CHAPTER 4 PLANNING FOR TRAILS

4.1 Introduction

Planning is an ongoing task that is critical to the success of the trail system in Guelph. It begins long before design detailing and implementation. This chapter outlines important aspects of the trail planning process. Specifically, it provides details regarding:

- Principles that guide trail planning and route selection;

- The route selection process;

- Coordination and communication among city departments that influence the development of trail routes across Guelph;

- Coordination and communication with outside agencies and surrounding municipalities regarding trail planning and implementation;

- Strategies for planning for and creating trails in new development areas of the city;

- Strategies for creating and reorganizing trails in established neighbourhoods throughout the city; and

- Considerations for developing trails in open space and natural areas across the city such as wetlands, woodlots and natural area buffers.

4.2 Guiding Principles

Guiding principles help to define the character of the trail system. They are referred to when route options are being considered, when individual segments are being implemented and when changes to the system are being considered. Guiding Principles help to ensure a consistent approach to trails in Guelph. The following fourteen principles are suggested.

Trails Should Be…

Visible;

as an important component of the recreation and transportation systems throughout Guelph.

Accessible;

from all areas within the City and provide opportunities for different types of permitted uses and different levels of physical ability. Major access points (Staging Areas) will be provided throughout the system. Not all trails will be accessible to all users in all places.

Convenient;

therefore route density should respond to population density. From this it is expected that the density of routes in residential areas will be greater than in industrial areas.

Appealing;

to a variety of trail users, abilities and interests; therefore the network should consist of a variety of trail types and trail experiences. Routes should be organized in a hierarchical manner.

Connected;

to form an integrated network, linking existing and planned trails.

Expandable;

to allow for future opportunities within the City as well as provide links to surrounding municipalities, regional, provincial, and national trails. In areas of new development, planning for trails will be an integral part of the land use planning process.

Destination-oriented;

and provide access to major points of cultural interest, recreation and utilitarian destinations in the City.

Unimpeded;

and provide connectivity across major barriers (e.g. arterial roads, the Hanlon Expressway, rivers and railways).

Integrated;

and focus on off-road routes. On-road routes will provide links between off-road where other alternatives do not exist.

and be located so that they provide opportunities to develop links with other modes of travel (e.g. public transit).

and will be located on public lands, but may also include private lands where a mutually acceptable agreement can be reached.

Safe;

and be located and designed to provide a high degree of safety for users. Safety will not be compromised in the interest of minimizing cost. Current and widely accepted guidelines will be used as the basis for design.

Well-marked;

therefore signing should be developed as an integral part of the system. Signing elements should be designed to be easily recognizable, clear, concise, identifiable, distinctive and attractive.

Well-managed;

and will be implemented and maintained to acceptable standards. Facilities will be monitored in an appropriate manner. Initial capital costs will not be considered in isolation of long-term maintenance costs.

Affordable;

therefore, without compromising safety, cost-effective design solutions will be sought. Cost-sharing and partnership opportunities will be explored.

Supported;

therefore the City and other agencies should encourage the use of trails. This may involve:

- Developing and implementing promotional programs (by the City or in partnership with various agencies);
- Developing and implementing educational programs regarding trail use and etiquette;

- Developing and implementing interpretive programs describing the City's heritage, cultural, tourist and natural resources.

4.3 Route Selection

Prior to recommending a trail route network for Guelph, candidate routes identified by the Study Team, the Steering Committee, City Staff and the public were evaluated. Routes were evaluated according to the following steps:

1. *Determine candidate routes.* This included existing and planned routes, as well as other route opportunities that were identified.

2. *Travel potential routes (field check).* This included all existing off and on-road routes, potential connections on lands that are currently in public ownership. In the case of desired connections on lands that are currently privately owned, the importance of the connection was evaluated using Step 3.

3. *Assess potential route.* By using the evaluation factors identified in the **Table 2**, each route was evaluated.

4. *Accept or reject each potential route* based on Steps 2 and 3.

5. *Determine an appropriate trail type* for each accepted route, based on the results of Steps 1 through 3.

Factor	Evaluation Criteria
Social Benefits and Impacts	1. Does the route provide vital connections between existing off-road trails?
	2. Does the route provide vital connections to or between planned trails that have already been adopted?
	3. Does the route form a logical part of a citywide network?
	4. Does the route create a connection (current existing or potential future) with surrounding municipalities, provincial or national trails?
	5. Does the route provide potential connections to other modes of transportation such as public transit?
	6. Is there another route in nearby that performs the same function (i.e. are routes duplicated)?
	7. Does the route provide access to major recreational and utilitarian destinations?
	8. Does the route provide a critical connection across major barriers? Is there another suitable alternative crossing nearby?
	9. Where routes cross major barriers, can this be accomplished in a safe manner?
	10. Where routes are located within a road right of way (off-road route or on-road route) is there potential for significant turning movement conflicts?
	11. Does the location of the route result in the potential for increased user conflicts?
	12. Does the routing provide opportunities for a variety of levels of abilities and skill?
	13. Does the location of the route have negative impacts on existing, transitional or future adjacent land uses that cannot be mitigated or effectively managed?
	14. Does the route provide quality opportunities to educate users about the natural, cultural and visual attributes of Guelph?
	15. Does the route promote opportunities for local residents to explore their own neighbourhood or the entire City by a mode of transportation other than their personal automobile?
Economic Benefits and Impacts	1. Is the initial construction cost reasonable or cost prohibitive due to the location or technical requirements of the construction?
	2. Are the ongoing maintenance costs reasonable or prohibitive due to the location or initial design?
	3. Can the construction be included as part of other construction initiatives, thereby resulting in some economy of scale?
	4. Does the route provide partnership opportunities at the planning and design, construction or maintenance part of the lifecycle?
	5. Does the route have the potential to attract visitors to the city, or to keep them here longer?
	6. Does the routing have the potential to attract new development (residential and commercial/industrial)?
Environmental Benefits and Impacts	1. Does the route have negative impacts on terrestrial or aquatic communities that cannot be mitigated or effectively managed?
	2. Does the trail route provide opportunities to improve or enhance terrestrial or aquatic communities that might not otherwise be possible or as effective if trails were not to be included?
	3. Does the route provide opportunities for residents to explore their neighbourhood or the entire city by a mode other than personal automobile?

Table 2: Route Evaluation Criteria: These criteria are to be referred to when developing master plan routes in new development areas and when alternative routes are being considered.

4.4 Trail Development Strategies

4.4.1 Interdepartmental Communication

People and leadership are the keys to setting the implementation of the GTMP into action. The formal relationships between individuals and organizations and the operational practices are important in determining whether an initiative will be successful and proceed. Maximizing participation and removing obstacles to the flow of information between participants are two of the main objectives in managing the implementation. Along with Parks Planning, other departments and divisions such as Planning and Building Services, and Environment and Transportation, play a significant role in the development of the trail network in Guelph.

Key representatives of each of these groups (and other groups that may be identified) should develop a formal and regular communication process related to trail implementation. With representation on a Trail Implementation Team, each group can move forward knowing that balanced decisions are being made, that opportunities are not being missed, and that the best interests of the City's residents are being served. Some possible methods include:

- Regular (monthly/bimonthly) meetings among key staff;

- An internal email group for circulating information, review and discuss development and construction projects;

- Key representatives from each department/division serve as the conduit for information flow from within their department.   As part of this arrangement, a protocol could be developed so that any project identified within any City department that has the potential to affect trails in the city be brought to the attention of the Trail Implementation Team for review and comment before it proceeds;

- Employing a formal circulation process so that Parks Planning is circulated on all Environmental Assessment projects, Environmental Impact Statements and Environmental Implementation Reports.

As a starting point, it is recommended that key staff participate in a focus group session to define and develop a communication process that will be effective and efficient for those involved.

4.4.2 Trails and New Development

Like many other communities, the City of Guelph is growing rapidly. This growth includes both the development of new land areas around the periphery of the built-up area as well as the redevelopment of underutilized lands within existing urban areas. In both cases, the planning of the trail system is seen as a critical component of the land development process. Community trails are an integral part of the urban fabric and are a key component of a viable transportation system as well as a recreational asset. New developments must be planned for the efficient movement of people for utilitarian and recreation purposes. This includes not only roads and sidewalks, but also trails that must make connections among neighbourhood destinations and the city-wide trail network.

Developers are expected to work through an iterative process with City staff, beginning early in the planning stages to create a trail network within their development area that reflects the intent of the GTMP. Many of the developers that currently operate in and around Guelph already recognize the value of integrating trails into their projects, and have been working cooperatively with City staff. In fact, many of the newer trails in Guelph have been created through the land development process. Providing developers with information about the network, desired connections and design expectations will only serve to strengthen this relationship.

It is expected that proposals for new development areas (both greenfield and infill) will contain a network of on-road bikeways and off-road trails that reflect the density, variety, hierarchy and character that is consistent with the remainder of the city as indicated in the GTMP.

Specifically this implies the planning and development of:

- A predominantly off-road network of primary, secondary and tertiary trails that make appropriate connections to the existing or planned system of trails surrounding the development area;

- An on-road network of bicycle lanes and routes that make critical links where off-road links cannot be achieved;

- A network of off and on-road routes that provide connections to important destinations within and adjacent to the development area;

- A network of off and on-road routes that overcome significant physical barriers within, and/or abutting the development area;

- A trail network that is both sensitive to, and takes advantage of inherent qualities of the natural and cultural landscape features within the development area. This is intended to achieve a balance between providing access to and protecting sensitive natural areas and cultural features. A careful examination of a variety of factors including topography and drainage, slopes, soil conditions, plant and animal communities, microclimate and human comfort, historic/cultural resources, public education opportunities, significant views and vistas should be part of the decision making process to integrate trails in development areas.

Ideally in new development areas, trails should be constructed prior to or concurrently with the construction of other infrastructure and homes. Several new development areas in the city are following this model, which serves to eliminate some of the problems that may surface at a later date.

Where trail construction will not take place at the same time as infrastructure and/or home construction, there is often conflict as residents claim that they were not aware of plans for trail construction even if this intention has been clearly indicated in municipal planning documents. Developers should be encouraged to be very proactive about notifying prospective buyers where trails are to be located at the time they are selling lots. Providing information at sales offices, including information in sales packages and erecting signs in locations where trails are to be constructed may help to alleviate difficulties at a later date.

4.4.3 New Trails in Established Neighbourhoods

There is no question that it can be challenging to implement trails in established neighbourhoods, even if the intent to do so has been clearly documented in strategic plans like the GTMP and secondary plans. It is often difficult to obtain meaningful public opinion at the strategic planning stage and it is not until a project reaches the implementation stage that residents who perceive themselves as being directly affected become more vocal. Real and perceived concerns over increased traffic/access to their rear yards, invasion of privacy, the increased potential for vandalism and theft are often cited as key concerns.

One aspect of a program to overcome this challenge is to engage residents in an open, iterative consultation process in the earliest possible stages of the project. In some cases, the most vocal opposition can become the greatest supporter if the process provides an avenue to address concerns. Some keys to success include:

- Understanding and responding to residents' concerns;

- Encouraging their input into the process (e.g. participation in a design charette to determine the trail layout);

- Emphasizing the benefits of trails for their neighbourhood and community, including themselves and their children; and

- Emphasizing successful examples and examples where similar problems were overcome.

4.4.4 Trails in Natural Areas

Trail users often seek natural areas such as woodlots and wetlands where they can find some relief from the urban environment. Natural areas provide opportunities to enjoy and interpret nature, and to pursue some trail activities that are not possible in more traditional parks. In many cases, trails are compatible with natural areas, in some cases they are not. Creating the balance between providing public access and the need to conserve and/or protect the resource itself can be a difficult goal, especially in situations where there is a large population of residents nearby or surrounding the feature. This often serves to increase the pressure on the very resource that users seek and enjoy (e.g. Hanlon Creek Conservation Area).

Where trails are to be located in natural areas it is important that they be sited and designed appropriately and that the area be monitored for the effects of inappropriate use and/or overuse. If trails are not carefully planned, designed, constructed and maintained in these areas, people will create their own trail routes sometimes in sensitive locations where it would be preferable not to have trails at all. Proper planning, design and construction of trails, coupled with public education can go a long way to achieving the balance between use and protection.

Change in natural systems is inevitable, especially where there are significant changes in the character of lands surrounding the natural area. Managing change is the key. Managing change involves deciding what an acceptable limit of change should be, and having a plan in place should the change exceed the acceptable limit. Large tracts of natural lands such as the Hanlon Creek Conservation Area had trails laid out and maintained by interest groups with small memberships prior to the large population influx in the Southcreek and Clairfields developments. Using background ecological data such as the Ecological Land Classification (ELC) system, a natural area can be divided into different zones based on sensitivity to disturbance. Using sensitivity mapping, decisions can be made regarding trail closures, rerouting, design strategies as well as a definition of indicators of disturbance over and above an acceptable threshold. Critical wildlife habitat may also be used in delineating management zones. Consultation with the Grand River Conservation Authority and the local branch of the Ministry of Natural Resources is recommended for issues regarding vegetation communities and critical wildlife habitat.

In some cases trails (and people) should not be in natural areas. Vegetation communities that are highly sensitive to disturbance and narrow, constrained wildlife corridors are two examples where trails may not be appropriate. In these cases, it is advisable to provide alternative trail routes and information (e.g. signing, public information campaigns etc.,) explaining the management decision to exclude trails from the area.

4.4.5 Trails and Environmental Buffers

Buffers are intended to act as a transition between one land use and another. The environmental buffer, is the transition between a natural area such as a woodlot or wetland and adjacent urban development where environmental impacts created can be mitigated. In most cases, buffers are in public ownership.

Trails may or may not be appropriate in environmental buffers. The decision whether or not to permit trails to be located within buffer areas should be made on the basis of a number of criteria. These include but are not limited to:

- Buffer width. Where buffers are narrow (i.e. less than 10m) the placement of a secondary trail may impair the function of the buffer. A typical minimum buffer width that can support a trail is 6m provided that other characteristics of the buffer are conducive to trail use. Consideration should be given to a lower order (tertiary) trail or to locating the trail outside the buffer where widths are narrower. Alternatively, a nearby parallel route for the trail should be sought.

- Buffer characteristics. Buffers vary in character. In some cases it may be very difficult or physically impossible to construct a trail without significant alteration to the character of the buffer (e.g. significant grading required on a sloping buffer). Where there are large or significant trees

within or near the edge of the natural feature, an assessment of the potential impacts of the trail should be included.

- Natural area characteristics. The characteristics (and sensitivity) of the natural area that the buffer is intended to protect will vary. Where communities immediately adjacent to the buffer are highly sensitive to disturbance an alternative route for the trail should be considered.

- Mitigation within the buffer. Determine if the effect(s) of the trail can be mitigated within the buffer, with the result being no loss of function of the buffer (e.g. additional plantings within the buffer).

- Privacy of lots. Private land owners often do not want to have a trail in the buffer immediately adjacent to their rear property line. Where buffers are abutting private residential lots and they must be narrow, consideration should be given to alternative routes.

Currently, there is significant debate over the issue of how trails should be considered with respect to parkland dedication in new developments. The debate often arises when developers are asked to provide trails through stormwater management areas and/or in association with buffers. Municipalities recognize the value of trails as an important component of their recreation system, but often hesitate to consider them as part of the 5% parkland dedication required by the Planning Act. Many municipalities do not consider lands that are used for stormwater management and or drainage purposes as being eligible for parkland dedications. However, some municipalities will offer some consideration for trails towards parkland dedication where the trail forms a critical link in the larger area trail network. In some instances, where trails in buffers are being discussed, the right-of-way for the trail is taken beyond the buffer and consideration for parkland dedication is being granted on the basis of the additional corridor width taken over and above the buffer.

The City of Guelph should review current practices regarding the placement of trails in buffer zones and the relationship between parkland dedication and trails. Based on the review, appropriate policies and incentives should be developed and/or updated.

4.4.6 Trails and Living Fences

The Living Fence is intended to delineate property limits between private residential, commercial or industrial property and public open space. Living Fences consist of dense plantings of native trees and shrubs and replace more traditional chain link and/or wood fences. In situations where Living Fences have trails nearby, there have been complaints by landowners of trail users short-cutting trail routes and trespassing on private properties. This is most often the case with corner lots and public walkways connecting streets.

In cases where there may be a temptation for trail users to shortcut, alternative methods of property demarcation should be explored. In these situations, fencing and plantings will offer more privacy and security and reduce or eliminate the temptation to trespass.

Where trails are located beside living fences they should be placed at an adequate distance from the living fence to allow for the natural growth of the plants in such a way that they do not encroach on the trail.

4.4.7 Working with Other Groups and Agencies

Over the past year and a half, there has been significant interest and action toward developing regional trail links among major population centres in the Guelph and Waterloo Region. The Trail Links working group includes representatives from area municipalities, cycling and trail clubs, and agencies such as the Grand River Conservation Authority, and the Wellington Dufferin Health Unit. The group meets regularly to share information regarding trail initiatives within their municipality, developing strategies and action

plans to remove barriers and create trail connections between cities, implementing and managing trails. Regular communication among the members will help to ensure that significant opportunities are seized when they become available.

Two of the topics that the group is currently working on are; creating a trail connection between Guelph and Cambridge, and trail management in the rural areas. Typically, the smaller municipalities (Townships) do not have the resources to proactively manage trails once they are in place. In most cases trail management in the rural areas is turned over to local trail clubs run by volunteers. Options are currently being explored whereby larger area municipalities and agencies can contribute by providing assistance with trail management, promotion, maintenance and insurance.

City staff involved with the working group are developing communication plans to inform Council and bring representatives from area Councils together to discuss potential strategies and opportunities. City staff should continue to receive support for participating in this important initiative.

4.5 Trail Hierarchy

To accommodate the wide range of expectations of trail users throughout Guelph, a hierarchy of trails is envisioned as an organizational and philosophical framework for the proposed network.   The suggested hierarchy consists of three levels: a *primary* system, a *secondary* system, and *tertiary* routes. *Water routes* (for canoeists and kayakers) provide an additional dimension to the trail network. The intent of the hierarchy is to create a variety of trail types to serve the variety of users and levels of experience. It is important to note that the trail system is not intended to be "all things to all users in all locations", meaning that some trails may not be accessible to all user groups in some locations.

As noted in the objectives and guiding principles for the GTMP, the focus of the trail network is off-road, with on-road segments being used as connectors where necessary. In areas of the city where there is extensive linear public open space (e.g. along a significant portion of the Eramosa River), the development of continuous off–road multi-use trails to serve all users is possible, and in some cases can be achieved quite easily. However, in some areas of the city, especially the older neighbourhoods, other than road rights of way, public open space limited and not contiguous. In these areas it is difficult if not impossible to achieve an exclusively off-road multi-use trail network to serve all users. Therefore pedestrians and small-wheeled users are directed to use sidewalks, and cyclists are expected to use roads, as they are prohibited from using sidewalks. In appropriate locations it may be possible to create off-road multi-use trails within boulevards (refer to section 5.2) or short sections of sidewalk signed as "shared use".

Schedule 9C of the Official Plan illustrates an approved network of on-road bike lanes, bike routes and major off-road trail corridors. Schedule 9C was carefully considered during the development of the route network for the GTMP. It is important to note however, that the definition of "bike route" in the Official Plan is quite broad and refers to bicycle facilities on arterial, collector and local roads. The GTMP provides a more precise definition of "bike routes". Specifically, where bicycles are to use arterial and collector roads where traffic volume and speed are higher, the preferred facility types for bicycles include bike lanes and/or wide curb lanes. Where traffic volume and speed are lower, as is the case with most residential collector and local residential roads, the recommended facility type is the signed route. Refer to section 5.2.2 for a more detailed description of on-road facility types.

The following section provides a description of the off and on-road components of the trail hierarchy in the GTMP.

4.5.1 Primary

Definition:

The primary trails act as the "skeleton" of the network offering opportunities to move throughout the city along major corridors that provide the principle access links to/from major origins and destinations within Guelph and to communities outside of the city. The primary system consists of off-road trails and on-road bicycle lanes (where required links are needed). The primary system is designed to a high standard and would be expected to accommodate:

- Potential high volumes of use;

- Trail user traffic that tends to be destination oriented, either within the city or through connections to neighbouring municipalities;

- The widest range of user abilities;

- Important links to major community facilities (such as community centres, colleges and universities, major commercial nodes and important municipal government buildings);

- Special or unique high standard trail types.

Characteristics:

Off-road facilities

- Depending on volume and type of use; some sections may be maintained for year-round use;

- Will be designed to accommodate multiple uses such as cycling, walking, users with mobility-assisted devices, strollers, small wheeled uses such as skateboarding, in-line skating and scooters (where appropriate), cross country skiing (where possible and appropriate);

- Will prohibit motorized activity and equestrian activity;

- Will offer the highest density of trailside amenities including benches, signing, washrooms, and trail access nodes (staging areas);

- Design standard will vary depending on the location of the primary trail. Refer to the chart on Figure 5-1 for details.

- May include boulevard trails and shared use sidewalks in appropriate locations (refer to section 5.2).

On-road facilities

- Will consist primarily of delineated bike lanes, wide-shared lanes on arterial and collector roads (also referred to bike routes in the Official Plan), and paved shoulders (rural cross section);

- Where traffic volume and speed is low, signed routes are sufficient (refer to Chapter 5 for detailed descriptions of on-road route types);

- Will be maintained as part of road maintenance policies and practices.

Special facilities

- The primary system may also accommodate trails for special purposes. Examples may include in-line skating links and loops.

4.5.2 Secondary

Definition:

The secondary system constitutes a large portion of the network throughout Guelph area and provides neighbourhood links with the primary system, access to local points of interest and creates local neighbourhood or community recreational loop opportunities.

The secondary system will be designed to accommodate:

- Potentially high volumes of use;

- Trail traffic that tends to be more locally oriented; and

- Connecting routes for users wanting to access the primary system.

Characteristics:

Off-road facilities

- Will typically consist of a compacted granular surface;

- **May** include hard surfacing on slopes where erosion is a problem;

- **May** include hard surfacing where this is requested by local neigbourhoods, and the need is justified;

- Will be designed to accommodate multiple uses such as cycling, walking, and running;

- Other uses such as mobility-assisted devices/strollers, skateboarding, in-line skating and scooters will be accommodated where possible and appropriate;

- Will prohibit motorized and equestrian uses;

- Will offer a moderate density of trailside amenities including benches, signing, and trail access nodes (staging areas);

- Design standard will vary depending on the location of the secondary trail. Refer to the chart on Figure 5-1 for details.

- May include boulevard trails and shared use sidewalks in appropriate locations (refer to section 5.2).

On-road facilities

- May consist primarily of delineated bike lanes and wide-shared lanes where warranted by roadway characteristics;

- Will typically consist of signed routes on low volume, low speed streets (refer to Chapter 5 for detailed descriptions of on-road route types);

- Will be maintained as part of road maintenance policies and practices.

4.5.3 Tertiary and Special Use Trails

Definition:

The tertiary trail includes those routes in special locations or caters to specific uses that may be in part dictated by the characteristics of the location. They are directly connected to secondary and in some

cases primary routes. These routes may have a local neighbourhood focus, but more often are a destination for specific user groups.

The tertiary system consists only of off-road trails and will typically be designed to accommodate:

- Special (single or restricted) use;

- Moderate to lower volumes of use;

- Components of the tertiary system may not all be linked, potentially including "stand-alone" loops or solitary trail segments for specific purposes.

Off-road facilities

- Typically consists of a natural earth or woodchip surface to a variable standard of 0.75-1.5m (depends on type(s) of uses). Refer to the chart on Figure 5-1 for details;

- Hard surfacing with **appropriate** trail hardeners **only** where necessary;

- Trail obstructions such as deadfall trees and rocks will remain in place, and be removed **only** where deemed necessary;

- Will be designed to accommodate single or restricted uses such as walking and running only, or cycling only;

- Other uses such as mobility-assisted devices/strollers, skateboarding, in-line skating and scooters are typically restricted by the nature of trail alignment, width and surface type;

- Motorized and equestrian uses will be restricted;

- Typically will offer a low density of trailside amenities including benches, signing, and trail access nodes (staging areas). Site/route specific interpretive signing programs may be implemented where deemed appropriate;

- Typically uses "low-tech" design standards that are appropriate for the location and volume of use;

- Includes minor nodes at junction points that typically include bicycle parking, and information signage to inform users of permitted and restricted uses.

It is important to note that the tertiary trail is narrower than both the primary and secondary trails, in an effort to keep the facility in scale/context with the area through which it passes. This creates a challenge from a maintenance point of view as is it not possible to travel these routes with much of the equipment the Recreation and Parks Department currently uses for trail maintenance. Refer to section 6.4 for recommendations regarding maintenance of the GTMP trail network.

4.5.4 Water Routes

Definition:

The Speed and Eramosa Rivers are tributaries of the Grand River, which received Canadian Heritage River status in 1994. Many of the existing and proposed land based trail routes in Guelph follow the shorelines of the Speed and Eramosa. Canoe and kayak enthusiasts have expressed an interest in having water routes as a component of the trail network in Guelph. Water routes in the GTMP include reaches of the Speed and Eramosa Rivers that are considered to be both interesting and navigable by canoeists and kayakers with an average level of ability (low to moderate current and sufficient water depth during low water periods). Access to launch points will be provided in appropriate locations via direct connections to the primary and/or secondary trail system.

Facilities for Water Routes

- Water routes make use of the river in its natural state, therefore no changes would be required with the exception of removal of hazards that appear from time to time (e.g. deadfalls/"sweepers"). Removal of hazards will require the permission of the Grand River Conservation Authority. Permanent hazards such as dangerous currents, low clearance below bridges will be appropriately signed;

- Consideration should be given to removing non-functioning impediments in the river, and provision of portage routes for those impediments that are not removed (e.g. some weirs and dams);

- Launch nodes are located in existing city parks where parking is nearby and portage routes to the water's edge is short;

- Other amenities are typically limited to signing upstream and downstream of the launch points to direct users to the appropriate point;

- Permitted uses include canoes, kayaks and paddleboats. Motorized watercraft are not permitted.

4.6 The Trail Route Network

4.6.1. Description of the Trail Network

The trail network concept is illustrated on Maps 4 through 6. Map 4 illustrates the terrestrial component of the network (off and on-road) and Map 5 depicts water routes. Map 6 provides a breakdown of on and off-road segments in the terrestrial network. The following sections describe the details depicted on each of the relevant maps.

Map 4 Trail Network and Map 5 Potential Water Routes

Primary Routes

The Primary routes are the main spines of the trail system that are intended to link major destinations in the city. They are generally arranged in a north-south or east-west orientation and serve all parts of the city. Wherever possible direct off-road connections were selected. Where off-road routes could not be achieved, on-road links are provided and generally correspond with on-road cycling routes as noted in the Official Plan. Primary routes have the highest standard of design among trails in the network. The following is a brief description of the Primary system.

- Primary routes consist of three major loops throughout the city, exiting the city and making connections (present and future) at a trail gateway (see discussion below);

- Two loops in the north half of city with the common north-south spine along the Eramosa River from downtown to Riverside Park. This section is also the Trans Canada Trail. At Riverside Park the loops diverge with one leg heading to the northwest towards the Kissing Bridge Trail (west loop) Note that this is also the Trans Canada Trail which heads towards Elmira. The other leg heads northeast towards Guelph Lake Conservation Area (east loop);

- The east loop connects through new development in the Victoria Road north area. It then swings south, through Guelph Lake Sports Fields, crosses County Road 124 and through the former Eastview Landfill site, which is scheduled to become a citywide recreation facility. Continuing in a southerly direction, the east loop heads through new development in the Watson Parkway/Grange Road area, along the south side of York Road, along the east side of the

Eramosa River to the former Stone Road bridge. Using the old bridge, the east loop crosses the Eramosa River, following the existing trail to Victoria Road. A new crossing of the Eramosa River (constructed as part of the reconstruction of the Victoria Road bridge) makes the connection to the existing trail along the north side of the Eramosa River. Crossing the Speed River using the covered bridge, the east loop is completed by following the existing trail along the west side of the Speed River to the River Run Centre;

- After making the connection to the Trans Canada Trail at the northern city limit, the west loop follows Woodlawn Road to Imperial. A boulevard trail on the south side of Woodlawn may be an effective way of providing facilities for all trail user groups. Currently, there are no sidewalks along Woodlawn in this area, and pedestrians are often seen walking along the grass. The west loop follows Imperial Road to the northernmost railway crossing, then follows the railway alignment west to Elmira Road. This section of the railway line is not currently in use and a major portion of the right of way is being used by local businesses as rear lot access. Following Elmira Road, the west loop connects with the northwest drain at Thornhill Drive and from this point follows the drain to the south end of Castlebury Park. From this point, connection using the rail corridor provides the connection to Imperial Road (considered possible over the long term). The west loop then passes by the Sewage Treatment Plant, crosses the Speed River at the former Guelph Dolime bridge, below the Hanlon Expressway to make the connection with the existing trail on the south side of the Speed River. The final leg of this loop crosses Gow's Bridge where it will connect with the east loop at the covered bridge on the east side of Gordon Street;

  The west loop includes an important regional connection between Guelph and Cambridge. This connection originates at the Guelph Dolime bridge and generally follows the Speed River at the rear of the Waste Water Treatment Plant to the city limit. Several discussions were convened with the facility manager during the development of the GTMP, and continuing discussions will be necessary to refine this alignment. From the city limit, the route then follows an actively used hiking trail known as the Speed River Trail en route to Cambridge.

- The west loop contains two internal north south routes, one following the hydro corridor on the east side of the Hanlon Expressway, the other following the railway right of way along the west side of Edinburgh Road north of London Road. The CN Spurline trail provides a connection to the Trans Canada Trail a few blocks south of Speedvale Avenue;

- A third loop (the south loop) begins near the Hanlon Expressway and Speed River (coincident with a portion of the west loop). Heading south through Centennial Park, W.E Hamilton Park, to the intersection of Stone Road and the Hanlon Expressway; the south loop then follows the former Hanlon Road right of way to the Hanlon Business Park. From Clair Road south, the primary spine follows Crawley Road to the south city limit. The south loop heads in a southeasterly direction following the existing trail between the Hanlon Creek wetland and private businesses on Southgate Drive. From this point the south loop heads east through Clairfields, Westminster Woods, to Kortright East, and makes the connection with the east loop at the old Stone Road Bridge by way of a link through the City of Guelph Spring Grounds. A primary link between Arkell Road and the Kortright East development area will be made at the time;

- Two primary spines head south to the city limit from the south loop; one on the west side of Gordon Street/Brock Road by way of the open space corridor on the east side of Bishop Macdonnell High School, through the recreation centre and to the south city limit. It is anticipated that the last leg of this southerly spine will follow the same general alignment as the Open Space corridor depicted in Schedule 7 (Linked Open Space Concept) Official Plan. The second southerly spine crosses Clair Road where the existing trail terminates in Westminster Woods. Once again, the final leg of this spine follows the same general alignment as the Open Space Corridor depicted in Schedule 7 of the Official Plan;

Secondary Routes

Secondary routes provide connections to destinations that are more neighbourhood oriented, such as community and neighbourhood parks and schools. Though they include both off and on-road routes, a greater proportion of the secondary routes are on-road as compared with the primary routes. Typically, the secondary on-road routes are located on quiet, low volume residential streets where connections are necessary and off-road opportunities do not exist. This is especially true in older neighbourhoods in the city. In these locations, cyclists must use the road, whereas pedestrians and other small-wheeled users are expected to use sidewalks.

The secondary routes are evenly distributed throughout all neighbourhoods in the city. The balance of off-road to on-road varies depending on the location. For example in the newer development areas in the south and northeast parts of the city, where trails have been planned as part of the development process, there is a higher proportion of off-road routes whereas in the older neighbourhoods where public open space tends to be concentrated in parks, the proportion of off-road routes relative to on-road is much lower.

Tertiary Routes

These trails are located primarily in natural areas owned or managed by the City. User groups are limited by the nature of the trail design. Trails are narrower and generally naturally surfaced. Trail "hardening" (e.g. boardwalks) are used where necessary. The Hanlon Creek Conservation Area, Guelph Lake Conservation Area and Kortright Waterfowl Park are three of the main locations across the city where tertiary trails are recommended. In addition, a tertiary loop is proposed for the escarpment outcrop on the east side of the Eramosa River just to the north of the Stone Road bridge.

Opportunities or Desired Connections

There are several locations throughout the city where it is desirable to create a connection between existing or planned routes. Where these lands are not currently owned by the City, the routes are shown as desired connections. In cases where the land is likely to be developed sometime in the future, the desired connections are typically located along the edges of a natural feature such as woodlots or wetlands. In these locations, trail corridors would be secured at the time that development applications are being considered. Though it is preferred that these connections are made off-road, it is recognized that a combination of off-road and on road would be negotiated through the development application process. Lands between Clair Road and Maltby Road fall into this group. Other desired connections include:

- The hydro corridor on the east side of the Hanlon Expressway between Westwood Road and Woodlawn Road;

- Lands associated with the railway right-of-way on the west side of Edinburgh Road north of London Road;

- A route on the east side of the Speed River south of Speedvale Avenue;

- Routes on lands owned by the Ontario Realty Corporation on either side of the Eramosa River between Stone, Victoria and York Roads;

- Lands owned by the Grand River Conservation Authority associated with Kortright Waterfowl Park;

- Popular and heavily used informal or unofficial trail routes on lands owned by the University of Guelph and the Cutten Club

- Trail routes shown on any of the Upper Grand District School Board and the Wellington County Catholic School Board properties.

In the case of these desired connections, the City will need to develop partnerships with the owners regarding access, construction and maintenance of trail connections. In the case of some of these

connections, there have been initial discussions with the owners and there is a mutual interest to develop formal trail connections.

Water Routes, Canoe Launch Sites and Potential Water Routes (Map 5)

To provide access for canoe and kayak enthusiasts, several canoe launch sites have been located on city owned lands adjacent the Speed and Eramosa Rivers. Parking, trail access to the river's and signage will be provided. Canoe Launches are provided at:

- The Speed River at the Victoria Road bridge, downstream from Guelph Lake Dam;

- Riverside Park;

- The Eramosa River at the Stone Road bridge;

- Jaycee Park off York Road;

- Eramosa River Park near the Victoria Road Bridge;

- York Road Park;

- The Speed River near to the former Guelph Dolime bridge in a location that is popular with paddlers.

In its current condition the Eramosa River between the dam in Silvercreek Park and the Hanlon Expressway is not considered suitable for the average paddler because the concrete weirs create currents that would be difficult and potentially dangerous for novice paddlers. There has been a great deal of discussion over the years regarding maintaining or removing the weirs. Should these changes be made, this section of the river likely be much more suitable for paddlers, making a larger proportion of the rivers in the city suitable water routes. Where they cannot be removed, suitable portage routes should be provided to accommodate paddlers.

The Speed River between Riverside Park and the confluence of the Speed and Eramosa is considered to be too difficult and dangerous for paddlers. Though there are a number of man-made structures that, if removed, would improve conditions for paddlers, there remain several sections where shallow bedrock and natural drops create conditions that cannot be changed. This section of the Speed River is not recommended for inclusion as a water route.

Major and Minor Staging Areas

Major Staging Areas are key points of access to the system for both residents and visitors where access is provided to the trail system for the largest volume of users. In these locations, larger parking areas (greater than 20 cars), larger trailhead kiosks, washrooms and other site amenities will be provided. In most cases, Major Staging Areas correspond with major city parks or recreation centres where some of these amenities such as parking and washrooms may already be available. Major Staging areas are evenly distributed throughout the city.

Major staging areas are located at:

- West End Recreation Centre;

- Centennial Park;

- South End Community Park;

- Royal City Park/Covered Bridge;

- Jaycee Park;

- the former Eastview Landfill site;

- Riverside Park;

- the new community park in the Victoria north development; and
- Guelph Lake Sports Fields.

Minor staging areas are located at more regular intervals throughout the city, and are typically located in existing and planned parks where parking exists. In some cases parking may need to be added. Other amenities include trailhead kiosks and may also include washrooms (determined on a site-by-site basis).

Trail Gateways At City Boundaries

Where trails meet the City boundary, trail gateways are points where trails will eventually connect to the neighbouring municipalities. The design of individual gateways will be completed on a site-specific basis when connections beyond the municipal boundary can be realized. As a minimum, the trail gateway will contain a trailhead sign or kiosk as part of a trail node. Where appropriate, other facilities such as parking, benches, plantings and other urban design treatments may be included.

Bridges / Structures

There are a number of locations throughout the network where structures will be required in order to maintain continuity of the network. In most cases these are small bridges over tributaries and drainage features. In a few locations more significant structures will be required to cross rivers. Included with this group are crossings of the Eramosa River at Victoria Road, where it is recommended that a trail bridge be constructed as part of the reconstruction of the Victoria Road vehicle bridge. In the area of the Speed River and the Hanlon Expressway, the reconstruction of the former Guelph Dolime bridge provides an opportunity to cross these significant barriers. Alternatively, a new bridge over the river at the foot of Municipal Street would be required. In addition to bridges, this group also includes the crossing of the CN rail line in two locations, at Cityview Drive or an underpass at Hadati Creek, and the second location is on the south side of Margaret Greene Park to make the connection with the Primary route along the northwest drain. Crossings/underpasses will require extensive negotiations with CN and are costly to construct. They are included in the plan as long term, but important connections.

A primary trail is proposed for the Silvercreek Parkway corridor between Waterloo Avenue and Paisley Road. The GTMP assumes that the road crossing of the railway will be at-grade, using appropriate design standards that would be implemented when nearby lands are redeveloped. Therefore it is assumed that cyclists and pedestrians will cross at grade also.

Connections with Transit

City transit routes were overlaid with the proposed trail route network to ensure that trail users (primarily pedestrian users) have good access to the transit system. At locations where the off road trail system crosses streets in the city with transit routes, the crossing points are generally within a few blocks of the nearest transit stop.

Map 6 Trail Network (On and Off-road Breakdown)

Map 6 illustrates the distribution of off-road and on-road routes. Existing mid-block pedestrian signal locations are locations where Traffic Services has already installed pedestrian activated signals to aid pedestrians, users with mobility-assisted devices, cyclists and other trail users in crossing major streets. Where trail routes cross arterial roads or major collectors and the distance to the nearest signalized intersection is considered to be too great to encourage users to cross at the nearest signalized intersection, the GTMP recommends the installation of a pedestrian activated signal. Eleven such locations are illustrated in Map 6.

Map 7 Potential On-road Cycling Linkages

Map 7 depicts:

- Portions of the on-road Bicycle Network (from Schedule 9C Official Plan) that form critical connections in the GTMP;

- On-road bicycle network additions that were identified as important links in the Guelph Northeast Trails Master Plan study undertaken in 2002;

- Potential additional on-road cycling linkages, which include on-road segments, though not considered as critical links in this plan, should be considered as part of the next update of the comprehensive on-road cycling network as part of a future revision of Schedule 9C of the Official Plan.

4.6.2 Priorities for Construction

Recommendations regarding implementation priorities were based on a number of factors. These include:

- Creating logical connections and filling some gaps in the existing system (especially primary routes) that will result in longer connected portions of the GTMP routes;

- Focusing on upgrades in areas where problems currently exist (i.e. Preservation Park and Hanlon Conservation Area-where populations are growing and where many of the trails are unimproved or improperly designed or located);

- Consideration of other influences in and around the city such as current development and the Council approved Northeast Guelph Trail Master Plan (Eastview Landfill compensation plan);

- Providing a balance of new trail development in all areas of the city;

- Responding to requests/suggestions from the Steering Committee, stakeholders, City staff and the public;

The phasing of trail development has been broken out into the following 3 phases:

- Short Term (0 to 5 years-2005-2010);

- Medium Term (5 to 15 years –2011 to 2021);

- Long Term (beyond year 15 –beyond 2021).

The phasing plan is depicted on **Maps 8, 9 and 10**. It is intended as a guide for staff to follow as part of planning for capital projects each year.

An important priority that is not depicted on Maps 8 to 10 is for staff and Council to consider the Master Plan whenever park improvements, road reconstruction, or new developments/redevelopments are proposed. These circumstances often represent major opportunities to implement trails at a nominal cost compared with construction costs in isolation. It will be necessary to adjust other elements of the phasing plan as these opportunities are realized.

Phasing also includes the logical on-road links. Signed routes can be implemented quite inexpensively and generally do not have an effect on the road cross-section. It should be recognized however, that unless implementing bicycle lanes involves simply repainting lane markings on the road (no widening necessary), bicycle lanes will not be implemented until an Environmental Assessment process has been completed and the roadway is scheduled for construction.

Included with the costs for Phases 1 and 2, is an allocation for upgrading existing trails. This has been calculated as a percentage of the approximately 20km of existing trail noted as "poor condition" during

data collection. Areas where extensive upgrades are required (e.g. Hanlon Creek Conservation Area) are considered as a separate item within the phasing plan.

The following are highlights of the priorities recommended for each phase. Within each of the phases, the listing is in no particular order, to allow flexibility in planning projects and to enable staff to take advantage of new opportunities arising that were not contemplated at the time of the preparation of the GTMP. As part of planning for each construction season, Parks Planning staff should conduct a review of priorities on a district-by-district basis. This review will also provide the opportunity to take advantage of new opportunities to implement trails that may arise.

Map 8 Phase 1, Years 0-5 (2005-2010)

- Repairs, upgrades, closures and rerouting of trails in the Hanlon Creek Conservation Area, starting with the most severely degraded trails in the interior areas;

- Complete the connection of the Trans Canada Trail from downtown to the north city limit;

- Formalize the connection to the West End Recreation Centre from Castlebury Park, along the northwest drain;

- Formalize a loop around the northwest drain between Thornhill Drive and Willow Road;

- Development-driven trail construction in Hanlon West Business Park, Clairfields, Westminster Woods, Kortright East, Victoria North and Eastview areas;

- New trails surrounding the former Eastview landfill site (as part of the compensation plan for Eastview Area Residents-Northeast Guelph Trail Master Plan);

- Crossing below the Hanlon Expressway at Wellington Road on south side of the Speed River by making use of the former Guelph Dolime Bridge over the Speed River. From here, making the connection across County Rd. 124 to residential areas in the northwest area;

- Begin to develop trails to connect the Willow Road area to Norm Jary Park and Shelldale Community Centre;

- Connection from north side of Eramosa River to south side of river (at time of reconstruction of Victoria Road bridge);

- Ongoing investigation regarding the establishment of a connection from Edinburgh Road (near St. Joseph's Hospital and Home) to Dawson Road near the entrance to Shelldale Community Centre and the easement south of the intersection Dawson Road and Speedvale Avenue;

- On-road connections via signed routes to complete east-west spines in the central, north and south parts of City which include:

  i. An east west signed route connection from the Eastview/Starwood residential area through downtown connecting with the bicycle lanes on Paisley Road, to the Westwood Road area;

  ii. A signed route connection from the Brant Avenue area, along Waverly Drive to connect to trails along the Speed River at Riverside Park;

  iii. A signed route connection from the Kortright East area through Campus Estates neighbourhood, along Ironwood Road making the connection to the service access along the east side of between Kortright Road and the Hanlon Industrial Park;

- An allowance (varies according to phase, refer to Figure 4-2) for upgrading a portion of the existing trails throughout the city;

- Improve key commuter connections from the Eramosa River to the Hanlon Business Park;

- Continue discussions with GRCA to develop strategies regarding pay per use areas;

- Refine and begin to implement the new trail signage program, which also includes the development of a new trail logo, staged demolition of the old Royal Recreation Trail signage and replacement with new signage elements;

- Install trail amenities along with trail implementation;

- Enter into/continue to develop partnerships with institutional and large industrial landowners (including but not limited to the University of Guelph, the Homewood, St. Joseph's Hospital and Home, commercial and industrial property owners fronting on Woodlawn west of Edinburgh Road, Guelph Junction Railway, other railway companies etc.);

- Continue working with regional trail partners to establish intermunicipal connections;

- Review and update the GTMP at the end of year 5.

Map 9 Phase 2 Years 5-16 (2011-2021)

- Complete commuter connections from Eramosa River to the Hanlon Business Park;

- Complete connections to, and within the Northwest Industrial area;

- Create the connection along the Hanlon Expressway from Paisley Road to Woodlawn Road (east side of the Hanlon Expressway in the hydro corridor);

- Boulevard trail connection along Edinburgh Road from Paisley Road to Woodlawn Road;

- Complete the connection along north side of Speed River between Edinburgh Road and the Hanlon Expressway, including the connection below the Hanlon to meet with Phase 1 routing that makes the link between the Eramosa River and the intersection of County Road 124 and Imperial Road;

- Create the connection along the east side of the Hanlon Creek wetland from Arkell Road to Kortright Road;

- Complete the primary loop from the Kortright East development area to York Road through the City of Guelph Spring grounds;

- Create the link along the east side of the Eramosa River from Stone Road through to John McCrae Legion and to the intersection of York Road and Watson Parkway;

- Trail development within the former Eastview Landfill site;

- Create the connection from the former Eastview Landfill site to Guelph Lake Sportsfields using open space/buffer surrounding the wetland (timing for this segment is contingent on timing of development);

- Development driven trail construction (e.g. between Clair and Maltby Road);

- Complete the Trans Canada Trail (TCT) connection from Woodlawn to the junction of the TCT Elora route and the TCT Kissing Bridge route;

- Allowance for trail upgrades in other areas of the City;

- Complete the connection along the east side of the Speed River from Speedvale through the Homewood property to Arthur Street north;

- Complete the trail connection along the east side of the Speed River from Elizabeth Street to Neeve Street (timing for this segment is contingent on timing of redevelopment of this site);

- Create additional links within existing parks such as the completion of a perimeter trail loop in Margaret Greene Park from the ball diamonds to the east side of the park near the overpass of the Hanlon Expressway);

- Continue with on-road signed routes;

- Continue with bike lanes (as these roads are upgraded/reconstructed);

- Continue with upgrades on existing trails throughout the city, including signage and trail amenities;

- Continue to work with regional trail partners to establish intermunicipal connections;

- Continue to enhance partnerships with institutional and large industrial landowners;

- Review and update the GTMP at the end of year 10.

Map 10 Phase 3, Year 16 and Beyond (2021 +)

- Connection to Cambridge via rail corridor (or sooner should this line become abandoned);

- Multi use boulevard trail along Woodlawn Rd. between Imperial and Edinburgh to make the Trans Canada Trail connection and close this loop;

- Connection below CN tracks between Margaret Greene Park and Northwest Drain;

- Potential connection above/below CN tracks in area of Skyway Drive or Hadati Creek;

- Development driven trail construction;

- Linking additional parks to system;

- Continue with on-road signed routes;

- Continue with bike lanes (as these roads are upgraded/reconstructed);

- Continue with upgrades on existing trails throughout the city;

- Continue to work with regional trail partners to establish intermunicipal connections;

- Continue to enhance partnerships with institutional and large industrial landowners;

- Review and update the GTMP;

Table 3 provides a summary of network facilities by phase.

	Off-Road[1]	On-Road[2]	Totals
Existing in 2004	73.9 km	6.4km[3]	80.3km
Phase 1 (2005-2010)	57.6 km	28.8 km	86.4km
Phase 2 (2011-2021)	69.2 km	49.2 km	118.4km
Phase 3 (2021 plus)	10 km	5.1 km	15.1km
Totals	**210.7 km**	**89.5 km**	**300.2km**

Table 3. Network Statistics by Phase

1. Off-road trails are multi-use and all user groups can be accommodated with a single facility.
2. On-road routes include (I) bicycle facilities on the road as cyclists are not permitted to ride on sidewalks except in limited circumstances, and (ii) existing sidewalks for pedestrians and other similar users.
3. Includes only those portions of the existing on-road cycling network depicted in the Official Plan that are considered as critical links for the GTMP Network. Note that other on road cycling routes (both existing and planned as depicted in the Official Plan) should still be considered as viable parts of the city's overall transportation network. Exclusion from the GTMP is not a suggestion that they are redundant and or should be removed if already implemented.

4.7 Investing in Trails

The Master Plan is not intended to be a static document. Though the purpose of the GTMP is to plan into the future, it must be recognized that there are changes in priorities with time, and different opportunities may arise from time to time that were not contemplated at the time of the writing of the GTMP. The timing and details related to implementation, particularly the location of recommended routes and trail types can and should evolve through community consultation and detailed technical studies where appropriate. While making adjustments to meet changing priorities and opportunities, it is also important the effort by staff and the community to establish the direction for the GTMP be respected. As the implementation process unfolds it is important that:

- The validity of each route is confirmed when it is being considered for implementation. Where it is determined that a particular route is no longer valid, or is impossible to achieve, it is critical that a parallel route that performs the same network function is selected;

- Trail routes, trail crossings and in particular on-road cycling routes are considered during the Environmental Assessment process for various projects;

- Input is solicited from various City departments through a coordinated communication process to ensure that all needs are being considered and balanced among one another;

- The performance of the facilities are being regularly monitored throughout their lifecycle so that improvements in trail routing, design and maintenance can evolve as new information is generated about the trails;

- The GTMP is reviewed and updated at five-year intervals.

4.7.1 Construction Costs

Figure 4-1 provides a summary of estimated unit costs for construction of off and on-road routes. The unit costs are based on averages obtained from trail construction projects across Ontario. They can be used as a guideline for establishing the costs for implementation of trail segments and assume typical conditions for construction. For example, unit prices for off-road trails assume good soil conditions, an average requirement for grading, and are for the construction of the trail alone. Additional items such as signage and other amenities are listed separately. Similarly, unit prices for the construction of on-road facility construction do not include site-specific considerations such as utility relocations and driveway restorations. Annual inflation, which includes increased cost of labour, materials, fuel etc., is not included in these costs. Professional services and/or staff time for detailed design and applicable taxes are also additional.

As each trail segment becomes a priority for construction, a more detailed assessment as part of the design process will be required to determine site-specific conditions and design details. Detailed cost estimates can then be developed from this work.

Construction Costs By Phase

The GTMP requires significant capital investment. As discussed in Section 2.1 this investment has significant individual, societal, environmental, economic and health benefits that will begin to be realized well in advance of the completion of the network.

The capital cost construction estimates to build the recommended network are based on field evaluation and existing conditions from a master plan viewpoint. As such, these estimates cover the basic cost of installing the facility and do not include costs associated with site-specific major improvements and/or site amenities.

Figure 4-2 provides an estimated construction cost by phase for the off and on-road components of the network. In addition to new trail construction costs, annual allowances have been suggested for items such as trail improvements to existing trails requiring upgrades, the development of staging areas, and trail signage. Implementation costs for new development areas have been included but are based on the conceptual routes depicted on Map 3. Refinements to these estimates will be made as routes are refined through the development approval process.

In addition to the City's contribution to implement the trail network, a significant portion will be implemented as a result of new development across the city. To illustrate this point, network construction costs have been further broken out according to those that are a direct cost to the taxpayer (Capital budget) and those that are associated with ongoing land development. Trail construction in new development areas and trail construction in existing neighbourhoods that can be attributed to increased demand from population growth can be funded through the Development Charges Fund, and therefore no additional burden on existing taxpayers.

Table 4 provides a breakdown of costs by phase for Capital funding and funding through Development Charges.

	City Funded (Capital Costs)	Developer Funded (Development Charges)
Phase 1 (2005-2010)	$1,890,000.00	$3,219,000.00
Phase 2 (2010-2021)	$4,663,000.00	$1,953,000.00
Phase 3 (beyond 2021)	$1,108,200.00	$173,200.00
Total (Phases 1 to 3)	**$7,661,200.00**	**$5,345,200.00**

Table 4. Network Development Costs: Costs associated with the development of on-road facilities include new additions to the on-road route network proposed in the GTMP, as well as critical links (necessary on-road link in the GTMP) illustrated in Schedule 9C of the Official Plan. The costs associated with some of the routes illustrated in Schedule 9C may have already been accounted for in scheduled road improvement projects across the city. To provide an estimate of overall network cost, the costs associated with these routes have been included in the above table.

4.7.2. Additional Funding for Trail Development

In addition to Capital and Development Charges funding and to assist in reducing costs to the taxpayer, the City of Guelph should also pursue outside funding opportunities. Though not as abundant as in the past few years, there are a number of funding sources available. Some potential sources include:

Green Municipal Funds, Federation of Canadian Municipalities

The Federation of Canadian Municipalities has established the Green Municipal Fund, which supports the implementation of innovative environmental projects. The program provides low interest loans and grants for projects that promote sustainable transportation, transportation demand management, sustainable community development, greenhouse gas reduction plans, and community-scale developments. Trail projects may be eligible if partnered with other transportation planning and management related initiatives in Guelph.

Sports Culture and Tourism Projects, Government of Ontario

The Ministry of Tourism and Recreation administers initiatives which invest in sports, culture and recreational facilities in communities that emphasize benefits to the community, good value for money, innovative partnerships and the ability to attract investment from other sources.

Ontario Trillium Foundation, Ministry of Culture

The Ontario Trillium Foundation, an agency of the Ministry of Culture, annually receives $100 million of government funding generated through Ontario's charity casino initiative. Ontario Trillium Foundation grants are awarded to fund capital, operating and/or specific project costs in support of: Arts & Culture, Environment, Human & Social Services, and Sports & Recreation. The Foundation makes grants that have province-wide impact as well as grants in local communities across Ontario. Charitable and not-for-profit organizations with proposals that increase the capacity and effectiveness of community organizations, increase volunteerism, promote partnerships, support access and meet the needs of Ontarians are eligible.

Corporate Environmental Funds and Charitable Foundations

These funds tend to be for small, labour-intensive projects where materials or logistical support is needed, but may be a good source of funding for organizations partnering with the City for smaller projects. One example is the TD Canada Trust Friends of the Environment Community Fund. aimed at projects that make contributions to environmental, intellectual or emotional health of communities.

Corporate Donations

Many corporations both large and small have made commitments to trails over the past several years. Donations may be in the form of cash or materials/services in kind. For example, aggregate producers across the province have made contributions of granular base material and machine/operator time in return for public recognition of their efforts. The key selling features are corporate visibility and tax incentives.

Other Possibilities

- Service Clubs such as Lions, Rotary, Optimists, who often assist with implementing high visibility trail projects at the community level;
- Built in conjunction with other agencies (Grand River Conservation Authority, school boards, universities);
- Built via servicing agreements. For example, trails built along sanitary sewer and water mains can also serve as access routes for regular service and emergency repairs;
- Built via volunteers;
- Bequests;
- Individual sponsorship by the metre.