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City of Guelph Transportation Master Plan

POLICY BOOK

Contents

- Glossary of Terms..... 5
- Pedestrian policies 9
- 1.0 Pedestrian Policies 10
 - 1.1 Create a complete and connected pedestrian network 10
 - 1.2 Build a walkable environment 11
 - 1.2.1 Enhance the level of service 12
 - 1.2.2 Implement quality design 12
 - 1.2.3 Provide maintenance and management 13
 - 2.3 Improve pedestrian safety and promotion 13
 - 2.3.1 Administer pedestrian safety programs 14
 - 1.3.2 Promote walking as a mode of travel 14
 - 1.4 Future Ready 14
 - 1.4.1 Innovations and trends for further exploration 14
- Cycling policies 16
- 2.0 Cycling Policies..... 17
 - 2.1 Continue to build and maintain a network of quality cycling facilities 17
 - 2.1.1 Continue to build the cycling network 17
 - 2.1.2 Maintain cycling facilities 19
 - 2.2 Create attractive intermodal connections 19
 - 2.3 Create attractive trip-end facilities 20
 - 2.3.1 Provide public bicycle parking 20
 - 2.3.2 End-of-trip facilities on private property 20
 - 2.4 Improve cycling safety and promotion 20
 - 2.4.1 Administer cycling safety programs and promote cycling as a mode of travel 20
 - 2.5 Future Ready 21
 - 2.5.1 Innovations and trends for further exploration 21
- Transit policies 23
- 3.0 Transit Policies..... 24
 - 3.1 Build and maintain a quality transit network 24
 - 3.1.1 Implement the Quality Transit Network 24

3.1.2	Continue to improve the transit level of service across the City	25
3.1.3	Prioritize active transportation access to transit	26
3.1.4	Continue to provide transit access to persons with disabilities	26
3.2	Develop the Guelph Central Station	26
3.2.1	Continue to develop the Guelph Central Station	26
3.3	Increase cross boundary transit trips.....	27
3.3.1	Continue to support the development of two-way all-day GO Rail service.....	27
3.3.2	Increase transit trips to adjacent communities.....	28
3.4	Strengthen the relationship between land use and transit	28
3.4.1	Continue to support transit and land use cooperation	29
3.5	Improve transit promotion	30
3.5.1	Promote transit as a mode of travel.....	30
3.6	Future Ready.....	31
3.6.1	Innovations and trends for further exploration.....	31
	Goods movement policies	32
4.0	Goods Movement Policies.....	33
4.1	Prepare a comprehensive goods movement strategy.....	33
4.2	Enable efficient goods movement with trucks	34
4.2.1	Designate truck routes to serve the industry and protect neighbourhoods.....	34
4.2.2	Consider truck needs in road planning, design and construction.....	34
4.2.3	Monitor and consult with large truck and logistics users for mutual benefit	35
4.3	Enable efficient goods movement with rail	35
4.3.1	Continue to provide rail service to industrial areas and protect neighbourhoods	35
4.3.2	Continue to consider rail supportive land use	35
4.4	Future Ready.....	36
4.4.1	Innovations and trends for further exploration	36
	Roads policies	37
5.0	Roads Policies	38
5.1	Build a sustainable road network.....	38
5.1.1	Create new tools and expand existing ones to promote sustainable transportation modes	38
5.1.2	Ensure the road network and system can accommodate new residents	39
5.2	Protect neighbourhoods and cultural resources from undesirable road impacts	40

5.2.1 Continue to address adverse impacts of road projects	40
5.3 Maximize road safety for all users	40
5.3.1 Increase safety provisions in planning, design, and operational decisions	40
5.4 Prioritize energy reduction and minimize environmental impacts	41
5.4.1 Promote low or zero emission vehicle technology	41
5.4.2 Continue to reduce greenhouse gas emissions and energy use	41
5.5 Enhance city parking facilities and services	42
5.5.1 Continue to improve parking conditions and options	42
5.6 Manage congestion	43
5.7 Future Ready	44
Implementation policies	45
6.0 Implementation and Reporting	46
6.1 Communication and Engagement	46
6.1.1 Continue to communicate in a proactive and inclusive manner	46
6.2 Reporting	46
6.2.1 Monitor and track mode share	46
6.2.2 Develop and maintain a connectivity index	46
6.3 Funding the TMP	47
6.3.1 Use the City Budget to manage the affordability of this plan	47
Schedules	48
Schedule 1 – Pedestrian network	1
Schedule 2 – Cycling spine network	2
Schedule 3 – Quality Transit Network	3
Schedule 4 – Existing permissive truck routes	4
Schedule 5 – Updated street classifications	5
Schedule 6 – Car network enhancements	6
Schedule 7 – Resiliency network	8
Schedule 8 – Recommended road network improvements	9

Glossary of Terms

- A -

Active Transportation – The transport of people or goods through human-powered means, including walking, cycling and skateboarding.

Active Transportation Network – On-road and off-road infrastructure network for pedestrians, cyclists and other active transportation modes.

Advanced Driver Assistance Systems – Technological features that assist drivers in driving and parking functions. They are designed to increase the safety of driving a vehicle. Examples include anti-lock brakes, forward collision warning, and lane departure warning.

Alternative Service Delivery (ASD) – Provision of transit service through different transit service options, such as on-demand transit or partnerships with private and/or not-for-profit sectors. ASD is typically used to deliver transit services to unserved or under serviced areas of the city due to low ridership potential.

- C -

Capital Projects – A project that helps maintain or improve an existing City asset or provide a new asset/ facility. This includes new construction, expansion, renovation, or replacement projects for an existing facility or facilities, the purchase of major equipment, or a major maintenance or rehabilitation project for existing facilities.

Complete Communities – A community that meets the basic needs of all its residents through integrated mixed and efficient land use planning and an urban form that is well connected and supports diverse transportation options.

Complete Streets Design Guide – A guide that provides policy and design guidance on the planning, design, and operation of roadways to help implement the City's Official Plan vision for complete streets and other city building objectives.

Cycling Spine Network – A network of cycling routes with high-quality on-street cycling facilities that connect all areas of the City. These spine routes represent the core of the City's larger cycling network. The Cycling Spine Network will be designed to support and encourage cycling by people of all ages and abilities. The Spine Cycling Network will be complemented by connecting cycling links to key destinations like schools, parks, and areas of high activity.

- D -

Downtown Secondary Plan – A comprehensive vision and policies in the Official Plan for revitalizing downtown Guelph up to 2031.

Downtown Streetscape Manual – Provides design guidance for Downtown streets that creates an attractive, accessible and safe environment for all modes of transportation (walking, cycling, vehicular).

- F -

Facility Accessibility Design Manual – Developed in partnership with the County of Wellington, it provides a building standard at a higher level of accessibility than is currently offered in the Ontario Building Code and Accessibility for Ontarians with Disabilities Act (AODA), and is used for new construction as well as renovation projects.

- G -

Goods Movement Strategy – A comprehensive plan to help determine the transportation infrastructure improvements, policies, regulatory tools and programs needed to help the support the goods movement industry.

Goods Movement Priority Network – A network of streets that permit truck traffic for more than just local service. It is designed to allow large vehicles to travel through the city efficiently while safely interacting with people who are walking or cycling on the same streets.

Guelph Junction Railway (GJR) – A shortline railway between Campbellville and Guelph that serves industrial clients. The GJR is owned and operated by its sole shareholder, the Corporation of the City of Guelph,.

- I -

Intelligent Transportation Systems – A combination of information and communication technologies used in transportation and traffic management to improve the safety, efficiency, and sustainability of transportation networks, manage traffic congestion, and enhance drivers' experiences.

Internet of Things (IoT) – Interconnection of everyday devices via the Internet.

- L -

Level of Service (LOS) – A qualitative measure used to determine how well a transportation facility such as an intersection or road segment is operating. Levels of service are usually categorized from A to F, with A being the best and F being the worst.

Low-Impact Development – A planning and engineering approach to stormwater management to minimize stormwater runoff and filter, store and return rainwater and snow melt to the ground.

- M -

Major Transit Station Areas (MTSA) – The area including and around any existing or planned higher-order transit station (such as regional rail or bus rapid transit routes) within a settlement area, or the area including and around a major bus depot in an urban core. Station areas are generally defined as the area within an approximate 500 meter radius of a transit station, representing about a 10-minute walk. They are usually planned to be higher-density, mixed-use

and transit-supportive neighbourhoods that provide access to local amenities, jobs, housing and recreation opportunities.

Micro-mobility – Refers to the use of light vehicles that can carry one or two passengers at a time, such as bicycles, scooters, and even small vehicles. Micro-mobility can be human-powered or powered by an electric motor.

Mobility-as-a-Service (MaaS)– An emerging user-oriented philosophy that takes advantage of digital platforms and real-time data to get a person from point A to point B in the most convenient and personalized way possible for one single fee. MaaS leverages modern transportation options to optimize personal mobility. When planning a route, MaaS platforms can link transit, ride-hailing, car-sharing, micro-mobility, walking, and more to create one seamless trip for the user of this service.

Multimodal Level of Service Guidelines – A guide that provides policy and design guidance on the planning, design, and operation of roadways and intersections to help implement the City’s Official Plan vision for complete streets. It provides guidance on how to assess the *levels of service* for various modes of transportation and their impacts, and what the specific target service levels for each mode should be given the location and context of the transportation project.

- O -

Official Plan – A regulatory policy tool that sets out the City’s vision and goals for the future, and describes policies on how land in the City should be used. In Ontario, every municipality is required to have an approved Official Plan to ensure that future planning and development will meet the specific needs of the community.

Operations Campus – A centralized campus consisting of facilities for City of Guelph Transit, Operations, Fleet Maintenance, and Corporate Building Maintenance to meet its current and future needs.

- P -

Park-and-Ride facilities – Parking lots with public transport connections that allow commuters and other people to leave their vehicles and transfer to a bus, rail system, or carpool for the remainder of the journey.

Pedestrian Priority Network – A network of wide sidewalks and high-quality walking environments in areas of highest pedestrian activity in the city, such as Downtown Guelph. This priority network is designed to support and encourage walking for people of all ages and abilities. It is complemented by the general sidewalk network and Guelph’s extensive trail network.

- Q -

Quality Transit Network – A network of corridors with frequent transit service as defined by Guelph Transit service standards, where improvements will be implemented to improve service and reduce travel delay for buses. It is designed to make taking transit more comfortable and more efficient, thus encouraging more people to use transit.

- R -

Retrofit projects – Projects that improve an existing asset’s function or efficiency through the addition of new technology or features.

Resiliency Network – A network of key arterial and collector streets that are designed to be flexible. These streets will have the space and potential for flexible operational strategies such as dedicated lanes for different mobility purposes, curbside extensions, by-pass lanes, etc. The intention of these streets is to offer network flexibility so that the City can make quick changes to improve mobility along those streets in response to factors like changing travel patterns/needs, climate change impacts, new mobility technologies, societal disruptions.

- S -

Smart signals – Traffic signals at intersections that detect traffic conditions and automatically adjust operations to optimize flow.

- T -

Transportation Impact Studies – Transportation Impact Studies (TIS) , sometimes called “traffic impact studies”, identify on-site and off-site measures to be undertaken by a developer to align the transportation system’s performance with City goals once the development is built.

Transportation Demand Management (TDM) – A series of policies, programs and incentives intended to influence whether, when, where and how people travel, and encourage them to make more efficient use of the transportation system.

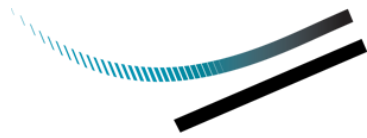
Transit Priority Measures – A collection of techniques and tools to reduce delay for public transit vehicles.

Transit Supportive Development – A city-building tool that creates vibrant communities that include a balanced mix of housing, jobs, shopping and services – all within walking distance to transit stations.

Transit Master Plan – A strategic planning document that defines policies, programs and infrastructure improvements required to address public transit and growth needs in Guelph and support the visions and principles of Guelph Transit.

-V-

Vision Zero – A traffic safety initiative that is based on the philosophy that no loss of life is acceptable on our roadways. It is based on a safe systems approach to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all.



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City of Guelph Transportation Master Plan

Pedestrian policies

1.0 Pedestrian Policies

This section of the Transportation Master Plan (TMP) presents the policies related to pedestrian movement.

Relevant goals that align with the pedestrian policies:

Goal 1: People of all ages and abilities will be able to travel safely using any transportation mode that they choose

Goal 2: Guelph's transportation system will be easy-to-use, reliable and give people and businesses the options they want when they need them.

Goal 4: The carbon footprint from the transportation sector will aim for net zero by 2050

Goal 5: Guelph's streets, trails and rail networks will align with the City's land use objectives

Everyone is a pedestrian at some point in their trip, if only between their bus stop or parking place and their front door. This makes walking or using a mobility device a critical activity, both as a stand-alone mode and as a connection to other modes of transportation. In 2016, the City-wide mode share for walking is 8%. The transportation master plan sets the walking mode share target at 15% by 2051. Achieving this target will require improvements to pedestrian facilities and environments across the city.

The Guelph TMP established the *Pedestrian Priority Network* (Schedule 1) to identify key areas of pedestrian focus in Guelph. The network includes the intensification corridors and community mixed-use nodes identified in Guelph's *Official Plan*. It also includes key connections across travel barriers that were identified in the Downtown Secondary Plan, the Active Transportation Network, the Guelph Innovation District Secondary Plan and the Guelph Trail Master Plan.

1.1 Create a complete and connected pedestrian network

1.1.1 Continue to build the pedestrian network

- 1.1.1.1 The City will continue to expand the pedestrian network (sidewalks and trails) by using four different approaches, as applicable:
- As part of new development, through the development review process;
 - As part of street construction and reconstruction projects, through a complete streets design approach;
 - As *retrofit projects*, to fill in "missing links" of the existing pedestrian network; and
 - As other *capital projects*, to construct new connections across key barriers to walking.
- 1.1.1.2 During its review of development applications and during street construction and reconstruction projects, the City will continue to require street designs that permit for

sidewalks on both sides of the street for all streets, with the exception of the following situations:

- Rear laneways, where no sidewalks will be required;
- Roads where a rural cross-section is being maintained and paved shoulders are provided;
- Adjacent to the Natural Heritage System where a trail with a high level of service may be provided instead of a sidewalk; or
- Cul-de-sacs-with an overall length of 120 metres or less.

In street corridors where the context is appropriate, a multi-use pathway may be used instead of a sidewalk and should be maintained year-round according to prevailing sidewalk winter maintenance standards.

- 1.1.1.3** The City will continue to evaluate, identify and prioritize candidate *retrofit* projects (projects that modify and improve existing infrastructure) and implement them as permitted. Prioritization will align with the overall goals and values established through the TMP.
- 1.1.1.4** The City will continue to ensure that pedestrian facilities include:
- a) Direct connections to bus stops and other major walking destinations, including the Guelph Central Station, the University of Guelph, strategic growth areas identified in the Official Plan, employment areas
 - b) Direct connections between the trails and sidewalk network;
 - c) Direct connections to schools;
 - d) Connections to link neighbourhoods that are separated by physical barriers, such as the Hanlon Expressway, the rivers, and the rail lines.
 - e) Pedestrian connections between subdivisions, cul-de-sacs and developments, where appropriate.
- 1.1.1.5** The City will continue to consider the provision of active transportation trails along active and abandoned rail corridors, where appropriate and with appropriate consideration of regulatory safety requirements.
- 1.1.1.6** The City will aim to increase the city-wide pedestrian mode share by developing a comprehensive pedestrian master plan that addresses:
- a) An implementation strategy to complete the sidewalk network,
 - b) Consideration of policy updates to improve connectivity and accessibility,
 - c) Recommended programs to encourage and promote walking.

1.2 Build a walkable environment

Building and maintaining an accessible and walkable environment requires attention from multiple activities that the City undertakes, such as zoning, development review, community design plans, road designs and maintenance. It also requires attention to factors such as public

spaces, buildings, and transportation infrastructure. This section discusses the elements of enhancing walkability and pedestrian accessibility in Guelph.

1.2.1 Enhance the level of service

The distance that pedestrians must travel across signalized intersections can be a barrier to walking. Design elements that degrade the pedestrian experience include:

- Free-flowing channelized right-turn lanes;
- Large curb radii that might be required for large trucks but enable motor vehicles to turn at higher speeds; and
- Multiple left-turn lanes;
- Multiple traffic lanes (whether for through, left or right turn movements);

The following policies enhance the quality of service for pedestrians:

- 1.2.1.1** The Pedestrian Priority Network (Schedule 1) identifies locations where the City recommends improvements to the pedestrian realm. The use of double left-turn lanes, three or more straight through lanes, separate right-turn lanes, and deceleration/acceleration lanes should be discouraged in these areas. The City will continue to seek to improve pedestrian levels of service in locations where barriers to walking and/or pedestrian volumes are high.
- 1.2.1.2** The City will continuously improve network connectivity and convenience for pedestrians through the design of the transportation network by:
- (a) Implementing a *Multimodal Level of Service Guidelines* that include safety analysis for links and intersections in accordance with the priority networks recommended by the TMP;
 - (b) Considering pedestrian safety and user needs at roundabouts;
 - (c) Continuing to provide direct connections between the sidewalk and trail networks, creating controlled crossings where the street and trail networks intersect where practical; and
 - (d) Continuing to implement more frequent pedestrian crossings in high activity areas or where distances between a transit stop and a controlled crossing exceeds 500 meters.

1.2.2 Implement quality design

When spaces are designed with pedestrians in mind, there is greater opportunity for pedestrian activity. The design of pedestrian spaces should be inclusive, intuitive and inviting for all people to use. The pedestrian environment should encourage walking and accommodate users of all abilities. The following policies improve the quality of street and pathway design throughout Guelph:

- 1.2.2.1** The City will maintain its commitment to improving the pedestrian design of main streets in mixed use nodes and intensification areas, and in the Downtown core by prioritizing the following design elements:

- a) Limiting block sizes;
 - b) Introducing midblock crossings, where appropriate;
 - c) Providing buffers between the pedestrian walkways and road
 - d) Providing quality street furniture
 - e) Including street trees; and
 - f) Upgrading pedestrian lighting.
- 1.2.2.2** The City will design new and transform existing streets and pathways, through road reconstruction or retrofit projects, to be accessible for all pedestrian users, where possible.
- 1.2.2.3** The City will develop a process for how, when and where accessibility improvements to existing sidewalks and multi-use paths are identified, prioritized, and funded through the Pedestrian Master Plan.

1.2.3 Provide maintenance and management

The following policies provide maintenance and management of walking routes to ensure safety and accessibility.

- 1.2.3.1** The City will continue to meet or exceed appropriate Municipal Maintenance Standards of surface conditions, width, and lighting on pedestrian facilities.
- 1.2.3.2** The City will review the city-wide sidewalk snow plowing strategy along Active Transportation and transit networks both on- and off-road to improve alignment with the Transportation master plan goals.
- 1.2.3.3** To ensure regular maintenance and management of the off-road trails, the City will continue to follow the *Guelph Trails Master Plan* by:
- (a) Developing well-marked trail wayfinding signage that is easily recognizable, attractive and understandable, and coordinated with other networks in the city as applicable;
 - (b) Monitoring and managing the trail systems;
 - (c) Providing trail connections to surrounding municipalities, regional, provincial, and national trails;
 - (d) Providing access to major points of cultural interest, recreation, employment and school destinations in the City;
 - (e) Improving connection opportunities to other modes of travel (e.g. public transit) with linkages between on-road and off-road routes; and
 - (f) Exploring creative strategies to improve connectivity across major barriers such as arterial roads, the Hanlon Expressway, rivers and railways

1.3 Improve pedestrian safety and promotion

This section provides an integrated, holistic review of how the City will work to promote walking and make it safer and more comfortable for pedestrians.

1.3.1 Administer pedestrian safety programs

Pedestrian safety has been consistently identified as a top priority by the City of Guelph. The 2020 *Community Road Safety Strategy* provides the City with a high-level road safety plan, which includes a broad range of road safety measures and specific traffic calming policies. The following policies are recommended to provide enhanced safety for the pedestrian environment:

- 1.3.1.1 The City will continue to implement the Community Road Safety Strategy as a tool to improve pedestrian safety city-wide.
- 1.3.1.2 The City will require that the pedestrian crossing times be increased at signalized intersections in the Pedestrian Priority Network (Schedule 1).

1.3.2 Promote walking as a mode of travel

- 1.3.2.1 The City will continue to promote walking and the use of personal mobility devices as a practical mode of transportation, and as a fitness and recreational activity all year round.
- 1.3.2.2 In order to promote and encourage walking and the use of personal mobility devices for more trips, the City will continue to adjust and improve the existing *Transportation Demand Management* program to influence when, where and how people walk around Guelph, including but not limited to
 - (a) Walk to school programs
 - (b) Supportive materials for new developments
 - (c) Collaborations with employers.

1.4 Future Ready

As new transportation innovations and technologies emerge, the way people and goods move in urban environments will change and disrupt our transportation networks. Anticipating these changes and understanding the challenges and opportunities they present is critical for forecasting what transportation will look like in the future, and enables Guelph to mitigate any negative impacts.

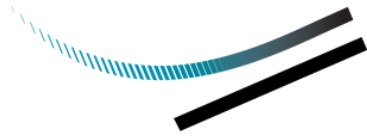
This section outlines innovations and trends in planning for pedestrians that the City should explore, research, anticipate, and/or plan to create a “future-ready” Guelph.

1.4.1 Innovations and trends for further exploration

- 1.4.1.1 Continue to research, investigate, and implement sustainable transportation strategies by building upon pedestrian and TDM initiatives in the Sustainable Transportation program.
- 1.4.1.2 Continually monitor pedestrian safety technologies emerging from advanced driver assistance systems and autonomous vehicles, and assess how these can be

integrated in road safety and pedestrian policies and plans. For instance, reduced speed limits give drivers the ability to react to their warning systems to avoid accidents and save lives.

- 1.4.1.3** Explore the possibilities for integrating digital technology and infrastructure within the public realm to enhance the pedestrian experience and help meet consumer demands for mobile connectivity. For example, digital wayfinding displays or smart street furniture with mobile phone charging.
- 1.4.1.4** Improve data collection and analysis to identify changes in pedestrian movement patterns, volumes and safety considerations to inform updates to network planning and design considerations as well as the regulatory framework supporting pedestrian movement. Adjust future mode share targets, as appropriate.



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Cycling policies

2.0 Cycling Policies

This section of the Transportation Master Plan (TMP) presents the policies related to cycling and micro-mobility movement.

Relevant Goals that Align with the Cycling Policies:

Goal 1: People of all ages and abilities will be able to travel safely using any transportation mode that they choose

Goal 2: Guelph's transportation system will be easy-to-use, reliable and give people and businesses the options they want when they need them.

Goal 4: The carbon footprint from the transportation sector will aim for net zero by 2050

Goal 5: Guelph's streets, trails and rail networks will align with the City's land use objectives

Goal 7: Guelph's transportation system will plan for the changes of tomorrow, while delivering great service today

Cycling is a popular activity in Guelph that has numerous benefits for both riders and the community which leads to a better quality of life for residents. Its infrastructure can be used by both bikes and *micro-mobility* devices, such as e-scooters, e-bikes, and skateboards. Building capacity for cycling supports cycling and micro-mobility as practical modes of transportation and recreation throughout the city, thus this chapter references and contains policies for both types of mobility.

In 2016, the City-wide mode share for cycling was 3%. The Transportation master plan sets a cycling mode share target of 10% by 2051. Rebalancing the mode share will reduce pressure on the road network. Achieving this mode share will require improvements to the off-road and on-road cycling facilities across Guelph.

The Guelph TMP establishes the *Cycling Spine Network* (Schedule 2), to identify key corridors for cycling and micro-mobility in Guelph.

2.1 Continue to build and maintain a network of quality cycling facilities

2.1.1 Continue to build the cycling network

The cycling network in Guelph includes facilities on street, within street boulevards, and off-street using multi-use trails in dedicated corridors that are part of the Active Transportation Network. The following policies are recommended to continue the development of the cycling network:

- 2.1.1.1 Where the TMP has identified the *Cycling Spine Network*, the City shall give precedence to implementing the recommended facility types of this plan over the 2013 Cycling Master Plan until the Cycling Master Plan is updated.

- 2.1.1.2** The City will support the ongoing enhancement of a bicycle network that is well connected and comfortable, serving both commuter and recreational purposes throughout the city by:
- a) Implementing a *Multimodal Level of Service Guidelines* that include safety analysis for links and intersections in accordance with the priority networks recommended by the TMP;
 - b) Providing linkages between intensification areas, and adjacent neighbourhoods
 - c) Ensuring connectivity from north to south and east to west
 - d) Providing bicycle paths along rail lines, where appropriate and where they conform with safety regulations;
 - e) Providing direct connections to bus stops and other major cycling destinations, including the University of Guelph, intensification corridors and community mixed-use nodes, Downtown, employment areas and major shopping areas;
 - f) Providing direct connections between the off-road trail and on-street networks;
 - g) Providing direct connections to schools; and
 - h) Providing connections to link neighbourhoods that are separated by physical barriers, such as the Hanlon Expressway, the rivers, and the rail lines.
- 2.1.1.3** The City will continue to expand the cycling network through four different approaches:
- i. As part of new development, through the development review process;
 - ii. As an update to the Development Engineering Manual and Linear Infrastructure Design Standards through the development of a complete Streets Design Guide
As retrofit projects, to fill in “missing links” of the existing cycling network; and
 - iii. As *capital projects*, to construct new connections across key barriers to cycling.
- 2.1.1.4** The City will design the *Cycling Spine Network* to serve cyclists and other *micro-mobility* users of all ages and abilities. This means that the facilities are designed to feel intuitive and comfortable for anyone from children to seniors, and people who are new to cycling, or may have disabilities and use adaptive bicycle types, and other modes as permitted by local traffic by-law. When implementing the facilities, the City should review the current and planned roadway characteristics and conditions to ensure that the facility being implemented is still appropriate for the context. Current facility selection guidance, such as from the forthcoming OTM Book 18 and the NACTO Designing for All Ages & Abilities Guide, should be considered.
- 2.1.1.5** The *Cycling Spine Network* shall be designed to be used by other *micro-mobility* modes as demand grows and as permitted through the Traffic By-Law and Ministry of Transportation regulations.
- 2.1.1.6** The City will implement intersection improvements to improve connectivity, user experience and safety, particularly along the *Cycling Spine Network*.

- 2.1.1.7** Through updating the Cycling Master Plan, the City will identify network gaps, continue to evaluate, identify and prioritize candidate retrofit projects. Prioritization and implementation will align with the overall goals and values established through the TMP and be refined through the Capital budget process.
- 2.1.1.8** The *Downtown Secondary Plan* indicates that it is the City's objective to provide a continuous active transportation trail, interrupted only by streets, along the west side of the river's edge between Royal City Park and Goldie's Mill Park, and on the east side of the river, south of the Guelph Junction Railway. The City will acquire land for such purposes through the dedication of parkland at the time of development, public easements or other methods of acquisition including outright purchase. In addition to, or alternatively, the City may incorporate portions of the trail within street rights-of-way.
- 2.1.1.9** The City will support connections to and from provincial and regional cycling routes that facilitate opportunities for tourism and travel to, from and through Guelph.
- 2.1.1.10** The City will give consideration to planning for and accommodating new and emerging modes of micro-mobility that meet the goals of this plan to be sustainable, human-powered, and affordable.

2.1.2 Maintain cycling facilities

Proper maintenance of on-street and off-street facilities is fundamental to provide comfortable and safe cycling year-round. Cyclists are more susceptible to surface irregularities; risking injury from cycling over potholes, road cuts and cracks, ice, snow and debris. The following policies are recommended to continue the maintenance of cycling facilities:

- 2.1.2.1** The City will continue to maintain infrastructure to provide comfortable and convenient passage for cyclists.
- 2.1.2.2** The City will continuously refine and implement design and maintenance standards to improve year-round use of the *Cycling Spine Network* and to reduce the risk of collisions and injuries.
- 2.1.3.3** The City will identify a basic winter network within the Cycling Spine Network and the Active Transportation Network. The winter-maintained network may be expanded as winter cyclist volumes increase, and as the City builds more separated or buffered cycling facilities.

2.2 Create attractive intermodal connections

Creating a cycling-friendly city requires facilities to allow people who bike to transfer conveniently to transit. To improve this process, the City will commit to the following policies:

- 2.2.1.1 The City will continue to ensure all buses are equipped with bicycle racks.
- 2.2.1.2 The City will continue to provide bicycle parking facilities at key transit nodes and transfer points, including continuing to expand long-term and short-term bicycle parking throughout Downtown Guelph.
- 2.2.1.3 The City will seek to provide quality cycling connections to access key transit nodes and transfer points through the implementation of the Cycling Spine Network or the Cycling Master Plan..
- 2.2.1.4 As *micro-mobility* options become more prevalent in Guelph in future, the City will explore ways to accommodate intermodal connections at transit stops and stations, such as designated storage or parking areas or mobility-as-a-service apps.

2.3 Create attractive trip-end facilities

2.3.1 Provide public bicycle parking

- 2.3.1.1 The City will continue to provide short- and long-term bicycle parking facilities such as bike racks or bike parking rooms throughout the Downtown and at City-owned properties such as parks museums, libraries and recreational facilities.
- 2.3.1.2 The City will consider the needs of short-term and long-term bicycle parking when it updates the Downtown Parking Master Plan.

2.3.2 End-of-trip facilities on private property

- 2.3.2.1 The City will use the Zoning Bylaw to establish minimum provisions for on-site bicycle parking and storage of bicycles and other personal transportation devices for new developments.
- 2.3.2.2 The City will develop a strategy to address end-of-trip facilities throughout the City at existing developments when it updates the Cycling Master Plan.

2.4 Improve cycling safety and promotion

2.4.1 Administer cycling safety programs and promote cycling as a mode of travel

The promotion of cycling is a critical piece to rebalance the cycling mode share across the city.

- 2.4.1.1 The City will continue to adjust and improve the existing *Transportation Demand Management* program to influence when, where and how people cycle around Guelph.

- 2.4.1.2** The City will continue to promote cycling as a convenient and attractive mode of transportation, and as a fitness and recreational activity, particularly through the cycling safety programs.
- 2.4.1.3** The City will enhance the visibility of cycling as a viable mode of transportation by updating the Cycling Master Plan to:
- a) Continue to form partnerships and support advocacy groups to enhance cycling.
 - b) Coordinate programs for local employers that encourage employees and customers to cycle.
 - c) Continue to collaborate with partners to reinforce road safety messages and practices;
 - d) Enhance the visibility and wayfinding of the cycling network; and
 - e) Continue to enhance recognition and influence of the “Bicycle-Friendly Guelph” brand.
- 3.4.1.4** The Cycling Spine Network (Schedule 2) identifies locations where the City wishes to improve the quality of the cycling network to be all ages and abilities friendly. Intersection and corridor design and operations in these areas will seek to prioritize the safety and comfort of people on bikes through the use of a Multi-modal Level of Service guideline.

2.5 Future Ready

As new mobility innovations and technologies emerge, the way people and goods move in urban environments will change and disrupt our transportation networks. Anticipating these changes and understanding the challenges and opportunities they present is critical for forecasting what transportation will look like in the future and enables Guelph to mitigate any negative impacts.

This section outlines innovations and trends in cycling and micro-mobility that the City should explore, research, anticipate, and/or plan to create a “future-ready” Guelph.

2.5.1 Innovations and trends for further exploration

- 2.5.1.1** Explore micro-mobility options and how they can be accommodated in Guelph’s transportation network, including opportunities for intermodal connections at transit stops and stations, impacts on facility designs, and updates to the Traffic By-law to permit new types of vehicles in City roads and rights of way.
- 2.5.1.2** Continue to research, investigate, and implement sustainable transportation strategies by building upon cycling and TDM initiatives in the Sustainable Transportation program.
- 2.5.1.3** Regularly monitor federal and provincial government funding, pilot projects and program opportunities to assist with investing in cycling and micro mobility technologies and infrastructure.

2.5.1.4 Evaluate the opportunity to introduce or adopt shared mobility services like e-scooters, and e-bikes in achieving the TMP cycling mode share target.



City of Guelph Transportation Master Plan

Transit policies

3.0 Transit Policies

This section of the Transportation Master Plan (TMP) presents the policies related to transit movement.

Relevant Goals that Align with the Transit Policies:

Goal 1: People of all ages and abilities will be able to travel safely using any transportation mode that they choose

Goal 2: Guelph's transportation system will be easy-to-use, reliable and give people and businesses the options they want when they need them.

Goal 3: Transit service will provide travel times and traveler convenience at levels that are competitive with travel by car

Goal 4: The carbon footprint from the transportation sector will aim for net zero by 2050

Goal 5: Guelph's streets, trails and rail networks will align with the City's land use objectives

Goal 7: Guelph's transportation system will plan for the changes of tomorrow, while delivering great service today

The Guelph *Official Plan* indicates that the City's transportation system will be planned and managed to offer a balance of transportation choices that reduce reliance upon any single mode, and promote transit, as well as cycling and walking. The 2016 City-wide mode share for transit is 7%. The City of Guelph is targeting to increase transit mode share to 17% by 2051. Rebalancing the mode share will require the City to make transit more attractive than automobile use for an even greater number of residents. Ongoing efforts to improve the availability, reliability, speed, accessibility and comfort of transit service will improve the transit user experience and make transit a more viable transportation choice.

Transit ridership growth strategies in Guelph will be centered on the *Quality Transit Network*. The *Quality Transit Network* is a network of corridors with frequent transit service where improvements will be implemented to improve service and reduce travel delay for buses. The *Quality Transit Network* will be complemented by the city's larger network of transit routes that will be reviewed through its regular updates to its Transit Master Plan.

3.1 Build and maintain a quality transit network

To encourage people to use transit, the network needs to be direct, affordable, accessible, and safe. This section addresses the need for a quality transit network and user experience.

3.1.1 Implement the Quality Transit Network

- 3.1.1.1** The implementation of the *Quality Transit Network* (Schedule 3) shall be staged, with elements of the priority network beyond Stage 1 coming online when and if the need for them emerges, according to the following guidelines:

Stage 1 – Increase frequency of service and/or optimize performance for all routes on the Quality Transit Network

Stage 2 – Implementation of transit priority measures where buses continue to experience significant delays (more than five minutes late), as defined by Guelph Transit's on-time metric, even with Stage 1 implemented, and subject to environmental assessment studies.

Stage 3 – Conversion of general traffic lanes to dedicated transit lanes (either at peak times or all-day) on existing four-lane streets and/or widening existing two-lane streets to four lanes to create dedicated transit lanes where delay and ridership warrants it according to Guelph Transit performance metrics, subject to environmental assessment studies

- 3.1.1.2 The City will implement frequent transit service in all *Quality Transit Network* corridors, as per the 2021 Route Review, and beyond 2031 subject to the future Guelph Transit Master Plan.
- 3.1.1.3 The City will monitor ridership and performance metrics in all *Quality Transit Network* corridors and initiate the required planning and design studies for Stage 2 network modifications when conditions demonstrate they are needed.
- 3.1.1.4 The City will improve passenger amenities, including shelters, bicycle racks, and seating, in the *Quality Transit Network* corridors to improve the experience for customers.

3.1.2 Continue to improve the transit level of service across the City

The following policies are recommended to continue the development of the transit network and align it with the TMP Vision and Goals.

- 3.1.2.1 The City will undertake a Transit Master Plan update.
- 3.1.2.2 The City will implement an equity lens into regular transit service reviews to ensure that everyone in the community is able to access and use the transit system.
- 3.1.2.3 The City will continue to ensure that Guelph Transit services and amenities are accessible, inviting and comfortable places to be.
- 3.1.2.4 The City will continue the transition of buses and fleet vehicles to zero tail-pipe emissions, and implement infrastructure upgrades required to accomplish this.
- 3.1.2.5 The City will continue to study opportunities for *Alternative Service Delivery* and micro-transit in Guelph.

- 3.1.2.6 The City will identify if the transit system requires additional maintenance and storage facilities to provide additional service beyond what is planned for the new Operations Campus by 2041.
- 3.1.2.7 The City will continue to assess where additional terminals are needed in addition to the planned hub in the Clair Maltby Secondary Plan Area.
- 3.1.2.8 The City will continue to follow the direction of the 2019 Transit Business Service Review, which has set a target for 90% of the population to be within 400 metres of service. Otherwise, it is expected that bus stops be provided at regular intervals, generally within 400 metres of every residence and business.

3.1.3 Prioritize active transportation access to transit

- 3.1.3.1 The City will continue to plan for trails, sidewalks, or pathways in appropriate locations to increase pedestrian and cyclist accessibility to transit services.
- 3.1.3.2 The City will continue to improve the integration between public transit and active transportation modes through measures such as installing bicycle racks on buses, bicycle parking at transit terminals, and shelters at stops.

3.1.4 Continue to provide transit access to persons with disabilities

- 3.1.4.1 The City will meet or exceed the *Accessibility for Ontarians with Disabilities Act* (AODA) and the *Facility Accessibility Design Manual* for accommodating persons with disabilities within the Guelph Transit system and services.

3.2 Develop the Guelph Central Station

3.2.1 Continue to develop the Guelph Central Station

In keeping with the vision for a complete and transit supportive community, Downtown is identified as a *Major Transit Station Area* in Schedule A of the *Official Plan* (July 2021 consolidation), and as designated by the Province of Ontario in *A Place to Grow: Growth plan for the Greater Golden Horseshoe*. The *Major Transit Station Area* supports both inter-city transit service as well as local transit service and functions as the central hub providing connections within and outside the city.

Guelph Transit's main terminal is named Guelph Central Station. It forms part of a central transit hub adjacent to the VIA/Metrolinx rail station and plays a critical role in implementing the City's Transit Growth Strategy.

- 3.2.1.1 The TMP continues to support the *Official Plan* policies that state that the *Major Transit Station Area* will generally be planned and designed to:
 - (a) Achieve increased residential and employment densities that support and ensure the viability of existing and planned transit infrastructure and service;

- (b) Achieve a mix of residential, office, institutional and commercial development, where appropriate; and
 - (c) Provide access from various transportation modes to the transit facility including consideration of pedestrians, bicycle parking and commuter pick-up/drop-off areas.
- 3.2.1.2** The Downtown Secondary Plan (*Official Plan* July 2021 consolidation) recommends transit priority measures on Downtown Primary Streets, Downtown Main Streets and in the immediate vicinity of the *Major Transit Station Area*, such as signal priority and queue jumping lanes.
- 3.2.1.3** The City will continue to work with VIA, Metrolinx, inter-city transit providers and other stakeholders to ensure all planned transit functions of the Guelph Central Station are accommodated and coordinated in an efficient manner that supports the broad objective to create an attractive and transit-oriented Downtown.
- 3.2.1.4** The City will continue to work with Downtown property owners, employers and residents to capitalize on the Guelph Central Station and monitor any impacts it may have on its immediate surroundings.
- 3.2.1.5** The City will investigate the need for a connection linking Neeve Street to Farquhar Street to facilitate vehicular and pedestrian circulation associated with the Guelph Central Station.
- 3.2.1.6** The City will determine the role the Guelph Central Station will play in supporting the transition of buses to zero tail-pipe emission vehicles.

3.3 Increase cross boundary transit trips

In 2021, Guelph offers inter-regional transit connections with GO Transit (by bus and train), Wellington County on-demand RIDE WELL (ridesharing transit service) and Kasper Transportation (bus). This section addresses the opportunity for more transit trips between Guelph and surrounding communities.

3.3.1 Continue to support the development of two-way all-day GO Rail service

The Metrolinx GO rail service is the primary focus for improving transit service between Guelph and Toronto and Guelph and Kitchener. GO Transit operates trains between Guelph Central Station and Toronto Union Station 20 times a day (as of September December 2021). Metrolinx continues to advance two-way all-day GO service in the near term in the Kitchener corridor, while working towards electrification in the long term, as per the Metrolinx 2041 Regional Transportation Plan.

Forecasts (2041) from the business case suggest that providing two way, all day service in the Kitchener corridor will result in annual boardings at the Guelph Central Station of approximately 650,000 persons, reflecting a 128% increase over the 285,000 persons forecasted for the

business-as-usual scenario.¹ The improved service is also expected to significantly reduce travel times between Guelph and Union station in Toronto.

Though specific dates for the completion of these studies and the resulting infrastructure expenditure to realize two-way, all-day service are not identified, it is possible that this will be realized in the next 10 years.

Two-way all day GO Service may require closure or safety improvements of a number of existing at-grade crossings to ensure safety for all travellers. Closures of existing at-grade crossings would have a negative impact on active transportation and/or vehicular circulation and access to some downtown neighbourhoods. The level rail crossing transportation study (2022) assesses the requirement for at-grade crossing closures, identifies implications of the closures, and proposes a mitigation strategy to offset the impacts.

- 3.3.1.1** The City will continue to work with Metrolinx to advance and support delivery of two-way all-day GO service in the near term in the Kitchener corridor, while working towards electrification in the long term.
- 3.3.1.2** The City will continue to provide the Guelph Transit and GO Transit co-fare program, and will participate in future fare integration programs proposed by Metrolinx.
- 3.3.1.3** The City will seek to maintain appropriate vehicle, and/or cycling and pedestrian network connectivity across the Metrolinx rail corridor as train frequency and speeds increase.

3.3.2 Increase transit trips to adjacent communities

- 3.3.2.1** The City will continue to encourage and participate in studies and programs leading to the planning and implementation of inter-urban bus and micro transit services that connect Guelph to other nearby urban centres in southwestern Ontario.
- 3.3.2.2** The City will complete a study on the feasibility of *Park-and-Ride facilities* to increase the use of transit for trips between Guelph and adjacent communities.
- 3.3.2.3** The City will continue to work with involved railway companies and other levels of government to increase the availability of inter-city passenger rail transportation for Guelph.

3.4 Strengthen the relationship between land use and transit

Guelph is one of the fastest growing cities in Ontario, and is anticipated to grow its population by 50% by 2051. To continue rebalancing the mode share in the future, public transit will need to

¹ These forecasts were prepared before the COVID-19 pandemic. For more information about anticipated COVID impacts refer to the COVID strategic assessment paper.

keep attracting ridership and accommodating for this growth. This section focuses on strengthening the relationship between land use and transit in order to increase the efficiency and attractiveness of transit service.

3.4.1 Continue to support transit and land use cooperation

Strong transit connections to residential neighbourhoods, and jobs in the intensification corridors and mixed-use nodes (identified in Guelph's *Official Plan*) will allow the City to develop without relying on automobiles. The Guelph *Official Plan* directs the City to ensure the coordination between transportation system planning, land use planning, and transportation investment. The following policies are recommended to strengthen the coordination between transit and land use planning.

- 3.4.1.1** The transit service guidelines set walking standards for intensification areas and general areas to ultimately achieve ridership goals. The City will use these guidelines to evaluate the road and trail network by identifying areas that do not achieve these standards.
- 3.4.1.2** To ensure that public transit is an attractive, energy efficient and convenient means of travel, the City will continue to follow the *Official Plan* (July 2021 consolidation), which has set the following objectives for the City:
- a) Plan for a compact urban form by promoting mixed and transit-supportive land uses, urban intensification, a strong Downtown and urban structure of nodes and corridors as identified on Schedule 1 of the *Official Plan*;
 - b) Consider public transit as a high priority for transportation infrastructure planning, second only to active transportation;
 - c) Ensure the creation of a road network that permits reasonable walking distances to and from transit stops for a majority of residences, jobs and other activities in the area;
 - d) Ensure that the phasing of new development allows for the provision of transit service in the early phases of new development so that using transit is a viable option for the first occupants;
 - e) Require development proponents to plan for the provision of transit in an integrated and comprehensive manner including the location of transit routes and facilities, where appropriate; and
 - f) Consider the impacts on transit when planning the locations for higher density housing, commercial and employment centres.
- 3.4.1.3** In the review of development applications that involve major traffic generators and of facilities potentially used by transit riders, the City will continue to require the provision of on-site or off-site facilities, such as transit user amenities, integrated mobility options, accessibility accommodations, or road improvements that will facilitate public transit service as appropriate.

- 3.4.1.4 The City will work with other levels of government and service providers to ensure that any new community facilities are within existing or planned transit supportive development, and/or within a short walking distance to frequent transit service.
- 3.4.1.5 The City will encourage all future development to take the form of *Complete Communities/Transit Supportive Development*.
- 3.4.1.6 The City will place priority on increasing the level of service of existing transit to support intensification areas, and expand transit service to areas which have achieved, or plan to achieve, transit-supportive residential and employment densities, together with a mix of land uses whenever possible.
- 3.4.1.7 The City will consider extending frequent transit service to more employment areas as part of the next Transit Master Plan update.

3.5 Improve transit promotion

The promotion of transit is a critical piece to the rebalancing of mode share across the city. Network improvements and prioritization are very important; but so too is the active management of mode choice through an on-going effort to manage transportation demands. The City of Guelph has an existing *Transportation Demand Management* program that can be leveraged, expanded and strengthened to be the necessary complement to the network strategies.

3.5.1 Promote transit as a mode of travel

- 3.5.1.1 The City will promote transit as a desirable, affordable, and environmentally sustainable mode of transportation. It is a priority to make transit more convenient and simple to understand, through various communication channels and in partnership with school boards, agencies, police services, Wellington County, developers, employers, and community organizations. A key message will be the practicality of transit and its importance to decreasing carbon emissions and improving air quality.
- 3.5.1.2 The City will explore opportunities for enhanced trip planning tools to help travelers make multi-modal transportation decisions in real-time.
- 3.5.1.3 Through the establishment of an Emerging Transportation Technologies office, the City will explore opportunities for Guelph Transit to leverage new service models or technologies that keep Guelph future-ready and resilient.

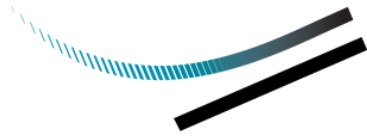
3.6 Future Ready

As new transportation innovations and technologies emerge, the way people and goods move in urban environments will change and disrupt our transportation networks. Anticipating these changes and understanding the challenges and opportunities they present is critical for forecasting what transportation will look like in the future, and enables Guelph to mitigate any negative impacts.

This section outlines innovations and trends in transit that the City should explore, research, anticipate, and/or plan to create a “future-ready” Guelph.

3.6.1 Innovations and trends for further exploration

- 3.6.1.1** The City will explore the possibility of using mobility-as-a-service (MaaS) platforms to pay for a variety of mobility options available in Guelph.
- 3.6.1.2** The City will continue to implement TDM initiatives that promote and support the shift to transit
- 3.6.1.3** The City should monitor and study the opportunities for autonomous transit buses or shuttles in Guelph.
- 3.6.1.4** The City should monitor post-COVID-19 transit ridership trends and adjust service forecasts and plans accordingly.



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City of Guelph Transportation Master Plan

Goods movement policies

4.0 Goods Movement Policies

Relevant Goals that Align with the Goods Movement Policies:

Goal 4: The carbon footprint from the transportation sector will aim for net zero by 2050

Goal 5: Guelph's streets, trails and rail networks will align with the City's land use objectives

Goal 6: Investment decisions will be made considering the asset lifecycle costs

Goal 7: Guelph's transportation system will plan for the changes of tomorrow, while delivering great service today

The City recognizes the importance of safe and efficient movement of goods to Guelph's economic livelihood and regional competitiveness. Guelph's goods movement policies consider the connection of Guelph's industries and businesses to the surrounding region and the overall North American freight movement system to facilitate the safe and efficient movement of raw materials and finished products. They also consider the operation of trucks and trains on the Guelph transportation system; looking to offset negative impacts of heavy vehicles on other modes while allowing for the safe delivery and pick up of materials.

The *Goods Movement Priority Network* is a network of streets that facilitate the efficient and safe movement of goods in the City, while striving to minimize associated social and environmental impacts. It is designed to allow large vehicles to travel through the city efficiently while safely interacting with people who are walking or cycling on the same streets.

4.1 Prepare a comprehensive goods movement strategy

Guelph's freight movement system consists of truck and rail freight operating on facilities owned by multiple parties (City of Guelph, Ministry of Transportation, *Guelph Junction Railway*, Metrolinx, and Canadian National Railway). The City of Guelph does not currently have a comprehensive *Goods Movement Strategy*. The *Goods Movement Priority Network* in the TMP reflects the City's existing permissive truck route network.

4.1.1 The City will prepare a comprehensive *Goods Movement Strategy* to reflect the *Official Plan* policies and to inform:

- a) Any required updates to Guelph's permissive truck route network (Schedule 4);
- b) The required design parameters for trucks on Guelph's streets;
- c) The role of the *Guelph Junction Railway* in moving freight in Guelph and opportunities to shift goods to rail;
- d) The potential impact of emerging technology and modes, including autonomous drone or vehicle services, cargo-bicycles and e-commerce;
- e) Consideration of accommodating long-combination vehicles in designated areas;

- f) Designated delivery hours for key neighbourhoods; and
- g) Curbside management controls and strategy.

4.2 Enable efficient goods movement with trucks

Trucks are the primary local freight transportation option in Guelph. The City maintains a comprehensive truck route system that consists of arterial and collector roads that connect the region to Guelph's industrial and commercial areas. This section will review the movement of goods with trucks in Guelph.

4.2.1 Designate truck routes to serve the industry and protect neighbourhoods

4.2.1.1 The City will continue to work with the Province, agencies and transportation service providers to implement the recommendations of the *Official Plan* goods movement policies.

4.2.1.2 The City will continue to follow the *Official Plan* trucking and goods movement policies, which identifies that the City is responsible for minimizing the impact of trucks upon residential areas by following these policies:

- a) Truck routes may be used to direct through truck traffic to avoid certain residential streets. Truck routes, if provided, will be designed to maximize accessibility to commercial and industrial areas of the city;
- b) The City will use the Zoning bylaw to manage land uses, activities and home occupations that generate truck traffic;
- c) The City will coordinate with the Province, Wellington County and neighbouring municipalities on the planning and design of an efficient goods movement system that minimizes community and traffic impacts; and
- d) Truck use will be regulated through a permissive truck route system and regulations, pertaining to heavy trucks, which is contained in the City's Traffic By-law, as amended from time to time.

4.2.2 Consider truck needs in road planning, design and construction

4.2.2.1 When constructing or rehabilitating roads, the City will consider trucking needs through the use of appropriate design standards and the inclusion of features such as on-street loading areas and separated cycling and/or *micro-mobility* facilities.

4.2.2.2 The City will monitor opportunities to enhance the truck route network through road rehabilitation and through enabling the adjustment or removal of seasonal weight restrictions.

4.2.2.3 On Primary or Downtown Main Streets where blocks do not have secondary access from a Laneway, Secondary Street or Local Street, the City will continue to address loading within the design of the right of way.

4.2.3 Monitor and consult with large truck and logistics users for mutual benefit

Accommodating freight in a community requires continuous knowledge sharing from experts in the field. The following policies are recommended for supporting knowledge sharing and innovation.

- 4.2.3.1** The City will regularly engage with large truck and logistics users to quantify freight demand characteristics, the use of arterial roads by trucks, and the congestion, noise and safety impacts of truck movements.
- 4.2.3.2** The City will encourage the industry to explore goods movement technologies and practices that can reduce community impacts, improve efficiency and enhance regional competitiveness. These could include intermodal terminals that enable a transfer of freight tonnage from road to rail.

4.3 Enable efficient goods movement with rail

Guelph is connected to crucial freight corridors through the *Guelph Junction Railway*, Canadian National Railway and the Canadian Pacific Railway. This section will review the movement of goods with rail in Guelph

4.3.1 Continue to provide rail service to industrial areas and protect neighbourhoods

The City recognizes the need for railway freight transportation within and through the City to be safe, sustainable, and efficient. The following policies are recommended for rail service in Guelph.

- 4.3.1.1** The City will continue to minimize road/rail conflict wherever possible. In light of the potential for significant environmental, social and cost impacts associated with grade separating rail and road crossings, the City will follow Transport Canada Grade Separation Assessment Guidelines. The City has identified the potential for a road/rail grade separation at the following locations:
 - (a) at Silvercreek Parkway and Canadian National Railway grade;
 - (b) at Edinburgh Road and the GO rail line; and
 - (c) at the intersections of the Guelph Junction Railway with Woodlawn Road and Edinburgh Road.

These locations should be subject to further study to determine if and how grade separation is provided.

- 4.3.1.2** The City will continue to facilitate the provision of rail freight service to employment areas, where feasible, including the continued support of the City-owned Guelph Junction Railway Company.

4.3.2 Continue to consider rail supportive land use

Land use development near railways can presents incompatibility challenges. This section will review the land use planning procedures when in close proximity to railways.

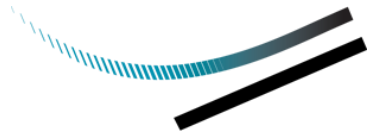
- 4.3.2.1** The City will continue to follow the *Official Plan* when there are proponents of development in proximity to a railway:
- a) Must demonstrate, to the satisfaction of the City, that applicable safety requirements can be satisfied;
 - b) Meet the requirements of the noise and vibration policies of this *Plan*; and
 - c) Implement other mitigation and buffering measures such as set-backs, intervening berms and security fencing as may be required as a condition of subdivision approval or other development approval.
- 4.3.2.2** Where development cannot reasonably achieve standard safety measures, the City, in consultation with the affected railway, may consider a site specific risk management approach to meeting safety and security requirements.
- 4.3.2.3** While the preliminary review does not indicate a strong potential for passenger rail service on the *Guelph Junction Railway* line, the City supports reviewing the case for passenger rail service in concert with future municipal comprehensive *Official Plan* review.

4.4 Future Ready

As new transportation innovations and technologies emerge, the way people and goods move in urban environments will change and disrupt our transportation networks. Anticipating these changes and understanding the challenges and opportunities they present is critical for forecasting what transportation will look like in the future and enables Guelph to mitigate any negative impacts. This section outlines innovations and trends in goods movement that the City should explore, research, anticipate, and/or plan to create a “future-ready” Guelph.

4.4.1 Innovations and trends for further exploration

- 4.4.1.1** The City will explore ways to accommodate and support new courier network services that have recently emerged to meet the increasing last-mile home delivery demands, such as cargo bikes.
- 4.4.1.2** The City will research effective curbside management practices and technologies to better balance and optimize the rising short-term curb space demands due to the increase of ride hailing services (like Uber), delivery vehicles, curbside pickups and drop-offs, along with transit, accessibility, and vehicle parking.
- 4.4.1.3.** The City should stay up-to-date on emerging delivery technologies that may appear over the next few decades and their potential impacts, including autonomous transport for both long distance and last-mile deliveries, and large-scale drone deliveries.



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City of Guelph Transportation Master Plan

Roads policies

5.0 Roads Policies

Relevant Goals that Align with the General Policies:

Goal 1: People of all ages and abilities will be able to travel safely using any transportation mode that they choose

Goal 4: The carbon footprint from the transportation sector will aim for net zero by 2050

Goal 5: Guelph's streets, trails and rail networks will align with the City's land use objectives

Goal 6: Investment decisions will be made considering the asset lifecycle costs

Goal 7: Guelph's transportation system will plan for the changes of tomorrow, while delivering great service today

The 2016 City-wide mode share for cars is 80%. The City of Guelph is targeting to decrease car mode share to 58% by 2051. Adjusting the mode share through various tools and strategies, will help manage congestion pressure on the road network, and improve equity, accessibility, and quality of life for Guelph residents. The following sections provide some of those tools and strategies.

5.1 Build a sustainable road network

5.1.1 Create new tools and expand existing ones to promote sustainable transportation modes

5.1.1.1 The City will develop a *Complete Streets Design Guide* to inform all future street design. The *Complete Streets Design Guide* will:

- a) Continue to reflect the functional street classifications in this plan, as well as the 2014 City of Guelph Downtown Streetscape Manual and the 2021 City of Guelph *Official Plan*, and as noted in the proposed Street Hierarchy of this plan (Schedule 5)
- b) Continue to ensure that the design of roads incorporate streetscape and design elements determined through the road design process that are consistent with the Urban Design policies of existing plans, where appropriate, based on the planned function of the road. The City will continue to be guided by the street, mid-block, intersection, and public transit facilities design guidelines found in the following resources, which will continue to evolve over time. The specific direction on how to design streets will need to be confirmed once the *Complete Streets Design Guide* is complete:
 - 2021 City of Guelph *Official Plan*
 - 2015 Facility Accessibility Design Manual;
 - 2014 City of Guelph Downtown Streetscape Manual;
 - Development Engineering Manual;

- Linear Infrastructure Standards; and
 - Current industry guidelines (e.g. Ontario Traffic Manual, Transportation Association of Canada).
- c) Continue to consider road designs that are innovative in terms of multi-modal and environmental considerations which lower environmental impacts and improve sustainability.
- d) Be used to update the right-of-way table and intersection improvement table (Table 5.1 and 5.2) in the *Official Plan*

5.1.1.2 The City will develop a *Multimodal Level of Service Guideline* to guide and inform the decision making during the planning, design, and operations of streets and intersections.

5.1.2 Ensure the road network and system can accommodate new residents

The population of Guelph is projected to grow by 203,000 residents and 116,000 jobs by 2051. The road network and system will need to be planned intentionally to accommodate this new growth, and with an eye to achieving mode share targets. Schedule 6 illustrates the car priority network. The following policies recommend how the City will continue to plan for new development.

5.1.2.1 The City will implement the approved road network concepts outlined in the Downtown Secondary Plan, the Guelph Innovation District Secondary Plan and the Clair-Maltby Master Environmental Servicing Plan and Secondary Plan.

5.1.2.2 The City will ensure continuity of sidewalks, bicycle facilities and bus routes in new developments as they are being constructed. The road network design will seek to minimize travel distances for pedestrians, cyclists and transit during all development phases.

5.1.2.3 The City will continue to promote the creation of an arterial-collector grid road system in the undeveloped area of the city, subject to appropriate studies, in order to assist in the dispersion of traffic and to provide appropriate walking distances to transit services on the main roads.

5.1.2.4 To control future land uses that would increase traffic unnecessarily on the arterial-collector grid and at intersections, the City will continue to:

- a) Restrict strip commercial development along arterial roads; and
- b) Locate service commercial development in designated areas along only one side of the arterial road.

5.1.2.5 The City will continue to require the submission of *Transportation Impact Assessment Studies* for development proposals that are considered as significant traffic generators along arterial and collector roads to determine whether the development is consistent with the vision and goals of the Transportation Master Plan.

- 5.1.2.6** The City will update its Transportation Impact Study Guidelines to reflect its commitment to multimodal transportation systems planning to include a *Transportation Demand Management* checklist for all development applications.

5.2 Protect neighbourhoods and cultural resources from undesirable road impacts

5.2.1 Continue to address adverse impacts of road projects

New road projects can often result in adverse impacts on the natural and cultural heritage of an area. The following policies are recommended to address these impacts.

- 5.2.1.1** The City will continue to require noise mitigation studies for urban street corridors with identified noise pollution issues.
- 5.2.1.2** The City will continue to ensure any impacts on the Natural Heritage System and cultural heritage resources are addressed in the design process for road capital projects in accordance with the provisions of the *Official Plan*.
- 5.2.1.3** The City will continue to have regard for and, when necessary, require measures to mitigate any negative impacts on cultural heritage resources, especially the character of landscapes, streetscapes, tree lines, bridges, views and points of scenic interest and the prevailing pattern of settlement when considering the construction of new roads and road improvements, including road re-alignment and road widening.
- 5.2.1.4** The City will have regard for best practices or mitigating impact on habitat / feeding and migration patterns of wildlife when undertaking capital projects.
- 5.2.1.5** The City will consider installation of best practices in *low-impact development* management along road corridors, where appropriate. The Source Water Protection Plan and the Stormwater Management Master Plan (underway) should be consulted at the onset of all right-of-way construction and re-construction projects for guidance on the appropriateness of *low-impact development* implementation.

5.3 Maximize road safety for all users

5.3.1 Increase safety provisions in planning, design, and operational decisions

Without additional preventative road safety measures, undesirable conditions and behaviours can lead to property damage, injury and death. These risks can be mitigated through multidisciplinary road safety strategies. The following policies are recommended to increase safety provisions.

- 5.3.1.1 The City Council will formally adopt *Vision Zero* approach to road design, acknowledging that the Community Road Safety Strategy forms part of Guelph's *Vision Zero* plan, and will continue to be implemented and updated as necessary.
- 5.3.1.2 The City will continue to work with the Ministry of Transportation of Ontario to replace all existing at-grade intersections on the Hanlon Expressway with interchanges, overpasses or underpasses.
- 5.3.1.3 The City will develop a city-wide strategy for the planning and design of roundabouts.
- 5.3.1.4 The City will continue to review the need for safety improvements and grade-separations of existing at-grade rail crossings for vehicles and/or active transportation that meet or exceed Transport Canada requirements.

5.4 Prioritize energy reduction and minimize environmental impacts

5.4.1 Promote low or zero emission vehicle technology

The transportation sector is one of the largest contributors to greenhouse gas emissions. The following policies are recommended to promote low and zero emission car technology.

- 5.4.1.1 The City will explore opportunities to support consumer adoption of low or zero emission vehicles.
- 5.4.1.2 The City will review and update the City's Municipal Zero Emissions Vehicle and Transit Fleet Strategy at regular intervals, to keep up to date with emerging technologies and practices.
- 5.4.1.3 The City will continuously review the effectiveness of the existing public electric vehicle charging station network and identify needs and opportunities for growth of the network.

5.4.2 Continue to reduce greenhouse gas emissions and energy use

- 5.4.2.1 The City will continue to implement urban design and development standards to reduce climate change impacts and enhance climate resiliency for public works and infrastructure including roads, bridges, stormwater systems and energy distribution systems.
- 5.4.2.2 The City will continue to aim to source 100% renewable energy for all City facilities and fleet operations by 2050.
- 5.4.2.3 The City will continue to aim to be a net zero carbon community by 2050.
- 6.4.2.4 The City will review and update anti-idling bylaws and explore enforcement opportunities.

- 6.4.2.5** The City will continue to meet the growing transport requirements while reducing the transportation energy use by 25% or more, using sensitive urban design, effective alternative transport options, and encouraging vehicle efficiencies.

5.5 Enhance city parking facilities and services

Given the significant costs associated with parking and its influence on mode choice, parking management is increasingly important in municipalities. Effective parking management should strike a balance between supply and demand for various types (e.g. short-term, long-term, and accessible), while limiting the oversupply of parking spaces. Improved parking efficiency can reduce the amount of space needed for parking, providing opportunities to develop more community-oriented spaces and supporting the potential reallocation of on-street parking space for other uses such as active transportation and transit infrastructure. This section addresses the parking needs for Guelph.

5.5.1 Continue to improve parking conditions and options

Public parking has been identified as an area of interest for the City to explore improving. The following policies are recommended to improve parking conditions and options throughout Guelph.

- 5.5.1.1** The City will conduct a review of on-street and off-street parking to ensure the city-wide parking system is in alignment with the goals and objectives of this plan; recommendations of the study will inform future updates to the traffic, parking and zoning bylaws.
- 5.5.1.2** The City will periodically review and update the City's Downtown Parking Master Plan to align with the TMP goals to reduce auto mode share.
- 5.5.1.3** The City will continue to provide parking to meet the needs of Downtown businesses, residents and visitors.
- 5.5.1.4** The City will continue to play an active role in the supply of off-street parking Downtown.
- 5.5.1.5** The future Downtown Parking Master Plan updates will recommend best practices of on-street parking management that support the goals and proposed network of this plan, including:
- a) Compatibility with proposed *Cycling Spine Network* within the Downtown area
 - b) Consideration for accessibility and transit access needs
 - c) Supply management that balances existing and projected demand with the mode share target set out by this plan
 - d) Integrated management of on-street stalls for loading and short-term stopping needs
 - e) Consideration of temporary stopping stalls to support automated vehicles or ride-share programs

- f) Consideration of specialized uses such as electric vehicle or fleet charging locations
- 5.5.1.6** The City will continue to specify off-street parking requirements and may establish maximum parking requirements in the Zoning By-law, where appropriate.
- 5.5.1.7** The City will continue to enforce that off-street parking areas and facilities shall be provided through zoning and site plan requirements.
- 5.5.1.8** The City will continue to consider cash-in-lieu of required parking in accordance with the *Planning Act*.
- 5.5.1.9** The City will continue to follow the 2014 *Downtown Streetscape Manual* and 2021 *Official Plan* for on-street and off-street parking guidelines unless superseded by subsequent council-approved road design studies.
- 5.5.1.10** The City may acquire, develop and operate parking facilities outside of the downtown, if necessary.

5.6 Manage congestion

The Guelph TMP prioritizes rebalancing the existing street network to promote the needs of sustainable transportation modes. This will place pressure on the system; pressure that needs to be actively managed through a *Transportation Systems Management* program.

- 5.6.1.1** The City will develop a *Transportation System Management Strategy* and Action Plan. The *Transportation Systems Management Strategy* will consider:
 - a) Congestion Management
 - b) Access Management
 - c) Transit Priority
 - d) *Intelligent Transportation Systems* and *smart signals*
 - e) The City's approach to curbside management
 - f) Data collection needs/processes and the potential of big data
- 5.6.1.2** The City will complete a flex zone/curbside priorities analysis to understand the tradeoffs of how land use impacts areas where curb space is limited and sets priority for flex zone use by function.
- 5.6.1.3** The City will develop a strategy for smart signal implementation
- 5.6.1.4** The City will continue to implement a *Transportation Demand Management* program that influences when, where and how people travel around Guelph by:
 - (a) Developing specific services and programs to deliver *Transportation Demand Management* to the community
 - (b) Developing branding and marketing to increase public awareness of *Transportation Demand Management*
 - (c) Increasing collaboration with external partners; and
 - (d) Ensuring that *Transportation Demand Management* is incorporated into relevant programs of the City of Guelph government.

5.7 Future Ready

Over the last few decades, amidst the rapid evolution of digital technologies and ever improving connectivity, new transportation related innovations have emerged at an unprecedented rate. These innovations are changing how we move, shaking up the transportation sector, and reshaping our cities.

Understanding the changes in how people and goods move in urban environments is critical to forecasting what transportation will look like in the future and knowing what we should plan for. This section discusses a number of new and emerging technology-driven changes to mobility that exist in communities today or are on the horizon.

- 5.7.1.1** The City will establish an Emerging Transportation Technologies office to assess new transportation technologies including autonomous vehicles and drone technologies, new modes or services including shared micro-mobility, and data collection opportunities and position the City to respond.
- 5.7.1.2** The City will establish a Resilience Network in the *Official Plan* to protect the full width for future spatial needs for a four-lane road cross section, as per Schedule 7. The resilience network will be implemented, subject to appropriate technical studies, when it meets the following criteria:
 - a) It aligns with two or more of the core values of the TMP;
 - b) It contributes to meeting the mode share target;
 - c) There is a clear benefit to the community that outweighs the potential impacts of widening the right-of-way; and
 - d) It meets the goals and policies of the Official Plan.
- 5.7.1.3** The City will explore and evaluate opportunities for connected mobility and the Internet of Things (IoT) applications in the transportation network, such as dynamic speed limits and dynamic parking pricing.



City of Guelph Transportation Master Plan

Implementation policies

6.0 Implementation and Reporting

6.1 Communication and Engagement

Delivering the vision and goals of the TMP requires ongoing communication and engagement to ensure the City continues to meet the needs of the community.

6.1.1 Continue to communicate in a proactive and inclusive manner

- 6.1.1.1 Continue to deliver an effective communication strategy to help impacted road users understand the purpose for and benefits of changes, and to mitigate negative reactions where congestion may occur
- 6.1.1.2 The City will establish a Terms of Reference and mandate for Council's consideration that recommends an Integrated Transportation Advisory Committee composed of community members that represent one or more road user group to provide integrated community feedback into implementation of the TMP.

6.2 Reporting

The City is accountable and transparent to the residents, businesses and other stakeholders using its lands, services and resources. It is important to continuously track the implementation of the recommendations of this Plan and monitor key performance indicators that demonstrate how the City is trending toward achieving our goals. The following policies will assist staff in accurate and timely reporting to the public.

6.2.1 Monitor and track mode share

- 6.2.1.1 The City will continue to participate in the Transportation Tomorrow Survey every 5 years to collect local and regional data on transportation behaviours, patterns and trends to be used in conjunction with local population and employment growth forecasts and distribution forecasts in order to model and project transportation mode share and network capacity.
- 6.2.1.2 The City will seek opportunities for enhanced multi-modal transportation data collection methodologies to inform mode share trends on an annual basis, if possible, to assist with tracking and informing capital investment decisions that best advance the City toward meeting the mode share target goals of this plan.

6.2.2 Develop and maintain a connectivity index

- 6.2.2.1 The City will develop a connectivity index to track how well the various transportation networks, including delivery of the recommended network improvements (Schedule

8) are complete and connected throughout the community. This index will serve as a key performance indicator for the plan 2019-2023 Strategic Plan.

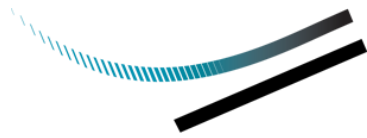
- 6.2.2.2** Regular progress on the implementation of the TMP will be provided by reporting the connectivity index and the mode share (every 5 years) through the [Guelph. Future Ready progress report and dashboard](#).

6.3 Funding the TMP

There are capital and operating costs to implementing this plan. These costs change with fluctuations in market prices, property values, available external funding opportunities and policy changes to tax and development charge rates. This section outlines the approach recommended to monitor and pay for the recommendations of this plan.

6.3.1 Use the City Budget to manage the affordability of this plan

- 6.3.1.1** The City will annually review the capital budget forecast and recommend capital projects that implement the TMP and advance toward achieving the desired mode share target while also aligning with infrastructure renewal and strategic priorities.
- 6.3.1.2** The City will consult the prioritization methodology developed by this plan and informed by community engagement to inform new projects to add for consideration to the capital budget forecast.
- 6.3.1.3** The City's operating budget forecast for maintaining transportation infrastructure will be compared to actuals on a regular basis to update and refine the operating costs of maintaining the transportation network.
- 6.3.1.4** The City will regularly monitor staff capacity and make recommendations for increasing staff resources as required to implement the programs and capital plans of the TMP through the multi-year operating budget process.



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City of Guelph Transportation Master Plan

Schedules

Schedule 1 – Pedestrian network

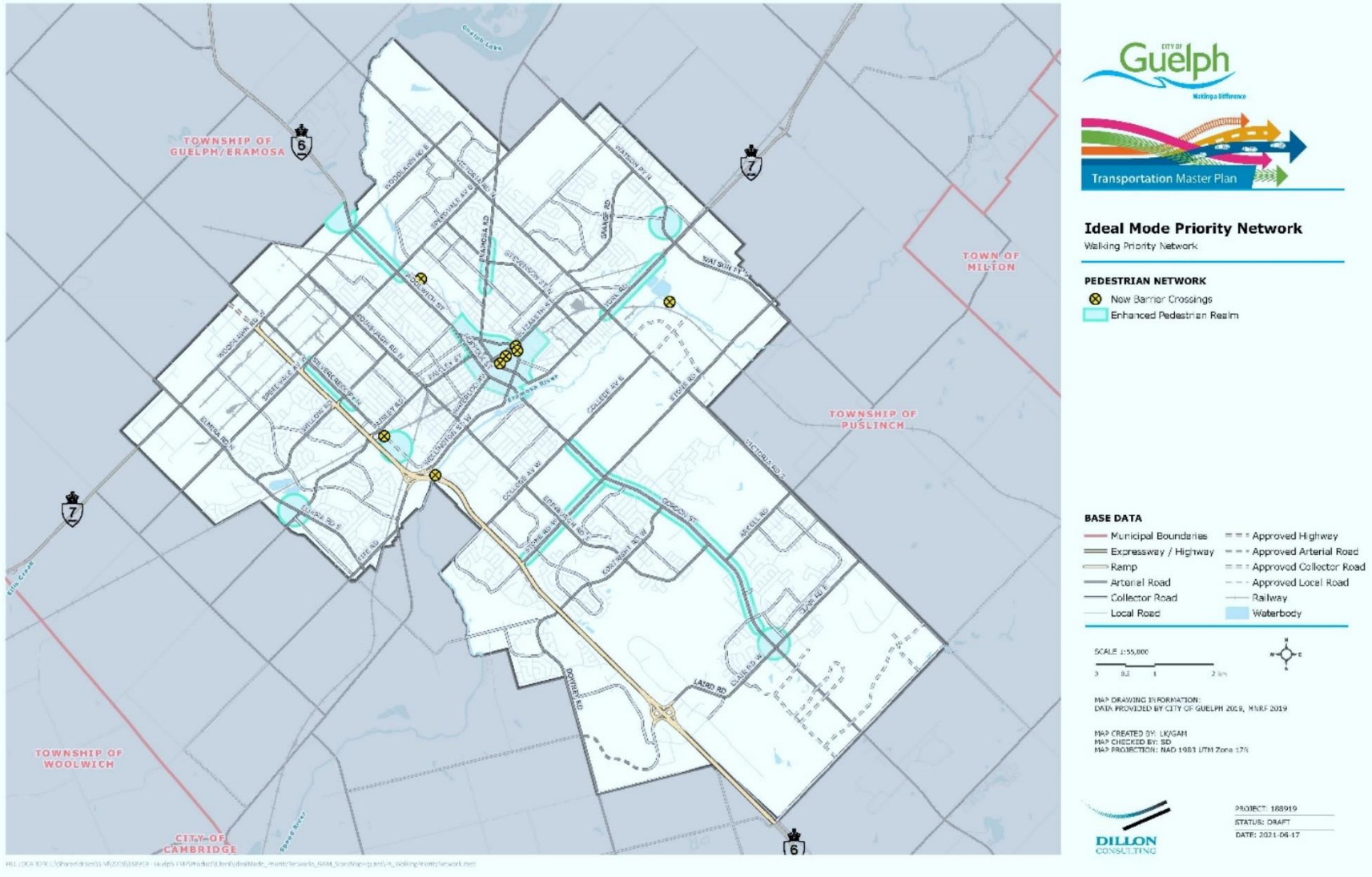


Figure 1 Pedestrian Priority Network

Schedule 2 – Cycling spine network

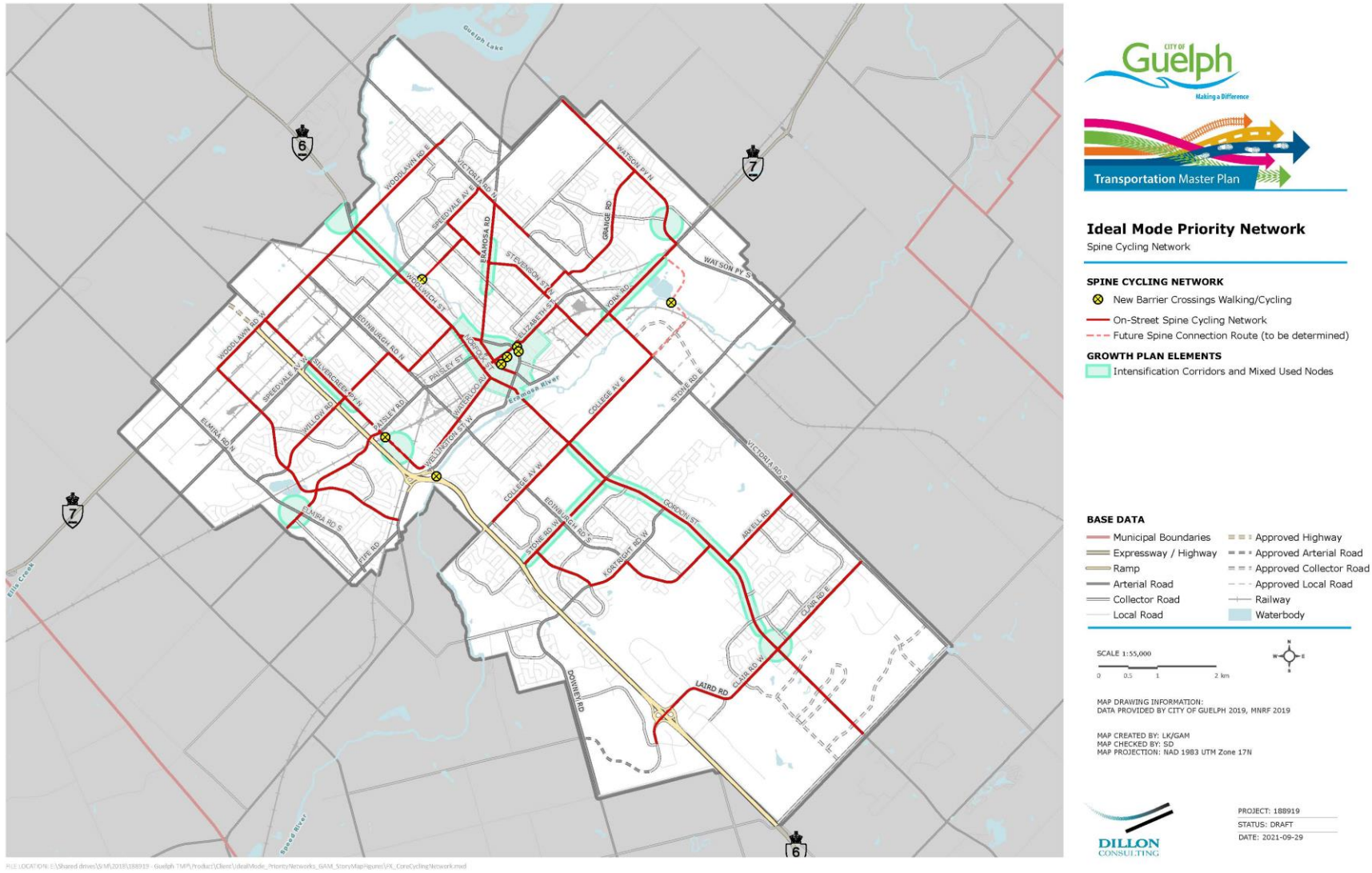
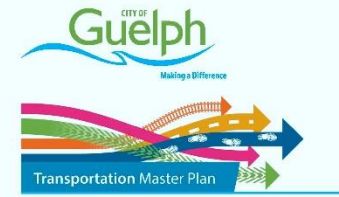
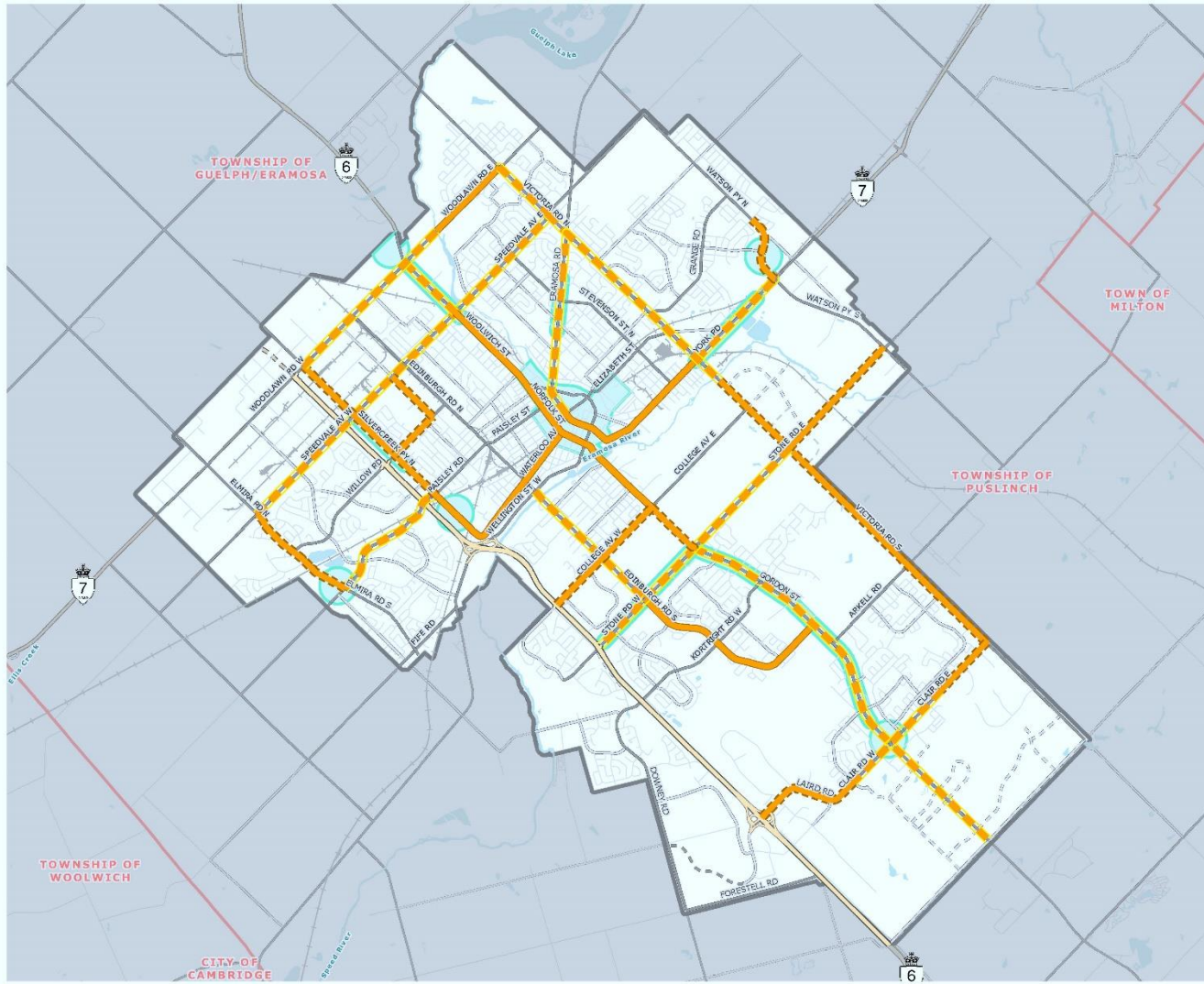


Figure 2 - Cycling Spine Network

Schedule 3 – Quality Transit Network



- Ideal Mode Priority Network**
Quality Transit Network
- Quality Transit Network - potential lane conversion
 - Quality Transit Network - potential widening to 4 lanes
 - Quality Transit Network - optimization only
- GROWTH PLAN ELEMENTS**
- Intensification Corridors and Mixed Used Nodes

- BASE DATA**
- Municipal Boundaries
 - Expressway / Highway
 - Ramp
 - Arterial Road
 - Collector Road
 - Local Road
 - Approved Highway
 - Approved Arterial Road
 - Approved Collector Road
 - Approved Local Road
 - Railway
 - Waterbody

SCALE 1:55,000

0 0.5 1 2 km

MAP DRAWING INFORMATION:
DATA PROVIDED BY CITY OF GUELPH 2019, MNR 2019

MAP CREATED BY: LK/GMM
MAP CHECKED BY: SO
MAP PROJECTION: NAD 1983 UTM Zone 17N



Figure 3 - Quality transit network

Schedule 4 – Existing permissive truck routes

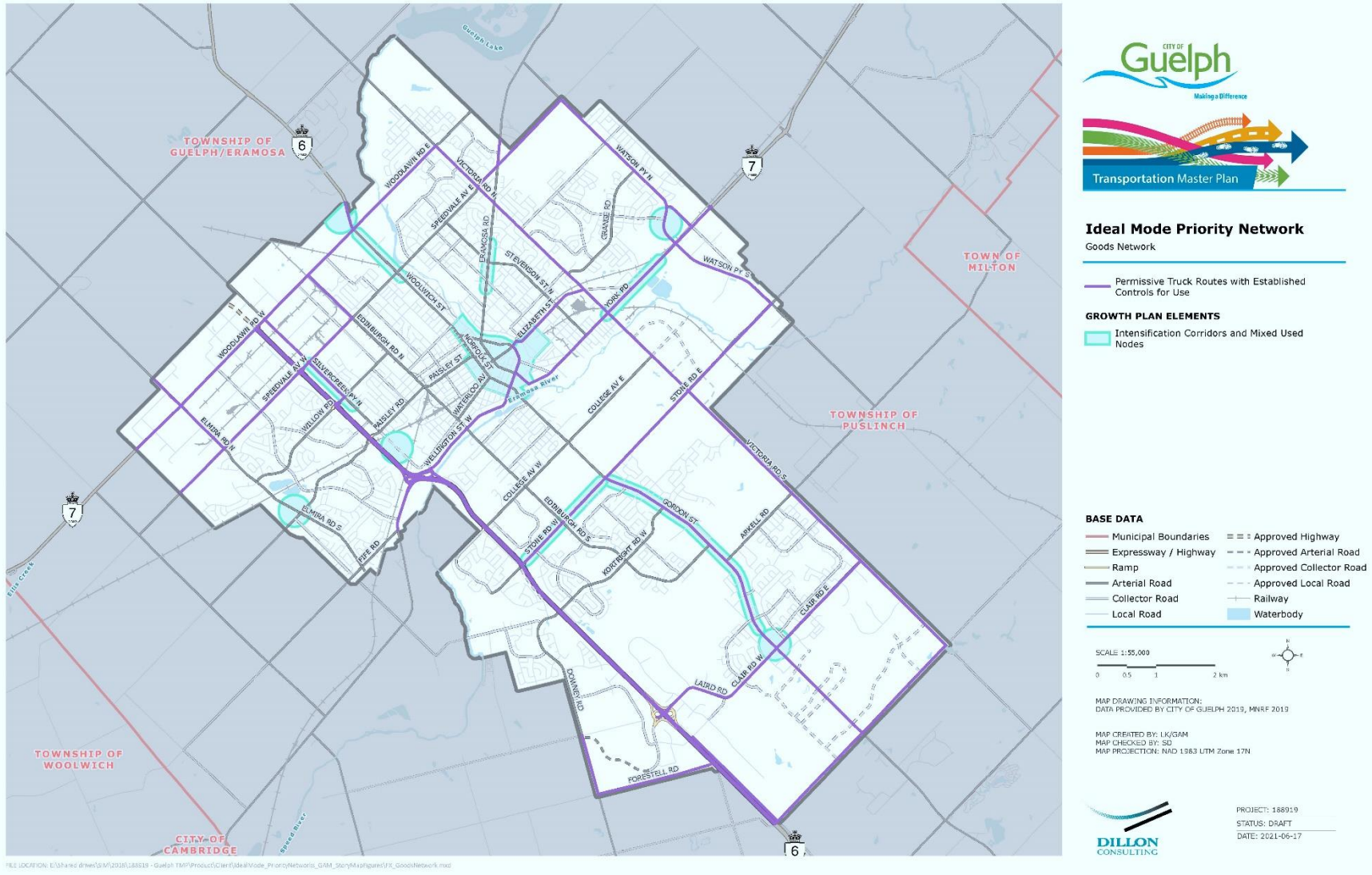


Figure 4 Existing permissive truck route network

Schedule 5 – Updated street classifications

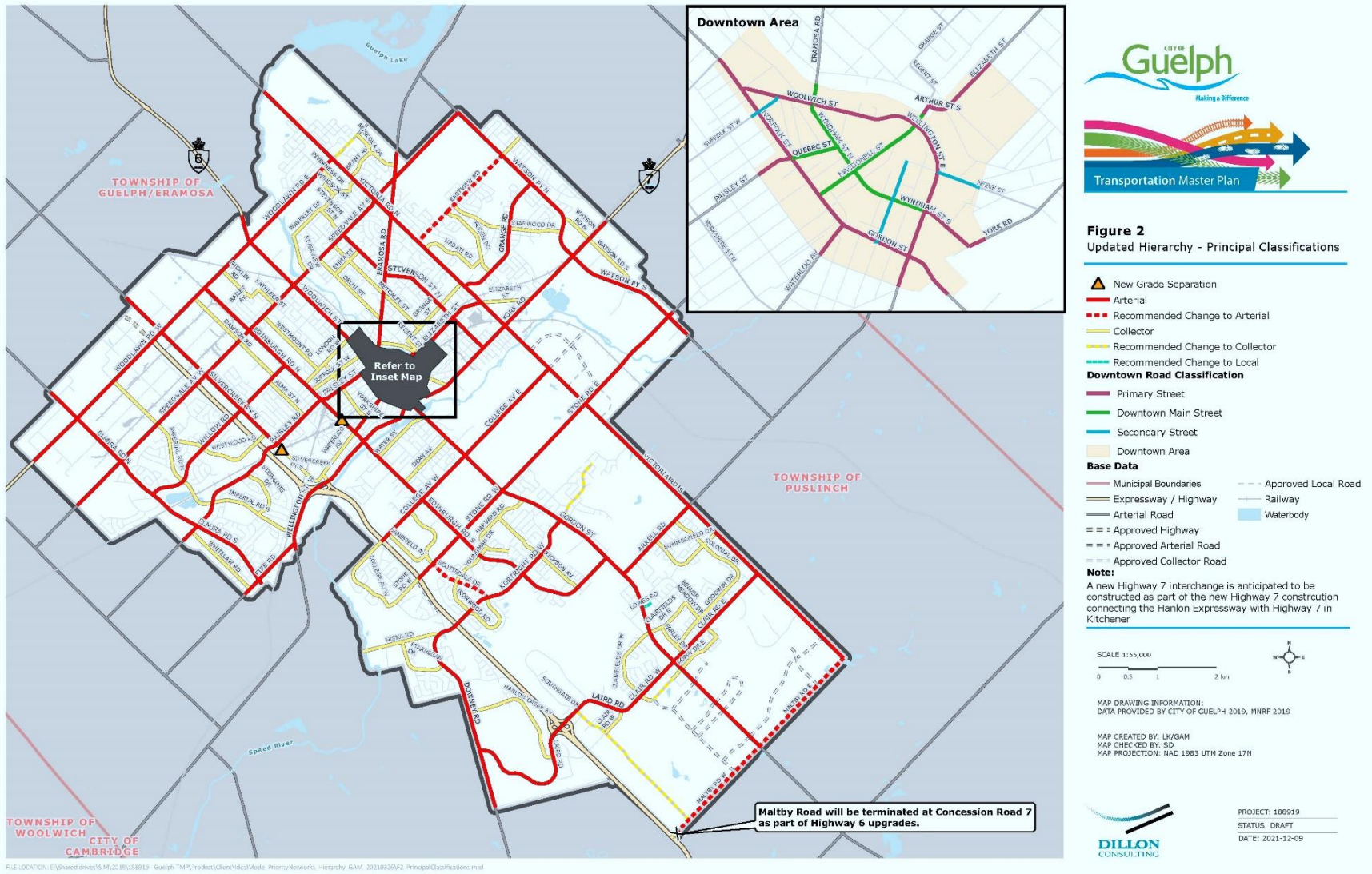


Figure 5 Updated street classification

Schedule 6 – Car network enhancements

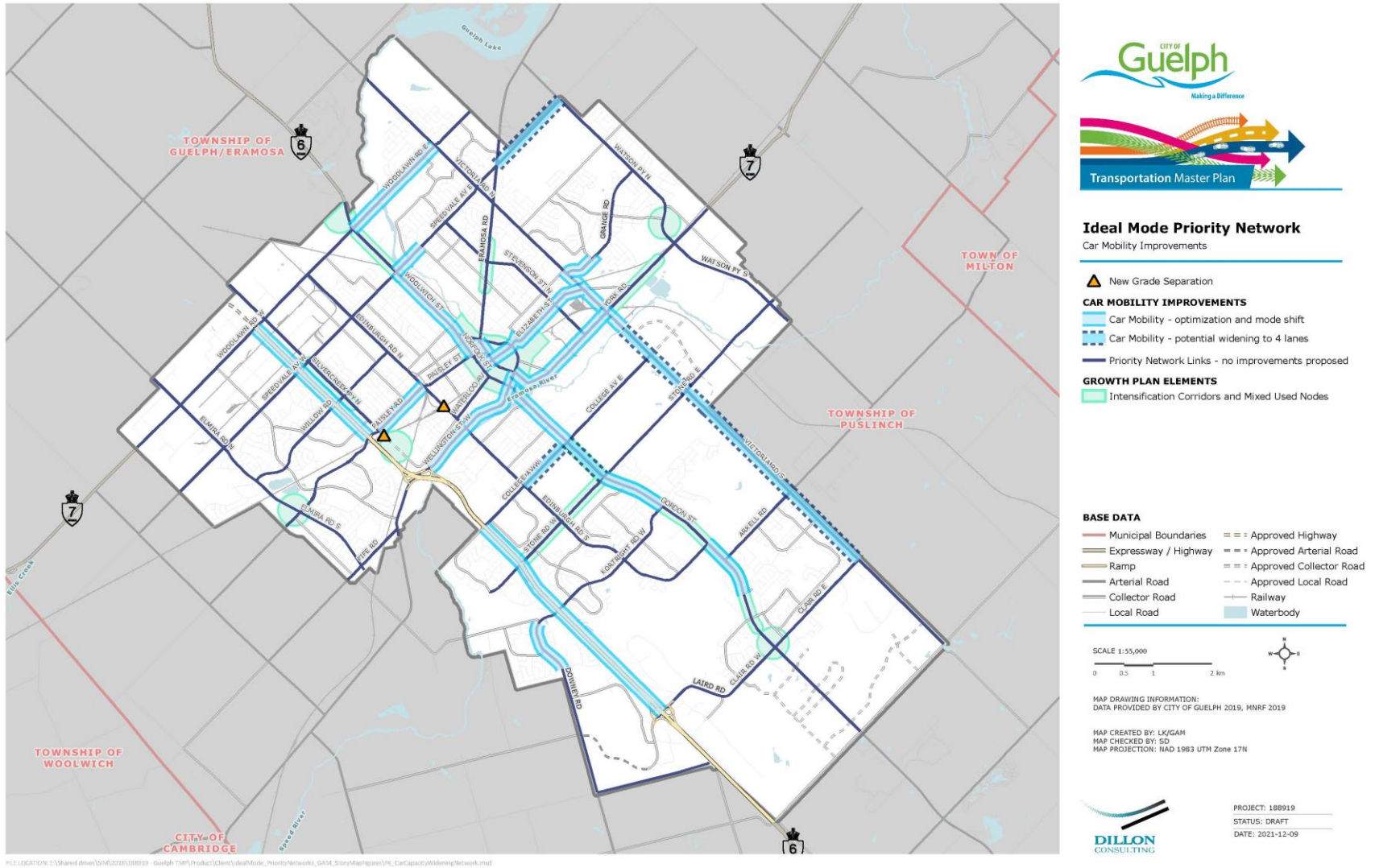
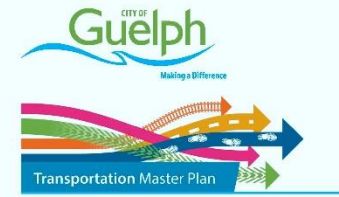
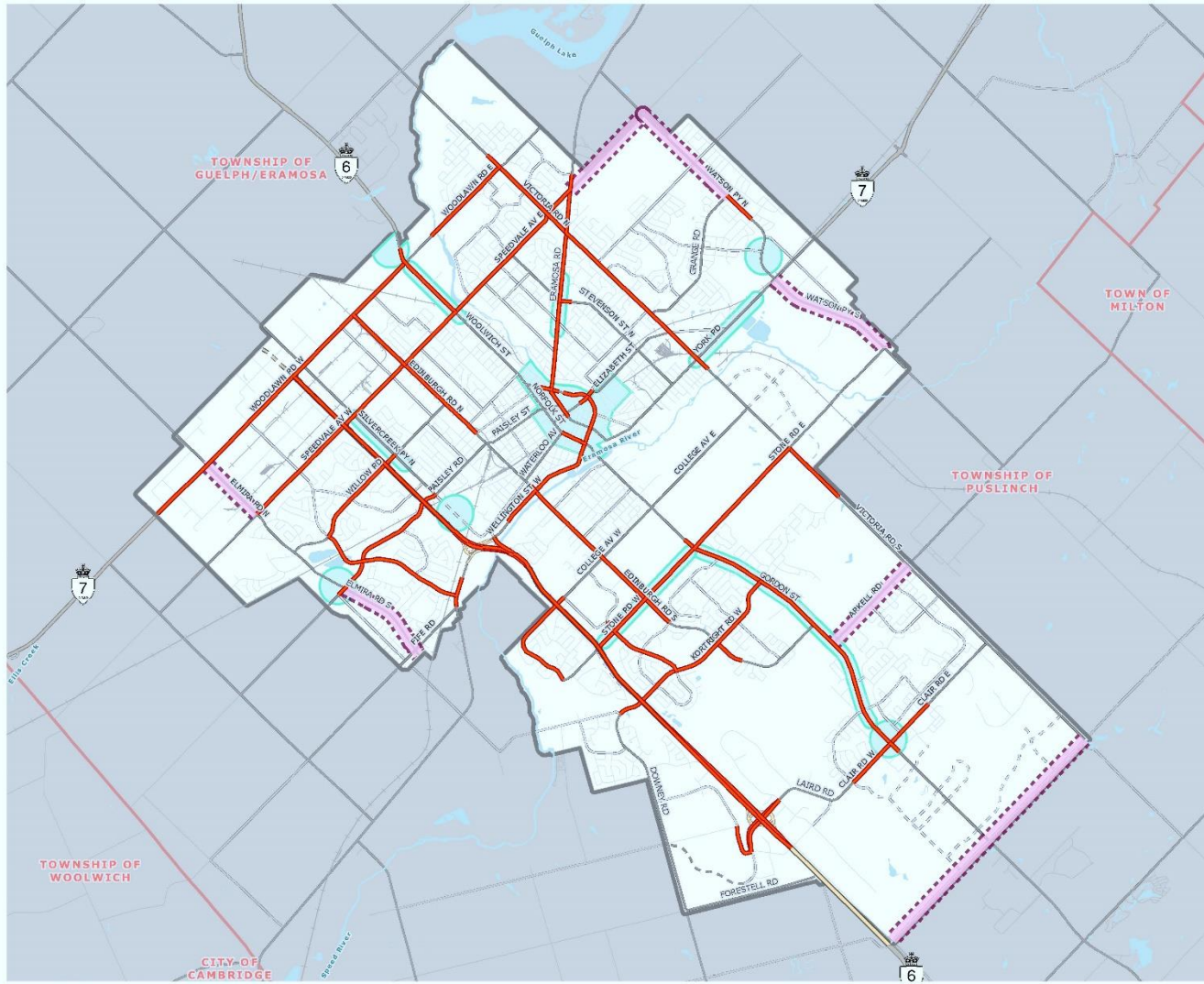


Figure 4 - Car network enhancements are recommended to support population growth and mitigate congestion. These include potential widening of some arterial roads to 4-lane cross sections, and optimizing other road corridors through transportation systems management and mode shifts.

Schedule 7 – Resiliency network



Ideal Mode Priority Network

Resiliency Elements Network

- 4 Lane Arterial
- - - Potential Resiliency Widening
- **GROWTH PLAN ELEMENTS**
- Intensification Corridors and Mixed Use Nodes

- BASE DATA**
- Municipal Boundaries
 - Expressway / Highway
 - Ramp
 - Arterial Road
 - Collector Road
 - Local Road
 - - - Approved Highway
 - - - Approved Arterial Road
 - - - Approved Collector Road
 - - - Approved Local Road
 - Railway
 - Waterbody

SCALE 1:55,000

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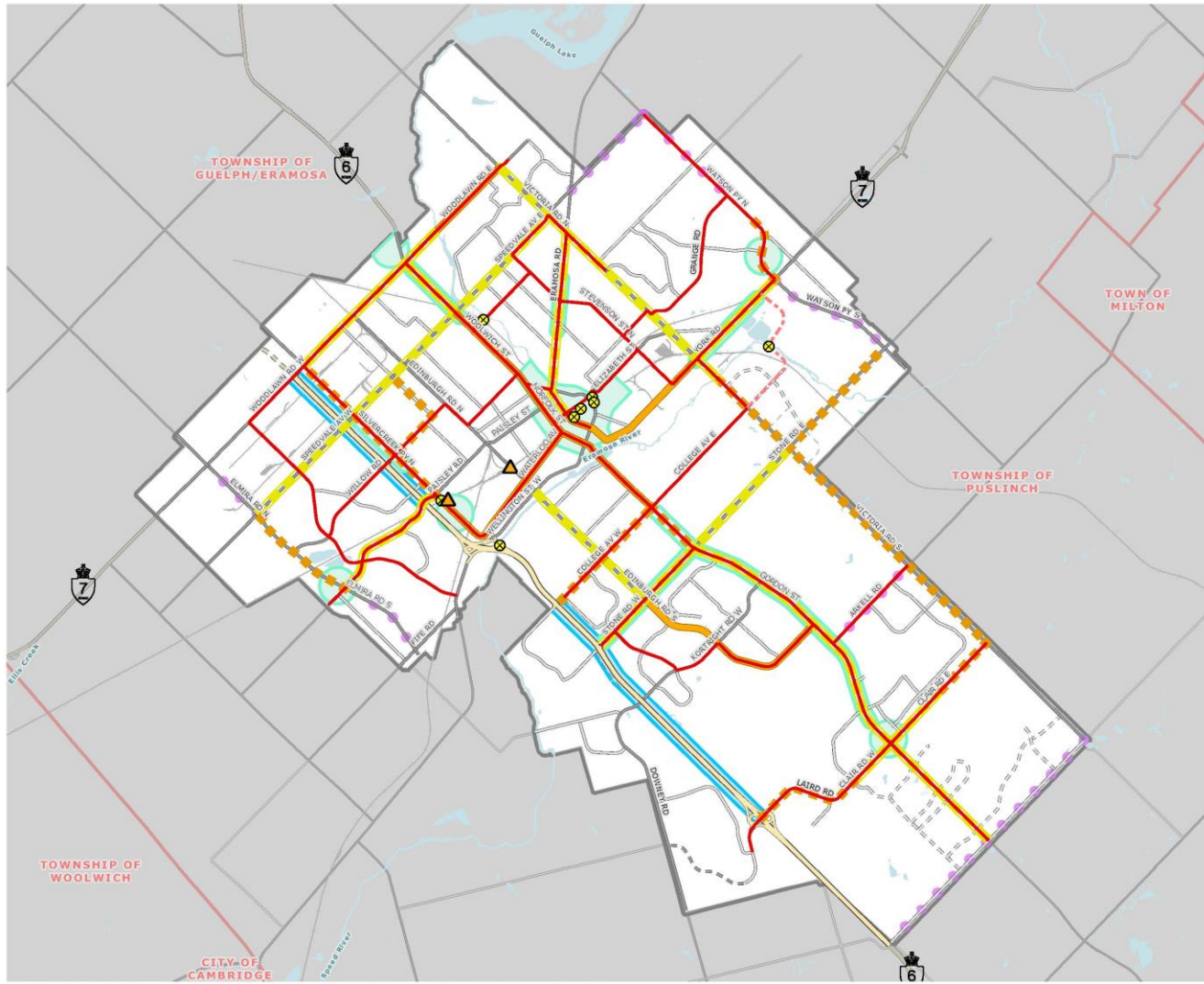
MAP DRAWING INFORMATION:
DATA PROVIDED BY CITY OF GUELPH 2019, MNRF 2019

MAP CREATED BY: LK/GAM
MAP CHECKED BY: SO
MAP PROJECTION: NAD 1983 UTM Zone 17N

PROJECT: 188919
STATUS: DRAFT
DATE: 2021-06-17

Figure 7 Resiliency network improvements are intended to protect public space in the ROW for future unknown needs and services.

Schedule 8 – Recommended road network improvements



Recommended Network

- PEDESTRIAN NETWORK**
 - New Grade Separation
 - New Barrier Crossings Walking/Cycling
 - Enhanced Pedestrian Realm
- SPINE CYCLING NETWORK**
 - On-Street Spine Cycling Network
 - Future Spine Connection Route (to be determined)
- QUALITY TRANSIT NETWORK**
 - Quality Transit Network - potential lane conversion
 - Quality Transit Network - potential widening to 4 lanes
 - Quality Transit Network - optimization only
- CAR MOBILITY IMPROVEMENTS**
 - Car Mobility - optimization and mode shift
 - Potential Resiliency Widening
- BASE DATA**
 - Municipal Boundaries
 - Expressway / Highway
 - Ramp
 - Arterial Road
 - Collector Road
 - Approved Arterial Road
 - Approved Collector Road
 - Approved Local Road
 - Railway
 - Waterbody

SCALE 1:55,000
 0 0.5 1 2 km

MAP DRAWING INFORMATION:
 DATA PROVIDED BY CITY OF GUELPH 2019, MNR 2019

MAP CREATED BY: LK/GAM
 MAP CHECKED BY: SD
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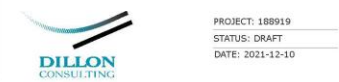


Figure 8 Recommended road network improvements