	60	60	60	125	60	60	60
Link Speed (k/h)	268.6	217.7	180.5	217.7	180.5	233.4	233.4	233.4	233.4	233.4	233.4	233.4
Link Distance (m)	34	21	21	13.1	13.1	180.5	180.5	180.5	180.5	180.5	180.5	180.5
Travel Time (s)	34	21	21	13.1	13.1	180.5	180.5	180.5	180.5	180.5	180.5	180.5
Confl. Peds. (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Confl. Bikes (#/hr)	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Peak Hour Factor	0%	1%	2%	2%	1%	0%	6%	2%	5%	1%	2%	1%
Heavy Vehicles (%)	0	0	0	0	0	0	0	0	0	0	0	0
Bus Blockages (#/hr)	278	995	124	165	572	144	129	969	149	227	1077	186
Adj. Flow (vph)	278	995	124	165	572	144	129	969	149	227	1077	186
Shared Lane Traffic (%)	No	No	No	No	No	No	No	No	No	No	No	No
Lane Group Flow (vph)	No	No	No	No	No	No	No	No	No	No	No	No
Enter Blocked Intersection	Left	Left	Right	Left	Right	Left	Left	Right	Left	Left	Left	Right
Lane Alignment	Left	Left	Right	Left	Right	Left	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane	1.04	1.01	1.01	1.04	1.01	1.01	1.04	1.02	1.03	1.04	1.02	1.03
Headway Factor	25	15	25	25	15	25	25	15	25	25	15	25
Turning Speed (k/h)	1	2	1	1	2	1	2	1	2	1	2	1
Number of Detectors	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Detector Template	2.0	10.0	2.0	2.0	10.0	2.0	10.0	2.0	10.0	2.0	10.0	2.0
Leading Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	2.0	0.6	2.0	2.0	0.6	2.0	0.6	2.0	0.6	2.0	0.6	2.0
Detector 1 Size(m)	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 1 Type	Intersection LOS: DICU Level of Service F											
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
Detector 2 Size(m)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

2038_FT_PM_Alt_Configuration

HBR - BA Group

Synchro 11 Report

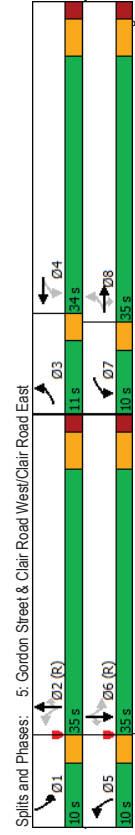
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Lanes, Volumes, Timings

5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Detector 2 Channel	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex	Ch+Ex
Detector 2 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm-pt	NA	Perm	pm-pt	NA	pm-pt	NA	Perm	pm-pt	NA	Perm	NA
Protected Phases	3	8	8	7	4	5	2	2	2	2	1	6
Permitted Phases	8	8	8	4	4	2	2	2	2	2	6	6
Detector Phase	3	8	8	7	4	5	2	2	2	2	1	6
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	10.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	35.0	10.0	35.0	35.0
Total Split (s)	11.0	35.0	35.0	10.0	34.0	10.0	35.0	35.0	35.0	10.0	35.0	35.0
Total Split (%)	12.2%	38.9%	38.9%	11.1%	37.8%	11.1%	38.9%	38.9%	38.9%	11.1%	38.9%	38.9%
Maximum Green (s)	8.0	29.0	29.0	7.0	28.0	7.0	29.0	29.0	29.0	7.0	29.0	29.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	6.0	3.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	None	C-Min	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	10.0	9.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	11	11	11	11	11	11	9	9	9	11	9	9
Act Effct Green (s)	39.4	28.3	28.3	37.4	27.3	38.9	28.9	28.9	28.9	40.2	29.6	29.6
Actuated G/C Ratio	0.44	0.31	0.31	0.42	0.30	0.43	0.32	0.32	0.32	0.45	0.33	0.33
v/c Ratio	0.93	0.90	0.23	0.74	0.68	0.61	0.87	0.27	0.96	0.94	0.94	0.94
Control Delay	58.5	41.2	7.0	35.9	29.9	32.9	32.5	9.1	71.9	46.5	8.9	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	41.2	7.0	35.9	29.9	32.9	32.5	9.1	71.9	46.5	8.9	8.9
LOS	E	D	A	D	C	C	C	C	A	E	D	A
Approach LOS	D	D	D	C	C	C	C	C	C	D	D	D
Intersection Summary	Other											
Area Type:	Other											
Cycle Length:	90											
Actuated Cycle Length:	90											
Offset:	0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection											
Natural Cycle:	90											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.96											
Intersection Signal Delay:	38.0											
Intersection Capacity Utilization:	92.2%											
Analysis Period (min):	15											



Phasings
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8	8	7	4	5	2	2	1	6	
Permitted Phases	8	8	4	4	2	2	2	2	6	6	
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0
Total Split (s)	11.0	35.0	35.0	10.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0
Total Split (%)	12.2%	38.9%	38.9%	11.1%	37.8%	11.1%	38.9%	38.9%	11.1%	38.9%	38.9%
Maximum Green (s)	8.0	29.0	29.0	7.0	28.0	7.0	29.0	29.0	7.0	29.0	29.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Min	Min	None	Min	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	9.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	11	11	11	11	11	9	9	9	9	9	9
90th %ile Green (s)	8.0	29.0	29.0	7.0	28.0	7.0	29.0	29.0	7.0	29.0	29.0
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Coord	Coord	Max	Coord	Coord
70th %ile Green (s)	8.0	29.0	29.0	7.0	28.0	7.0	29.0	29.0	7.0	29.0	29.0
70th %ile Term Code	Max	Max	Max	Hold	Max	Max	Coord	Coord	Max	Coord	Coord
50th %ile Green (s)	8.0	29.0	29.0	7.0	28.0	7.0	29.0	29.0	7.0	29.0	29.0
50th %ile Term Code	Max	Max	Max	Hold	Max	Max	Coord	Coord	Max	Coord	Coord
30th %ile Green (s)	8.0	29.0	29.0	7.0	28.0	7.0	29.0	29.0	7.0	29.0	29.0
30th %ile Term Code	Max	Max	Max	Hold	Max	Max	Coord	Coord	Max	Coord	Coord
10th %ile Green (s)	8.6	25.4	25.4	7.6	24.4	7.0	28.4	28.4	10.6	32.0	32.0
10th %ile Term Code	Max	Gap	Gap	Max	Hold	Min	Coord	Coord	Max	Coord	Coord

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBLT and 6:SBTL, Start of Green, Master Intersection
Control Type: Actuated-Coordinated

Queues
5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	278	995	124	165	716	129	969	149	227	1077	186
v/c Ratio	0.93	0.90	0.23	0.74	0.68	0.61	0.87	0.27	0.96	0.94	0.34
Control Delay	58.5	41.2	7.0	35.9	29.9	32.9	32.5	9.1	71.9	46.5	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	41.2	7.0	35.9	29.9	32.9	32.5	9.1	71.9	46.5	8.9
Queue Length 50th (m)	30.9	89.1	1.9	21.9	67.6	0.0	56.3	0.3	-27.1	100.3	5.8
Queue Length 95th (m)	#68.3	#125.1	14.1	m#42.4	74.9	m26.2	#100.8	m13.9	#73.8	#144.0	21.7
Internal Link Dist (m)	244.6			193.7			166.5		209.4		
Turn Bay Length (m)	70.0		50.0	32.0	72.0		50.0		163.0		50.0
Base Capacity (vph)	298	1139	562	224	1084	213	1121	551	236	1144	552
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.87	0.22	0.74	0.66	0.61	0.86	0.27	0.96	0.94	0.34

Intersection Summary
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

12-13-2023

HCM Signalized Intersection Capacity Analysis

5: Gordon Street & Clair Road West/Clair Road East

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	270	965	120	160	555	140	125	940	145	220	1045	180
Future Volume (vph)	270	965	120	160	555	140	125	940	145	220	1045	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.3	3.5	3.5	3.5
Total Lost time (s)	3.0	0.95	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	0.97	1.00	0.95	1.00	0.95	1.00	0.96	1.00	0.95	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97	1.00	1.00	0.85	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1742	3535	1515	1710	3404	1646	3479	1449	1727	3479	1394	180
Flt Permitted	0.22	1.00	1.00	0.15	1.00	0.14	1.00	1.00	0.14	1.00	1.00	1.00
Satd. Flow (perm)	410	3535	1515	264	3404	240	3479	1449	246	3479	1394	180
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	278	995	124	165	572	144	129	969	149	227	1077	186
RTOR Reduction (vph)	0	0	75	0	25	0	0	0	85	0	0	94
Lane Group Flow (vph)	278	995	49	165	691	0	129	969	64	227	1077	92
Confl. Peds. (#/hr)	34	21	21	34	18	34	18	26	26	26	26	18
Confl. Bikes (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Heavy Vehicles (%)	0%	1%	2%	2%	1%	0%	6%	2%	5%	1%	2%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	3	3	0	3
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	3	8	8	7	4	5	2	2	2	1	6	6
Permitted Phases	8	8	8	4	4	2	2	2	2	6	6	6
Actuated Green, G (s)	36.4	28.3	28.3	34.4	27.3	35.9	28.9	28.9	37.3	29.6	29.6	29.6
Effective Green, g (s)	36.4	28.3	28.3	34.4	27.3	35.9	28.9	28.9	37.3	29.6	29.6	29.6
Actuated g/C Ratio	0.40	0.31	0.31	0.38	0.30	0.40	0.32	0.32	0.41	0.33	0.33	0.33
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	285	1111	476	214	1032	205	1117	465	228	1144	468	468
v/s Ratio Prot	60.09	0.28	0.03	0.06	0.20	0.05	0.28	0.04	0.08	0.31	0.07	0.07
v/s Ratio Perm	60.31	0.98	0.90	0.10	0.77	0.67	0.63	0.87	0.14	1.00	0.94	0.20
Uniform Delay, d1	22.9	29.4	21.9	21.4	27.4	20.5	28.7	21.7	21.3	29.4	21.7	21.7
Progression Factor	1.00	1.00	1.00	1.06	1.02	1.61	0.86	1.30	1.00	1.00	1.00	1.00
Incremental Delay, d2	46.1	9.5	0.1	14.3	1.5	4.4	7.0	0.5	58.0	15.8	1.0	1.0
Delay (s)	69.0	39.0	22.0	37.0	29.5	37.6	31.7	28.6	79.3	45.2	22.7	22.7
Level of Service	E	D	C	D	C	D	C	C	C	E	D	C
Approach Delay (s)	43.4	30.9	30.9	30.9	30.9	30.9	31.9	31.9	30.9	30.9	47.6	47.6
Approach LOS	D	D	D	C	C	C	C	C	C	E	D	D
Intersection Summary												
HCM 2000 Control Delay	39.6 HCM 2000 Level of Service D											
HCM 2000 Volume to Capacity ratio	1.01											
Actuated Cycle Length (s)	90.0 Sum of lost time (s)											
Intersection Capacity Utilization	92.2% ICU Level of Service F											
Analysis Period (min)	15											
c Critical Lane Group	C Critical Lane Group											

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Lanes, Volumes, Timings

5: Gordon Street & Clair Road West/Clair Road East

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	190	605	90	175	485	135	105	785	105	210	960	125
Future Volume (vph)	190	605	90	175	485	135	105	785	105	210	960	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Storage Length (m)	70.0	50.0	50.0	32.0	0.0	72.0	0.0	50.0	50.0	163.0	50.0	50.0
Storage Lanes	1	1	1	1	1	0	1	1	1	1	1	1
Taper Length (m)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Ped Bike Factor	0.99	0.96	0.99	0.99	0.99	1.00	0.97	0.97	1.00	0.97	1.00	0.97
Frt	0.850	0.850	0.850	0.967	0.967	0.967	0.850	0.850	0.850	0.850	0.850	0.850
Flt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1745	3570	1597	1711	3391	0	1646	3570	1566	1728	3570	1536
Flt Permitted	0.228	0.243	0.243	0.176	0.176	0.176	0.196	0.196	0.196	0.196	0.196	0.196
Satd. Flow (perm)	414	3570	1539	434	3391	0	304	3570	1517	355	3570	1488
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	109	109	109	41	41	41	60	60	109	60	109	109
Link Speed (k/h)	60	60	60	60	60	60	60	60	60	60	60	60
Link Distance (m)	288.6	288.6	288.6	217.7	217.7	217.7	180.5	180.5	233.4	233.4	233.4	233.4
Travel Time (s)	36	16.1	16.1	13.1	13.1	13.1	10.8	10.8	19	19	14.0	14.0
Confl. Peds. (#/hr)	36	26	26	26	26	26	21	21	19	19	19	21
Confl. Bikes (#/hr)	3	3	3	3	3	3	3	3	3	3	3	3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%	6%	2%	0%	2%	1%	4%
Adj. Flow (vph)	196	624	93	180	500	139	108	809	108	216	990	129
Shared Lane Traffic (%)	196	624	93	180	639	0	108	809	108	216	990	129
Lane Group Flow (vph)	No	No	No	No	No	No	No	No	No	No	No	No
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	3.5	3.5	3.5	3.5	3.5	3.5	3.3	3.3	3.3	3.3	3.3	3.3
Link Offset(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crosswalk Width(m)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Two way Left Turn Lane												
Headway Factor	1.04	1.01	1.01	1.04	1.01	1.01	1.04	1.01	1.01	1.04	1.01	1.01
Turning Speed (k/h)	25	15	15	25	15	15	25	15	15	25	15	15
Number of Detectors	1	2	1	1	2	1	2	1	2	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Left	Thru	Right	Left	Thru	Right	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	10.0	2.0	10.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	0.6	2.0	0.6	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
Detector 2 Size(m)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Detector 2 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex

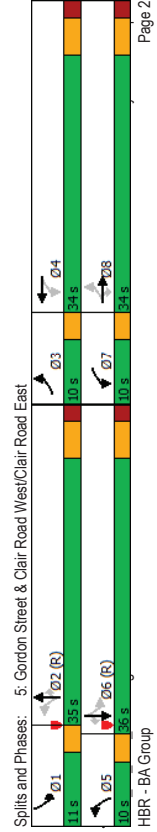
Lanes, Volumes, Timings

5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0					
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	3	8	8	7	4	4	5	2	2	1	6	6
Permitted Phases	8	8	8	4	4	4	2	2	2	6	6	6
Detector Phase	3	8	8	7	4	4	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0	35.0
Total Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	11.0	36.0	36.0	36.0
Total Split (%)	11.1%	37.8%	37.8%	11.1%	37.8%	11.1%	38.9%	38.9%	12.2%	40.0%	40.0%	40.0%
Maximum Green (s)	7.0	28.0	28.0	7.0	28.0	7.0	29.0	29.0	8.0	30.0	30.0	30.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	None	C-Min	C-Min	C-Min	None	C-Min	C-Min	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	12	12	12	12	12	12	7	7	7	7	7	7
Act Effect Green (s)	33.1	22.0	22.0	32.8	21.8	42.7	31.8	31.8	47.5	36.2	36.2	36.2
Actuated g/C Ratio	0.37	0.24	0.24	0.36	0.24	0.47	0.35	0.35	0.63	0.40	0.40	0.40
v/c Ratio	0.72	0.72	0.20	0.67	0.75	0.41	0.64	0.18	0.63	0.69	0.19	0.19
Control Delay	35.6	35.7	4.8	29.7	33.4	19.3	21.4	5.8	23.2	27.1	6.8	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	35.7	4.8	29.7	33.4	19.3	21.4	5.8	23.2	27.1	6.8	6.8
LOS	D	D	A	C	C	B	C	A	C	C	C	A
Approach Delay												
Approach LOS	C			C			B					C

Intersection Summary	
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	26.7
Intersection Capacity Utilization:	84.8%
Analysis Period (min):	15
Intersection LOS:	C
ICU Level of Service:	E



Phasings

5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	3	8	8	7	4	4	5	2	2	1	6	6
Permitted Phases	8	8	8	4	4	4	2	2	2	6	6	6
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	10.0	35.0	35.0	35.0
Total Split (s)	10.0	34.0	34.0	10.0	34.0	10.0	35.0	35.0	11.0	36.0	36.0	36.0
Total Split (%)	11.1%	37.8%	37.8%	11.1%	37.8%	11.1%	38.9%	38.9%	12.2%	40.0%	40.0%	40.0%
Maximum Green (s)	7.0	28.0	28.0	7.0	28.0	7.0	29.0	29.0	8.0	30.0	30.0	30.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	None	C-Min	C-Min	C-Min	None	C-Min	C-Min	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
Pedestrian Calls (#/hr)	12	12	12	12	12	12	7	7	7	7	7	7
90th %ile Term Code	Max	Ped	Ped	Max	Ped	Max	Coord	Coord	Max	Coord	Coord	Coord
70th %ile Term Code	Max	Hold	Hold	Max	Gap	Max	Coord	Coord	Max	Coord	Coord	Coord
50th %ile Term Code	Max	Gap	Gap	Max	Hold	Max	Coord	Coord	Max	Gap	Coord	Coord
30th %ile Term Code	Max	Gap	Gap	Max	Hold	Max	Coord	Coord	Max	Gap	Coord	Coord
10th %ile Term Code	Gap	Hold	Hold	Gap	Gap	Gap	Skip	Coord	Coord	Gap	Coord	Coord
10th %ile Term Code	Gap	Hold	Hold	Gap	Gap	Gap	Skip	Coord	Coord	Gap	Coord	Coord

Intersection Summary	
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green, Master Intersection
Control Type:	Actuated-Coordinated

Queues

5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	196	624	93	180	639	108	809	108	216	990	129
v/c Ratio	0.72	0.72	0.20	0.67	0.75	0.41	0.64	0.18	0.63	0.69	0.19
Control Delay	35.6	35.7	4.8	29.7	33.4	19.3	21.4	5.8	23.2	27.1	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	35.7	4.8	29.7	33.4	19.3	21.4	5.8	23.2	27.1	6.8
Queue Length 50th (m)	23.8	55.0	0.0	22.3	39.3	5.0	33.7	0.0	19.5	79.9	2.3
Queue Length 95th (m)	#42.1	67.1	8.5	m#36.6	61.1	m21.3	58.3	m9.5	#46.4	112.0	14.7
Internal Link Dist (m)	244.6			193.7		166.5			209.4		
Turn Bay Length (m)	70.0		50.0	32.0		72.0		50.0	163.0		50.0
Base Capacity (vph)	272	1110	553	270	1083	261	1262	606	343	1436	663
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.56	0.17	0.67	0.59	0.41	0.64	0.18	0.63	0.69	0.19
Intersection Summary											
#	95th percentile volume exceeds capacity, queue may be longer.										
	Queue shown is maximum after two cycles.										
m	Volume for 95th percentile queue is metered by upstream signal.										

HCM Signalized Intersection Capacity Analysis

5: Gordon Street & Clair Road West/Clair Road East

12-13-2023

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←
Traffic Volume (vph)	190	605	90	175	485	135	105	785	105	210	960
Future Volume (vph)	190	605	90	175	485	135	105	785	105	210	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.5	3.5	3.3	3.5	3.3	3.5	3.5	3.3	3.5	3.5
Total Lost time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Frbp. ped/bikes	1.00	1.00	0.96	1.00	0.99	1.00	1.00	0.97	1.00	0.97	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.97	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1741	3570	1539	1708	3392	1645	3570	1517	1726	3570	1488
Flt Permitted	0.23	1.00	1.00	0.24	1.00	0.18	1.00	1.00	0.20	1.00	1.00
Satd. Flow (perm)	418	3570	1539	437	3392	305	3570	1517	356	3570	1488
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	186	624	93	180	500	139	108	809	108	216	990
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	196	624	23	180	608	0	108	809	38	216	990
Conf. Peds. (#/hr)	36	26	26	36	21	36	21	19	19	19	21
Conf. Bikes (#/hr)											3
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%	6%	0%	2%	1%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6
Permitted Phases	8	8	8	4	4	2	2	2	2	6	6
Actuated Green, G (s)	30.1	22.0	22.0	29.9	21.9	38.2	31.7	31.7	45.0	35.5	35.5
Effective Green, g (s)	30.1	22.0	22.0	29.9	21.9	38.2	31.7	31.7	45.0	35.5	35.5
Actuated g/C Ratio	0.33	0.24	0.24	0.33	0.24	0.42	0.35	0.35	0.50	0.39	0.39
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0	3.0	6.0	6.0	3.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	258	872	376	258	825	226	1257	534	334	1408	586
v/s Ratio Prot	c0.07	0.17		0.06	0.18		0.03	0.23		c0.07	c0.28
v/s Ratio Perm	0.19	0.17	0.01	0.17	0.17	0.17	0.17	0.03	0.25	0.04	0.11
v/c Ratio	0.76	0.72	0.06	0.70	0.74	0.48	0.64	0.07	0.65	0.70	0.11
Uniform Delay, d1	23.2	31.1	26.1	23.0	31.4	17.0	24.4	19.4	14.8	22.8	17.2
Progression Factor	1.00	1.00	1.00	0.97	0.97	1.29	0.76	1.13	1.00	1.00	1.00
Incremental Delay, d2	12.1	2.8	0.1	7.2	3.1	1.3	2.1	0.2	4.3	3.0	0.4
Delay (s)	35.3	34.0	26.1	29.6	33.5	23.2	20.7	22.1	19.0	25.8	17.6
Level of Service	D	C	C	C	C	C	C	C	C	B	C
Approach Delay (s)		33.4		32.6		21.1		23.9		23.9	
Approach LOS		C		C		C		C		C	
Intersection Summary											
HCM 2000 Control Delay	27.1 HCM 2000 Level of Service C										
HCM 2000 Volume to Capacity ratio	0.74										
Actuated Cycle Length (s)	90.0 Sum of lost time (s) 18.0										
Intersection Capacity Utilization	84.8% ICU Level of Service E										
Analysis Period (min)	15										
c Critical Lane Group											