

Network Planning

City of Guelph Transportation Master Plan
Background Paper Series



Guelph Transportation Master Plan

Moving Guelph Forward

Guelph is growing and how we move around our city is changing. As a result, we are exploring transportation options to make our city move better in every way. Through the Transportation Master Plan (TMP) update, we will review all of the ways we move: walking, cycling, riding transit, driving, trucking, and using trains. Our goal is to ensure that we offer diverse travel options, have appropriate transportation capacity, and maintain a high quality of life for both existing and future residents and workers.

The updated TMP will look at transportation planning in Guelph beyond 2031. The main objectives of this update are:

- To ensure that the new plan builds upon current policies, including the Official Plan and other master plans that have been approved since 2005;
- To recommend new policies and guidelines that reflect the vision for our community and balance mobility, environment, and efficiency, while prioritizing safety and access for all travellers; and
- To explore how new, evolving technologies and travel services will shape the future of transportation in Guelph.

This paper is part of a series of background papers intended to communicate information, key trends, and concepts. These will form the foundation of and set the strategic direction for our updated TMP. The papers are intended to support conversations in the community and within City Hall about how we plan for the future of mobility.

The series includes the following papers, which are all available at guelph.ca/tmp:

- **Transportation Technology and New Mobility Options**
- **The Changing Transportation System User**
- **Transportation and Building 21st Century Cities**
- **Road Safety**
- **Network Planning**
- **Transportation System Resilience**

Each of the background papers opens with an introductory primer on the topic before it examines key global trends, considers how these topics and trends are currently addressed in Guelph, and concludes with an analysis of the implications of that topic on planning Guelph's future transportation system.

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Network Planning: A Primer

The characteristics of a transportation network have significant influence on how people travel. As cars grew to dominate personal transportation over the last century, the network plans and street designs of cities that grew significantly during this time prioritized the efficient movement of cars above all other modes of travel. These decisions have left a lingering impact on the comfort and safety of other users who share the street with cars. They have also inadvertently discouraged travel by any mode other than cars.

But today, several emerging factors have led citizens and municipalities to rethink their approach to transportation network planning and to challenge the status quo.

These include:

- The growing awareness of the link between public health and use of active transportation;
- The movement towards more sustainable cities and the imperative to reduce greenhouse gas emissions; and
- The increasing demand for urban-centred living.

In response, a number of new approaches to transportation network planning have emerged. This paper discusses these approaches and the key trends for their implementation, with examples from across North America and around the world. It also outlines how Guelph is

already responding to these evolutions in thinking and concludes with general recommendations for how our updated TMP should consider network planning.

Complete Streets

Complete streets is a popular emerging philosophy that refers to the development of streets that are designed, planned, and maintained to have safe and comfortable facilities for travellers of all ages and abilities regardless of their chosen mode of transportation. The philosophy acknowledges that all travel modes are important but each mode is different from the other. This means that the infrastructure needed to facilitate comfortable, convenient, and safe movement for one mode is not the same as for another mode. Different modes of travel have different characteristics, vulnerabilities, and definitions of a

comfortable travel experience. Complete streets are important because creating streets that are comfortable and attractive for everyone - those who walk, cycle, take the bus, and drive - contributes to beautiful, vibrant, and functioning spaces within our neighbourhoods.

Complete streets contribute to efficiencies in moving a greater number of people rather than a greater number of cars. Encouraging more sustainable modes of travel, which take up considerably less space compared to cars, maximizes the carrying capacity of a street, as shown in **Figure 1**. Note that the number of cars in this illustration were calculated using an average vehicle occupancy rate of 1.51 people/vehicle. In practice, this average rate tends to be lower for car trips made in North America so the 33 cars in that space would probably accommodate less than 50 people.

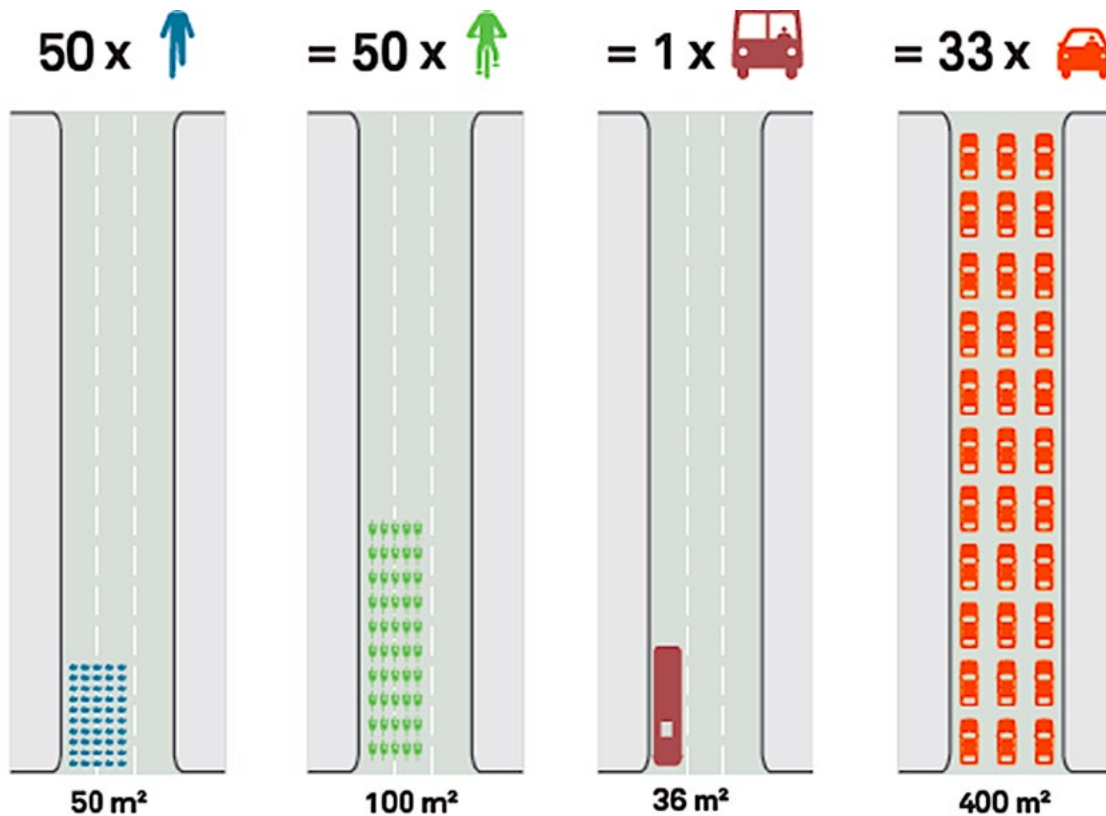


Figure 1: Space occupied by 50 people, using different modes¹

¹ Reprinted from [Global Street Design Guide](#), Global Designing Cities Initiative.



A complete streets approach advocates for all modes of travel to safely co-exist on a street. But implementation of this approach can be difficult to achieve. Streets have limited right-of-way (ROW) space and widths of infrastructure required for different modes (i.e. sidewalks and pedestrian realm space, cycling facilities, bus-only lanes, parking lanes, and driving lanes) can add up quickly. Without unlimited space to widen streets, trade-offs and prioritization become unavoidable aspects of street planning and design. This gives cities opportunities to make prioritization decisions that align with the community's transportation vision, values, goals, and objectives.

Complete street reconstruction projects can require costly design and construction efforts. However, this is not the case for all streets. Depending on the surrounding context, streets may not require new permanent infrastructure that separates users of each mode (e.g. physically separated cycle tracks, boulevard-style sidewalks on all streets, dedicated transit lanes along all routes, etc.). Streets may already be complete or could achieve a complete streets "makeover" simply with additional signage and/or paint markings. For example, local streets tend to have lower operating speeds and lower traffic

volumes, which makes it more comfortable for people cycling to be in the roadway. These streets are thus essentially complete if there is also a sidewalk present for those who are walking. However, dedicated facilities for active transportation, transit, and/or goods movement may become necessary to make streets with higher traffic speeds and volumes complete.

Complete Networks

Isolated segments of complete streets cannot function well alone. They need to be connected in a way that allows people to safely and conveniently travel to their desired destinations by any mode of their choice. A complete network maximizes the influence and impact of complete streets by ensuring that all streets and their interconnections are consistently designed and operated for all modes of travel.

To achieve complete networks, there needs to be continuous infrastructure for different modes within a transportation network. Since networks for vehicles are essentially complete by default (i.e. roads are always planned and designed to connect to each other), network completion focuses on active transportation. The choice to complete a trip by walking or cycling

becomes more attractive when individuals can feel confident that their dedicated space on the street will not disappear midway through their trip, forcing them to traverse unsafe paths or to detour using inconvenient routes.

A key part of the approach to complete networks is the integration of individual modal networks. Looking at all of the modal networks overlaid on top of each other creates opportunities to identify areas of overlap where certain modes may require additional infrastructure for a safer and more comfortable experience.

Network Design

The street patterns of cities can differ depending on their time of development. Ancient cities with long histories that predate the twentieth century have complex street networks that were not intentionally designed to serve motorized vehicles. In these cities, streets are often narrower and tend to have increased levels of connectivity to enable travel by active transportation.

On the other hand, many cities in North America experienced their most significant growth and development following the introduction of the car. As a result, North American cities tend to have street networks that were developed specifically to accommodate travel by car. In North American urban centres, street networks are often based on some sort of grid design. Since the urban centres are usually among the oldest areas of the city, these grid designs represent a more historic approach to network design. As North American cities grew in the post-World War II era, low-density suburban communities became popular places for people to live. Transportation networks in suburban areas of North American cities were usually designed using curvilinear networks (which have a clearly differentiated street

hierarchy with the intended roles of streets obvious from their design) and cul-de-sacs. These design decisions were made in an effort to reduce speeding, minimize traffic infiltration, and to evoke a quiet, rural setting.

Grid networks can better enable walkability, cycling, and more efficient transit service. However, a typical suburban curvilinear road network has a number of unintended negative consequences. This network design creates disproportionate inconvenience for active transportation users. The lack of direct routes and street connections adds unnecessary delay to walking and cycling trips. It also often forces those walking or cycling to travel via circuitous or redundant routes. As a result, active transportation is not usually attractive or convenient in such communities for non-recreational trips, leading to a very low active transportation mode share even for short trips. This type of network design has been shown to foster car-dependent communities and has been a factor in public health issues such as the rise of obesity.²

Curvilinear networks can also make it difficult for transit to efficiently serve suburban communities. The redundancy and winding nature of streets in curvilinear networks is an additional challenge in low-density neighbourhoods where potential riders are already spaced far away from each other. Transit planning in suburban neighbourhoods often involves making trade-offs between placing stops within a reasonable walking distance of households and creating routes that are not overly long or inefficient, which would deter potential transit riders.

Street Classification

Mobility is safest and most efficient when streets within the network operate as they were planned and intended to do. Different

² Mackenbach, J., et al, 2014. *Obesogenic environments: A systematic review of the association between the physical environment and adult weight status*, the SPOTLIGHT project. BMC public health. 14:233.



streets are intended to serve different functions. Therefore, streets are typically divided into different categories based on a standard road or street classification system - also referred to as a road hierarchy.

Road hierarchies group streets based on their function within the network as a function of their capacity to carry vehicles. The classification system assists municipalities in determining what speed to set, infrastructure to build, operational procedure to implement, and maintenance schedule to develop for each street.

A traditional road hierarchy consists of the following street types, listed by their vehicle capacity from most to least:

- Expressways/Freeways/Highways
- Major Arterials
- Minor Arterials
- Collectors
- Local Roads

Each street typically branches into multiple streets with the subsequent classification on the hierarchy. For instance, a single Arterial connects to multiple Collectors and a single Collector connects to multiple Local roads.

The traditional road classification system is based primarily on the calculated vehicle capacity of each street. However, it does not take into account the neighbourhood context – the fact that streets are influenced by the characters of the areas they run through.

When relying on a traditional road hierarchy alone, an arterial road could be built the same in all parts of a city, regardless of the adjacent land use context. For example, that could mean that the cross-section of an arterial road in a low-density residential area or industrial zone would look exactly the same as an arterial running through the downtown core of a city. To address this, road hierarchies can be updated to integrate surrounding land use context.

Placemaking

Placemaking is the concept of using urban design to create vibrant public spaces that promote public health and well-being by strengthening the connection between people and places. With respect to transportation, placemaking focuses on developing streets that will become *places* people want to visit rather than mere linkages or corridors between destinations. The concept of *streets as places* seeks to utilize a city's largest public assets to create opportunities where people can spend time to sit and relax, to socialize, to eat, or to participate in an activity. Vibrant streets use elements like streetscaping, street furniture, and urban design to attract more people, especially those who walk and cycle.

Streets that feel less dominated by cars tend to function better as places. **Figure 2** shows a summary of Donald Appleyard's research about the relationship between vehicular traffic and the connection people felt to their street. Appleyard studied three comparable residential streets in San Francisco, California, that differed by the daily number of vehicles that travelled on them: Heavy Street saw approximately 16,000 vehicles per day, Medium Street saw 8,000, and Light Street saw 2,000. As shown in the figure, his research found that less vehicular traffic volume was related to more social interactions, gatherings, and friendships between neighbours.

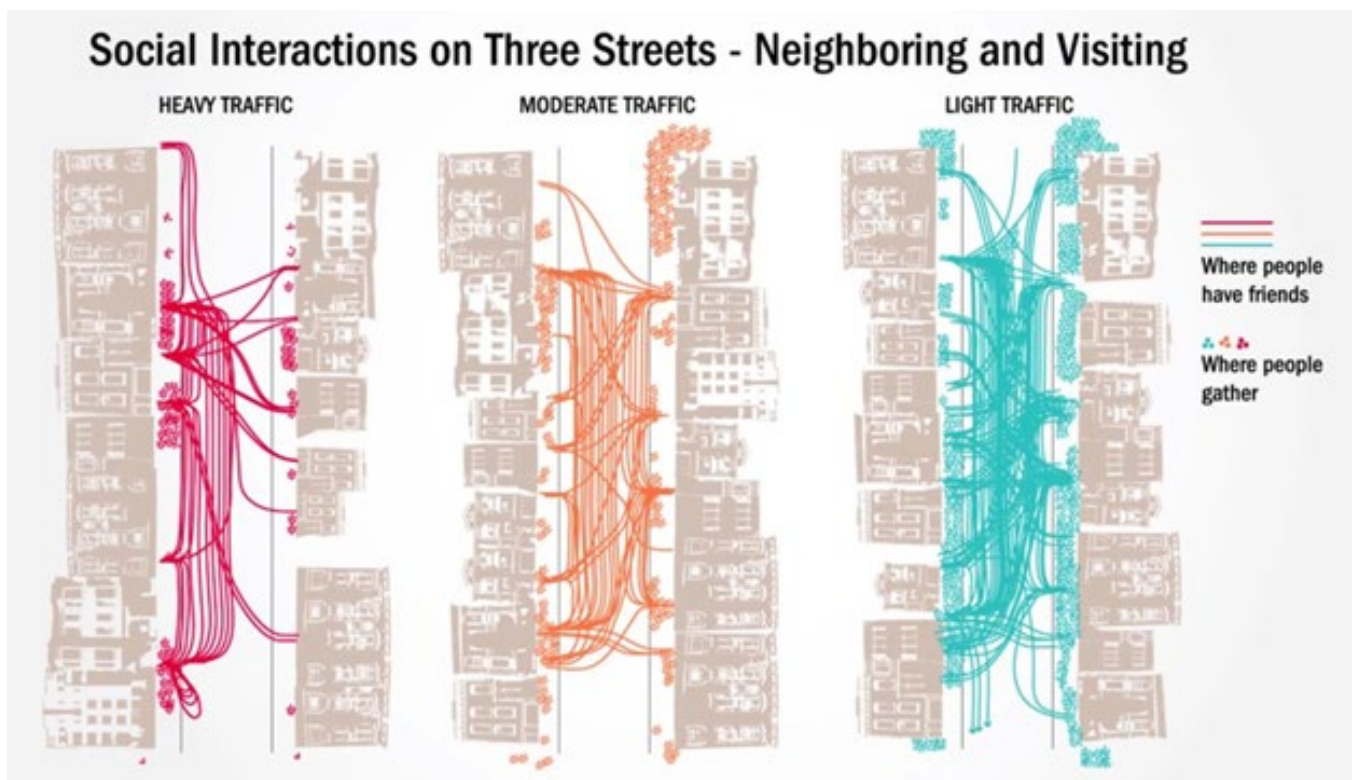


Figure 2: Social Interactions on Streets as a Function of Vehicular Traffic³

³ Reprinted from *Livable Streets*, Appleyard D. et al., 1982. Berkeley, CA: University of California Press.



Equity in Design

Equity in network planning refers to developing transportation networks that enable each traveller to have a safe and dignified trip, regardless of their mode of choice or of factors like ability, age, race, gender, or income. Striving for equitable networks challenges transportation professionals to consider factors such as:

- How different life experiences can change an individual's access to and/or experience travelling within a transportation network;
- How transportation infrastructure benefits and costs have historically been distributed across different communities within a city; and
- How certain network decisions can improve mobility for certain populations while providing no benefit (or even worsening the experience) for others.

Equity should be applied as a lens during the planning, design, evaluation, and prioritization of projects. Equity should also be included when considering participation of diverse stakeholders and community members in the decision-making process.

Achieving equity in transportation is challenging. It requires a focus on the diversity of users, careful balancing of different needs, and trade-offs based on a community's vision and values. Consider that while a complete street project can improve the comfort of users of different modes, a street cross-section design with a raised cycle track could create dangerous conditions for people who are visually impaired at locations where the cycle track intersects with a bus stop. Parking fees can be implemented to try to discourage people from driving to a certain destination in order to reduce traffic but they can also end up having disproportionate impacts on people who rely on their car to access economic opportunities because their home lacks good transit connections. On-demand transportation services can help connect communities on the fringes of city limits to the larger transportation network but reliance on these services can also inadvertently exclude those who do not own a data-enabled smartphone. Intentional and broad-based public engagement to better understand the needs and perspectives of the community is critical to making more equitable transportation network decisions.

Network Planning Trends

To improve mobility for their citizens, city-building professionals are constantly implementing new and emerging approaches to transportation network planning. This section outlines a number of the latest network planning trends from across Canada and around the world within the six previously introduced categories.

Complete Streets

Over the last decade, many local governments have started to include complete street policies and/or references to complete streets into their overarching planning documents such as Official Plans (OPs) or Transportation Master Plans (TMPs). In Canada, [Complete Streets for Canada](#) tracks municipalities and regions with complete streets policies. In the United States (US), the [National Complete Streets Coalition](#) does the same. While incorporation of complete street policies represents a commitment to complete streets, the policies vary in their effectiveness, enforcement, and level of integration into city planning processes.

Several municipalities have also developed guidelines and standards for constructing complete streets. In Canada, these include London, Edmonton, Calgary, Toronto, and Saskatoon. The National Association of City Transportation Officials (NACTO), an association of major North American cities and transit agencies, also provides guidance on complete street design using case studies and best practices from around the world.

Today, complete streets have been constructed and implemented across Canada and in numerous other countries. In Ontario, notable examples of complete streets include:

- Highway 7 in Vaughan;
- Dunlop Street East in Barrie;
- Dundas Street in the London; and
- King Street, Bloor Street, and Roncesvalles Avenue in Toronto.

Complete Networks

Along with references to complete streets, policymakers and city-builders are also making commitments to *complete networks* in transportation policies. For instance, the City of Vancouver acknowledged the importance of network considerations when designing complete streets in its *Complete Streets Policy Framework* report. The report stated that street design should recognize that transportation functions “within a broader system,” and that there is a “need to maintain coherent networks with sufficient capacity for transit and goods movement, as well as for people, walking, cycling, and driving.”

In 2019, the City of Ottawa completed a *Network Principles Study*, which provides guidance on best practices for network planning. The study report identified the following principles for network planning for different modes, in alignment with a complete networks philosophy:

- All modes should be provided the ability to navigate the city safely in a connected manner
 - All properties should be safely accessible by pedestrians before other modes.
 - Access for larger modes can be granted so long as safety for more vulnerable users is maintained



- Traffic flow and access are competing interests that are largely incompatible.
 - Optimal network design seeks to prioritize one or the other based on the environment
- The 'most appropriate' mode choice(s) for trip types (e.g. distances) should be identified and prioritized through network design.
 - Modes to be encouraged should be provided a more direct network (through time and/or distance) than competing modes.
- Network density and connectivity should be tied to a mode's sensitivity to distance.
 - While motor traffic can cope with increased distances with limited to no imposition on the user, increased distances in a cycle or pedestrian network have physical implications for the users
 - Increases in network density are positively correlated with an increase in accessibility.

- Transportation networks and infrastructure should seek to minimize negative externalities on their communities.

Network Design

More cities are recognizing how the nature of their street networks is encouraging car-dependence, even for short trips. This has led to a growing emphasis on improving network designs to support sustainable modes. For active transportation, this means constructing more trails, cut-throughs, and pedestrian- and cyclist-only connections to improve network porosity and connectivity between adjacent streets. For transit, this means designing networks in new communities that enable efficient movement of transit vehicles. Often, the utilization of some form of a grid pattern can help achieve networks that are supportive of sustainable modes.

Some cities are also formalizing their practices for modern network design through guidelines. In 2009, the City of Calgary developed a [Connectivity Handbook](#). The handbook provides guidance on network design that facilitates area connectivity for active transportation users, minimizes the need for mid-block

crossings, and improves safety. It also sets out a methodology for measuring connectivity in development areas and identifies context-sensitive connectivity targets for different areas of the city.

Street Classification

Cities are recognizing the limitations of a traditional road hierarchy. In response, many are creating new hierarchies to ensure that street classifications more accurately reflect each street's function, character, and surrounding land use. For instance, through its updated [Road Classification](#), the City of Calgary expanded its list of classifications to ensure that "roads are grouped according to the type of service they provide." The City's expanded road classification "assists in establishing road design features, land use planning policy, traffic density, mobility, safety and access requirements." Calgary's road classes include:

- Skeletal Roads
- Arterial Streets
- Industrial Arterials
- Urban Boulevards
- Parkways
- Neighbourhood Boulevard
- Primary Collector
- Activity Centre Street
- Collector
- Industrial Collector
- Residential

In a manner similar to Calgary, London, Ontario, also updated its street classification to include more classes. London's new street hierarchy appears in its 2016 OP ([The London Plan](#)) and includes:

- Provincial Highway
- Expressway

- Urban Thoroughfare
- Rapid Transit Boulevard
- Civic Boulevard
- Main Street
- Neighbourhood Connector
- Rural Thoroughfare



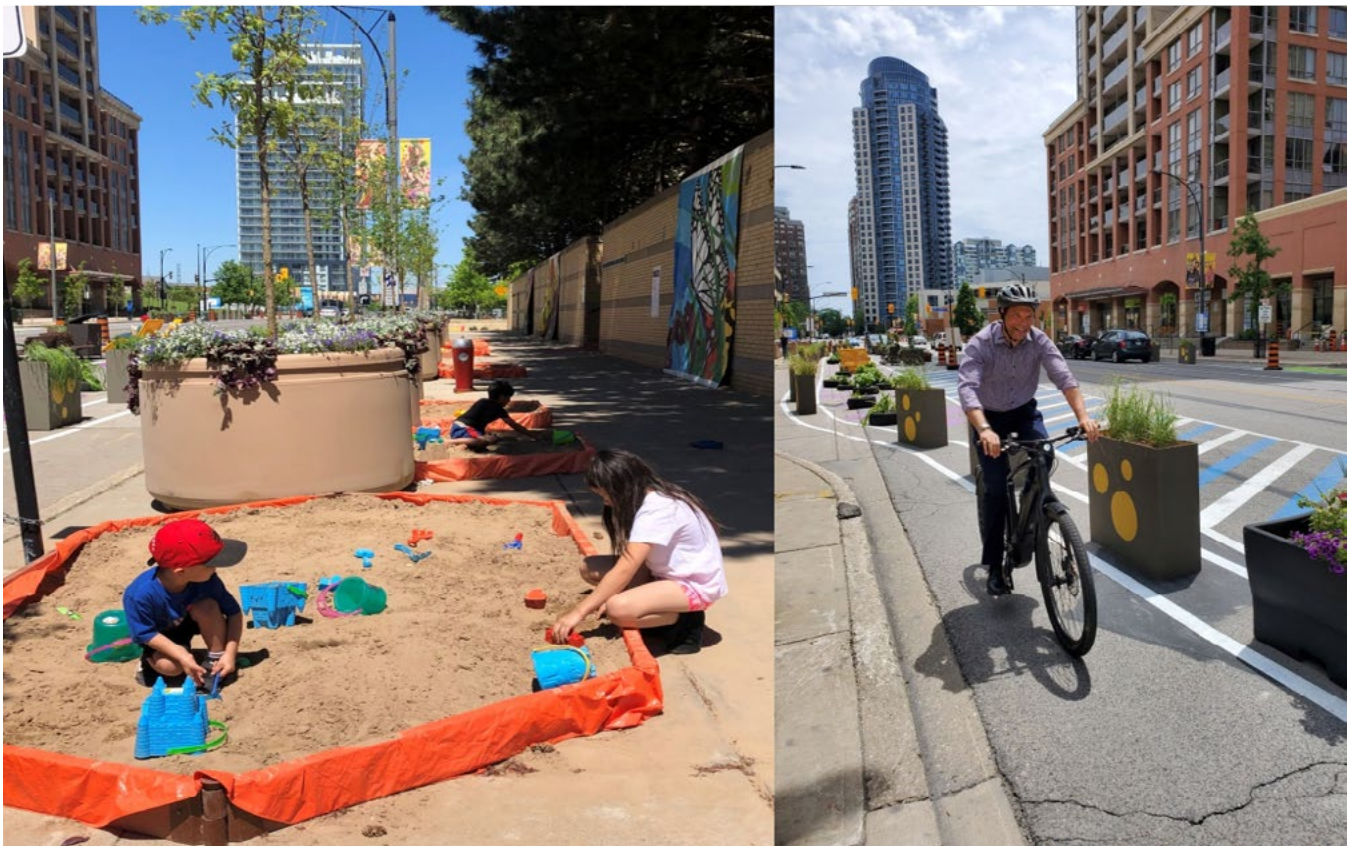
Placemaking

There are multiple examples of placemaking as it relates to streets from around the world, including many in Canada. Some examples stem from permanent street transformation projects while others are more short-term, such as temporary closures of streets to cars and pop-up interventions (often referred to as “tactical urbanism”) to demonstrate the potential of street transformation.

In Toronto, the addition of seating, public art, and music along the King Street corridor has helped enhance neighbourhood character and broadened the function of the street. In Mississauga, the tactical

urbanism pilot project on Living Arts Drive used simple, low-cost enhancements to try and improve safety and the enjoyment of public space. Many cities in Canada (including Toronto, Calgary, Regina, Montreal, and Vancouver) also participate in *PARK(ing) Day*, an annual international event that allows citizens, artists and designers to transform public parking stalls into temporary public spaces.

There are also efforts to ensure that placemaking is a key consideration in all street designs. Municipalities including Ottawa, Vaughan, and Toronto have all developed a set of urban design guidelines to support placemaking in their street networks.



Living Arts Drive tactical urbanism pilot project in Mississauga. Image credit: City of Mississauga.



Park(ing)Day 2016, Arlington County, VA. Image credit: <https://www.flickr.com/photos/arlingtondes>

Equity in Design

More cities across North America are starting to include equity as a core pillar of their transportation networks and strategies. In Berkeley, California, the ongoing update of the [Berkeley Pedestrian Master Plan](#) seeks to ensure that walking is safe, comfortable, and enjoyable for everyone by developing a public engagement program and targeted outreach campaign to hear from a variety of diverse perspectives from the community. The engagement for this plan uses translation and interpretation tools to make the project more accessible to Berkeley's diverse residents.

In Oakland, California, the 2019 [Let's Bike Oakland](#) cycling master plan proposed a number of measures to strive for cycling equity. The plan sought to undo historic and ongoing injustice and inequities related to cycling. Among its many actions and recommendations, Let's Bike Oakland recommends:

- Funding bicycle programs to educate, encourage, and create a safe biking environment for people of colour, who are largely unrepresented as cyclists;
- Prioritizing investments in historically underserved communities with large marginalized populations; and

- Collaborating with local neighborhoods and community leaders to plan, design, and implement community-driven ideas to build up a cycling culture, led by people of colour and youth.

In addition, many cities are developing and using an equity lens to evaluate transportation projects. The application of an equity lens helps measure the potential impact of projects on different communities and assess their potential to reach transportation equity goals. The City of Ottawa's [Equity and Inclusion Lens Handbook](#) provides guidance on how to better incorporate equity into planning projects. And in September 2019, the City of Toronto committed to developing a gender equity lens for city planning.



Network Planning in Guelph Today

Guelph has already been implementing and incorporating many of the practices from the previous sections into planning our city's transportation network. This section summarizes existing initiatives as they relate to the six factors of network planning discussed in this paper.

Complete Streets

In Ontario, the provincial *Growth Plan for the Greater Golden Horseshoe* directs municipalities in the Golden Horseshoe (which includes Guelph), to support future growth with a network of complete streets that enable travel by transit, cycling, and walking. As a strategic document, the Growth Plan does not provide specific design guidance.

The concept of complete streets is also a key philosophy of the *2014 Guelph Downtown Streetscape Manual and Built Form Standards*. This document adopts the approach of giving all modes of travel equal priority and provides guidelines for street

design in downtown based on complete streets principles.

Complete Networks

Guelph's pedestrian network is established through policies in the *Guelph Official Plan* (OP) and supporting strategic documents including the *2005 Guelph-Wellington Transportation Study*, the *2005 Guelph Trails Master Plan*, and the *2017 Guelph Active Transportation Network Study*. Gaps in the sidewalk network were identified in the *2016 Guelph Sidewalk Needs Assessment Study* report, which prioritized the gaps based on:

- Street classification;
- Proximity to schools;
- Existence of sidewalks on one side of the road;
- Location on a transit route;
- Adjacent land use;

- Existence of desire lines;
- Proximity to the active transportation network; and
- Proximity to pedestrian generators (i.e. Hospital, Library, Community Centre, Park, Sports Facility, Shopping Centre, Seniors Centre/Residence, and Grocery Store).

Guelph's cycling network is established through policies in the OP, the *2005 Guelph-Wellington Transportation Study*, the *2005 Guelph Trails Master Plan*, the *2012 Cycling Master Plan*, and the *2017 Guelph Active Transportation Network Study*. Gaps in the cycling network were identified in the *2012 Cycling Master Plan*, where they were prioritized based on:

- Existing connectivity to the larger network;
- Recommended facility type; and
- Engineering method.

Progress on filling these sidewalk and cycling facility gaps is reported regularly through the *Progress Report on Guelph's Cycling and Walking Programs*, with the most recent update in August 2019.

There are no physical gaps within the vehicular network. However, some communities are missing Arterial or Collector streets that would be expected with a traditional road hierarchy.

Network Design

The network pattern in Guelph's downtown is shaped by the alignment of the Speed River, the location of Gordon Street, and the intention of its original designer, John Galt. Guelph was originally intended to resemble a European city centre, complete with squares, broad main streets, and narrow side streets. This resulted in the variety of block sizes and shapes which are still in place in downtown today. The street plan was laid out to be a combination of

radial streets branching from downtown and a form of a grid pattern.

Just beyond downtown, the next neighbourhoods to be built were planned on grid road patterns, with small blocks and uniformity of road design. But as the city expanded outward and the prevalence of the car grew, development patterns and road networks in Guelph began to show the classic North American progression to a curvilinear street network.

More recently, neighbourhood design has returned to emphasizing a traditional grid-pattern, with small blocks and a greater level of service for active modes.

Road Classification

The primary existing street classification system in place in Guelph is traditional. It includes:

- Expressway
- Arterial
- Collector
- Local

Downtown Guelph has a unique hierarchy, as established through its *Secondary Plan* and *Downtown Guelph Streetscape Manual and Built Form Standards*. The street types in Guelph's downtown are customized to the type of mobility and the desired character of the downtown. They include:

- Primary Street (Arterial)
- Downtown Main Street (Flexible Street)
- Secondary Street
- Local Street

Guelph's OP also permits the designation of Main Streets in areas outside of downtown with existing or planned high density, including Intensification Corridors and Community Mixed-use Nodes. Main Streets are intended to provide a safe, functional, and attractive pedestrian,

cycling, and transit-oriented environment that is balanced with an acceptable level of motor vehicular traffic. The adjacent land use context of such streets must reflect their planned function as focal points for shopping, offices, and community interaction. With Main Streets, the City may accept a less than optimal level of service for vehicular traffic if that is necessary to enable a more pedestrian, cycling and transit-oriented environment. Main Streets permit on-street parking, where appropriate, and require a strong pedestrian realm in accordance with the City's urban design policies.

Placemaking

Guelph is committed to creating vibrant streets in key locations that are places in their own right, in addition to their roles as transportation corridors. Guelph's urban design vision for transportation corridors is presented in a number of guiding documents that build on each other:

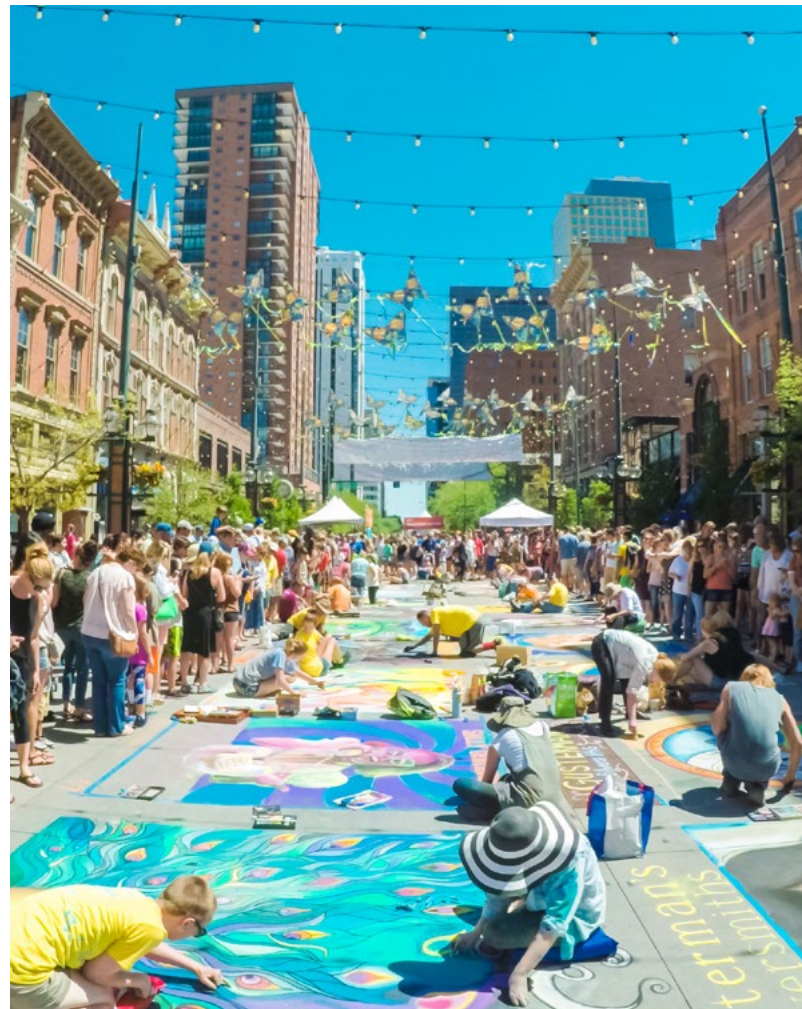
- *2014 Downtown Guelph Streetscape Manual, Built Form Standards and St. George's Square Concept*
- *2017 Urban Design Manual*
- *2016 Community Nodes Design Concept Plans*
- *2018 Gordon Street Intensification Corridor Concept Plan*

Placemaking in particular is a strategic direction in the *2017 Urban Design Manual*. Placemaking is also an objective of Guelph's OP. Tactical urbanism is also a tool for placemaking specified in the *Urban Design Manual* and the use of tactical urbanism is an action for priority in the *City's Downtown Implementation Strategy*.

Equity in Design

Inclusiveness is identified as one of the seven community values of the *2018 Guelph Community Plan*. The Plan affirms that everyone belongs in Guelph and that differences in the community are celebrated. The Plan also recognizes that decisions are strengthened when there is a diversity of voices and when different perspectives and experiences are considered.

Equity in design has not been explicitly formalized beyond these statements of support in strategic planning documents. Planning guidelines have not been updated to formally require the use of an equity lens. However, planning processes for a number of projects have included new engagement techniques to reach broader audiences.



Moving Guelph Forward: Network Planning

Decisions made at the network planning stage have long-lasting consequences on mobility in Guelph. The way networks were designed, the infrastructure that was prioritized, and the user experiences that were considered during the decision-making process all influenced how people make their daily trips today. As we come to better understand the long-term societal impacts of network planning decisions made decades ago, opportunities emerge to make more well-informed decisions that will support a transportation future that aligns with our community values.

Based on the trends, best practices, and existing conditions outlined in this paper, the following is a list of key takeaways about transportation network planning today:

- For the past several decades, the main goal of the network planning process was to move cars as efficiently as possible. This resulted in infrastructure deficiencies and gaps for all other modes of travel, which municipalities are working to fix today.
- Grid networks improve the experience of those walking and cycling and make transit more efficient. However, decades of designing curvilinear networks in low-density residential neighbourhoods have led to an overwhelming number of trips being made by car in these types of neighbourhoods, regardless of the trip length.
- The role of streets solely as corridors for movement is being re-examined. Some key streets are increasingly being

recognized as places for congregation and activity. The role of streets in supporting surrounding land use is also being acknowledged by some municipalities through an update of their road hierarchies.

- Today, the City is making choices that are based on modern best practices of network design. The City is also working on building a transportation network that supports all travellers, regardless of their mode of choice or socioeconomic status. This means emphasizing inclusivity as a core value for city-building and ensuring that the diversity of our residents' voices are being included in decision-making.

What do you think?

What do you think about network planning in Guelph? What should planners and policymakers do to plan for a transportation network that meets the needs of the future? How should we balance the transportation needs of the future with meeting our transportation needs today?

Let us know! Visit guelph.ca/tmp to learn more about the transportation topics and trends informing the development of our Transportation Master Plan and to find out how you can have your say on Moving Guelph Forward.

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