

Staff Report



To	City Council
Service Area	Infrastructure, Development and Enterprise Services
Date	Monday, January 24, 2022
Subject	Moving Guelph Forward: 2022 Transportation Master Plan

Recommendation

1. That Moving Guelph Forward: 2022 Transportation Master Plan, including associated policies and strategies included in the attachments of report IDE-2022-02, be approved and that staff be directed to file a Notice of Completion for the Master Plan.
 2. That the financial implications resulting from IDE-2022-02 titled Moving Guelph Forward: 2022 Transportation Master Plan be referred to the City's Multi-year budget process.
 3. That Council approve the proposed policy directions in Attachment 4 of IDE-2022-02, for consideration through a future Official Plan Amendment.
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Executive Summary

Purpose of Report

This report summarizes the Transportation Master Plan (TMP) update. The TMP replaces the 2005 Guelph-Wellington Transportation Study with a new recommended network plan that reflects the approved "Alternative 3: Sustainability + Resilience Focus" preferred solution, and recommends policies, programs and financial considerations to implement the preferred solution.

The TMP is a priority action of the Strategic Plan: Guelph. Future Ready, under the Navigating our Future pillar. It provides direction and guidance to future work to offer Guelph easy, accessible movement through trails, paths, roads and corridors to tie the community together and connect Guelph's economy with other regions.

Key Findings

By approving the TMP, the City of Guelph is adopting a Vision Zero approach to road design and operations - a traffic safety initiative that is based on the philosophy that no loss of life is acceptable on our roadways. Approving the TMP is also committing to building a transportation system that supports a Net Zero Carbon future and improves connectivity for all ages and abilities across all modes of transportation.

The TMP recommends a non-auto modal split of 42% by 2051. The current Official Plan non-auto mode share target is 33% by 2031. The TMP recommends road network improvements, policies and programs to achieve this target.

Some updates to the Official Plan policies and schedules are recommended as a result of this Plan and will be included in a future Official Plan amendment.

Financial Implications

This report provides financial implication estimates for 2021-2031 to align with the capital budget forecast. The cost of designing roads to be complete and more connected represents an increase of up to 7% over 2021 typical road reconstruction costs, or up to \$26 million over the next ten years. The operating impact is estimated at \$376,200 annually by 2031. Progress reporting to Council on the TMP will be completed on a 5-year cycle with updates on financial implications and TMP performance metrics.

Report

Background and Summary of Previous Work

Guelph is growing to over 200,000 residents by 2051, and how people and goods move around the city is changing. The [2022 TMP: Moving Guelph Forward](#) sets the vision and plans to ensure that transportation in Guelph will be future-ready in a way that is safe, equitable, sustainable, complete, affordable, and supportive of land use. It also serves as a tool for advocating and leveraging investments by others that cannot be funded by the City alone, such as supporting two-way all-day GO train service enhancements, regional bus service, and improvements to Provincial highways 6 and 7.

Road safety and climate change remain ongoing priorities for the City of Guelph. In terms of road safety, societal costs of collisions are estimated to exceed \$100 million annually in Guelph, as referenced in the [2015-2019 Collision Report](#). It is imperative to design our roads to protect all road users equitably, but particularly those most vulnerable to critical injury or death on our roadways. In terms of climate change, the TMP needs to set a sustainable path forward to reducing our dependency on fossil fuels and achieving our Net Zero Carbon goal by 2050.

The COVID-19 global pandemic has reinforced the importance of considering our community's public health and resiliency in the design and planning of our transportation infrastructure. Accordingly, the TMP needs to build in the characteristics of a resilient system into its policies and network plan, including diverse transportation choices, alternative routes, comfortable active transportation and public transit, and flexibility to adapt to change.

The 2022 TMP reflects the Sustainable + Resilient Preferred Solution [that Council adopted](#) on May 26, 2021. This master plan sets the vision and goals to direct transportation planning to 2051. The network improvements recommended to implement the preferred solution are shown in Figure 1 and are supported by recommended policies and programs to deliver the vision and goals of this plan.

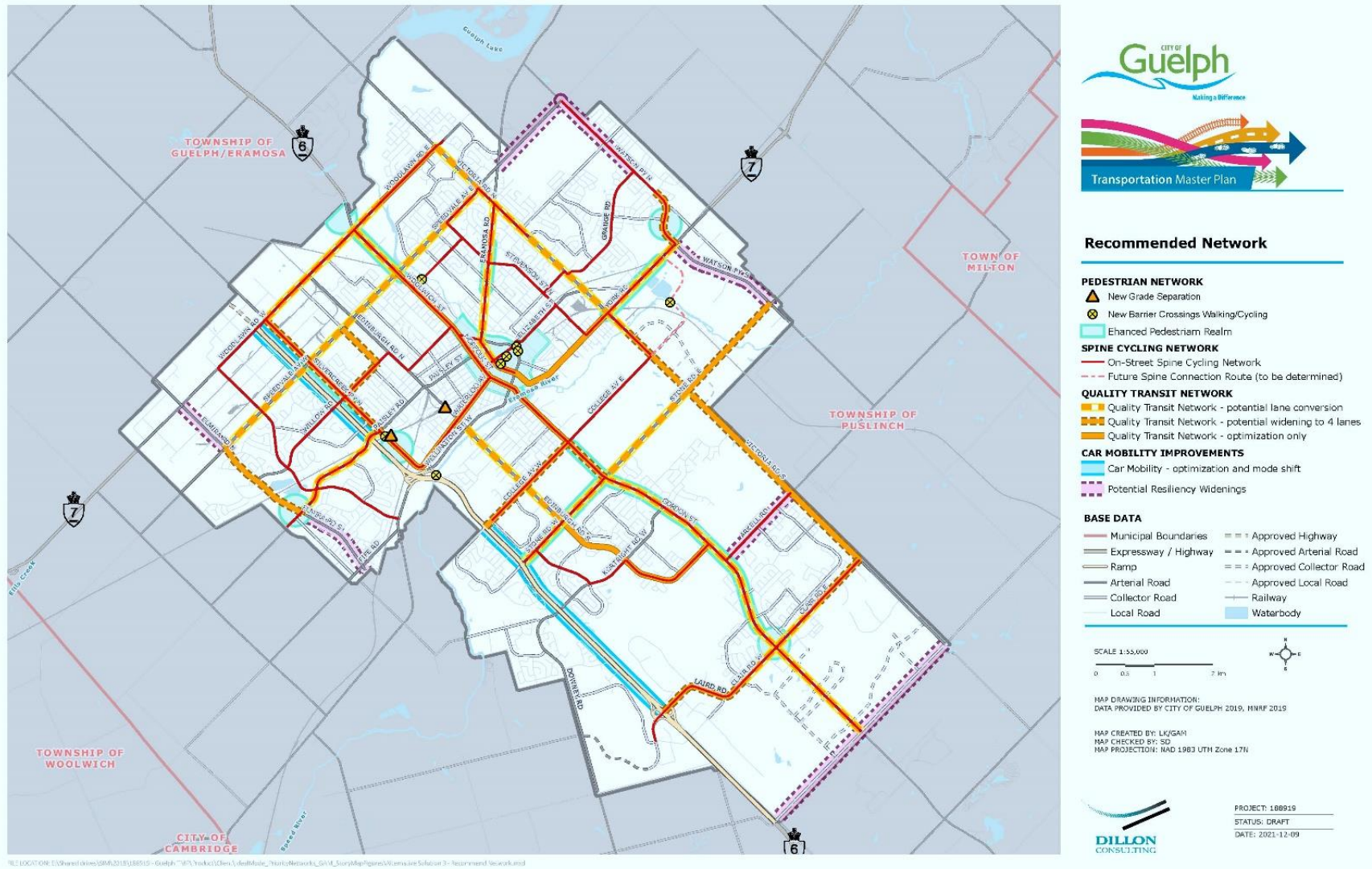


Figure 1 - Recommended network approved on May 26, 2021. A [larger, interactive form of this map](#) is available online.

Summary of Engagement

The TMP reflects extensive community engagement input collected throughout the project. [Phase 1](#), [Phase 2](#) and [Phase 3](#) of the TMP engagement strategy were completed between 2019 and 2021 and are summarized in the May 26, 2021 [report to City Council](#). Phase four of the TMP engagement strategy was conducted between September and October, 2021. The engagement results are summarized and found in Attachment 2. The key objectives were to confirm whether there were any final considerations to include in the recommended policies and programs, and to inform the prioritization criteria [for ranking TMP projects](#) to assist with coordinating future capital budget forecasts. This phase of the project received 77 survey responses and engaged with stakeholders and community representatives during over 20 hours of focused consultation meetings. Specifically, this stage of community engagement ensured that those historically least represented in city decision making were consulted, including people living in poverty, newcomers to Canada, older adults, and people living with a disability.

The feedback reinforced that the preferred solution is widely supported. From this round of engagement, new topics arose for consideration in the recommended policies, such as:

- Strong support for a Transportation Advisory Committee representative of all road users (people who walk, bike, take transit, drive, etc.)
- Stronger emphasis on equitable delivery of transit and cycling services and infrastructure to low-income communities
- Consideration for more public washroom facilities at major transit stations

Feedback also indicated a preference to use the “resiliency network” for adding cycling and walking capacity (ranked first), followed by curbside loading zones for package or food deliveries (second) or taxi and rideshare drop offs (third). Least popular was to use this space to accommodate driverless vehicles, ranked last.

First Nations and Indigenous Engagement

City staff shared a TMP briefing note with Six Nations of the Grand First Nations and Mississaugas of the Credit First Nation. The briefing note outlined how their previous comments were incorporated into the draft policies and programs and invited them to meet with staff for further discussion. There was no additional feedback or concerns expressed.

Summary of Key Policy Considerations that Reflect What We Heard

The policy recommendations, included as Attachment 3, are organized by mode of transportation with a chapter added for implementation policies. Below are some highlights.

General policies that indicate the City will:

- Commit to [Vision Zero \(VZ\)](#) and implement VZ through the City’s road safety program. Note: the City’s road safety program is already very aligned with VZ, and the adoption of VZ is expected to bolster the branding and promotion of the City’s existing programs

- Develop a Complete Streets Design Guideline to update the road cross-sections in our development standards to reflect the recommendations of the TMP
- Develop local Multi-modal Level of Service guidelines to help in decision-making where multiple priorities compete for space and funding in a road corridor or intersection
- Establish an Emerging Transportation Technology Office (ETTO) to monitor, pilot, study and recommend measures to accommodate evolving technologies into the transportation system, including new modes of micro-mobility, shared mobility, urban mobility vehicles, drones, autonomous vehicles, and others

Pedestrians policies to:

- Create a new Pedestrian master plan to replace the [2017 Sidewalk Needs Assessment](#), incorporate feedback on improving a process to handle accessibility accommodations, and align the prioritization with the capital budget
- Require road design standards that permit sidewalks to be provided on both sides, and revise the list of exemptions where sidewalks are only required on one side

Cycling and Micro-mobility policies to:

- Build a protected cycling network that supports trips by bike and by emerging micro-mobility modes (e-scooters, one-wheels, etc.)
- Develop and grow a core winter-maintained, on- and off-street active transportation network
- Expand secure long-term bicycle parking downtown

Transit policies that will:

- Implement the stages of a Quality Transit Network as laid out by the plan
 - Stage 1 - Optimize performance represented in the [2021 Guelph Transit Action Plan](#) (route review), which was approved by Council on November 15, 2021.
 - Stage 2 - Implement transit priority measures such as queue-jump lanes
 - Stage 3 - Dedicated transit lanes to be implemented as required to continue meeting Guelph Transit performance standards
- Study park-and-ride facilities to increase use of transit for trips between Guelph and adjacent communities
- Consider opportunities to leverage the trails network to improve access to transit stops
- Prioritize increasing levels of service to support intensification areas and new transit-supportive developments
- Explore Mobility-as-a-Service platforms to support multi-modal trip planning in Guelph

Goods Movement policies to support the economy that ensure the City will:

- Develop a comprehensive goods movement strategy
- Work with industry partners to explore technologies and practices that improve efficiency and enhance competitiveness

Roads policies that will:

- Develop a transportation systems management strategy to address congestion, access, transit priority, intelligent transportation, curbside management (passenger or goods drop-off zones, electric vehicle charging areas, etc.), and data needs
- Consider low-impact development management along road corridors, where appropriate, and as per the guidance in other plans (e.g., Source Water Protection Plan and Stormwater Management Master Plan)
- Develop a roundabout planning and design strategy
- Establish the ETTO to assess new transportation modes and opportunities and position the City to respond
- Consider a city-wide review of on-street and off-street parking regulations and policies

The policies also include implementation recommendations related to communication and engagement on projects, reporting, and the establishment of an Integrated Transportation Advisory Committee, subject to Council's approval.

Updates to the Official Plan

The Official Plan is informed by various technical studies and master servicing plans, including the TMP. Chapter 5 of the Official Plan contains the transportation policies for the City of Guelph. In most cases, the existing policies are recommended to remain unchanged and are already consistent with the TMP. However, some areas require updates.

The proposed Official Plan changes are described in Attachment 4 for consideration in future Official Plan Amendments. The current OP review scheduled for Council in March 2022 will focus on satisfying the requirements of Section 26 of the Planning Act. The scope of this review was [approved in November 2020](#). This includes ensuring that the OP is in conformity and consistency with the Planning Act, the Provincial Policy Statement, the Growth Plan and the Clean Water Act/Source Protection Plan. Once these requirements are satisfied, a future OP amendment (or amendments) will focus on incorporating other legislative requirements and city-approved plans and studies into the OP. This includes amendments to update policies with respect to transportation. In summary, the transportation-related topics for updating include:

- Updated street hierarchy schedule of roads in Guelph to replace Schedule 5 in the Official Plan
- Recommendations for updating Official Plan Table 5.1 Ultimate Right-Of-Ways to reflect 2031 proposed road projects and recommended conceptual cross sections
- Recommendations for updating Official Plan Table 5.2 Intersection Improvements to reflect 2031 proposed cycling spine network and transit priority measures
- Strengthening policies that support transit services and infrastructure delivery to intensification corridors and community mixed-use nodes
- Updated mode share targets
- Updated definitions to include new transportation terms
- Updates to the schedules and policies to support the TMP preferred solution
- Strengthening policies that support sidewalk provisions on both sides of City streets

The recommended updates are to 2031 to reflect the available population and employment data informing the network improvements recommended by this plan. The next TMP update (planned for 2027) will confirm whether there are any changes to the proposed network required and make adjustments to the OP as necessary to reflect the 2051 Official Plan updates.

Programs Summary

The TMP recommends six programs for staff to undertake to ensure the implementation of the proposed network and policies (see Attachment 5). Five of the six programs are considered programs that the City is already delivering, either fully meeting the goals of the TMP or with some additional scope to meet the goals of the TMP. These include:

- Continuing the Active Transportation program and adding other forms of micro-mobility (e.g. push-scooters, one-wheels) to the scope of work;
- Continuing to deliver strategic transportation planning for the City to keep this plan and subsequent studies up to date and relevant;
- Developing a more robust Transportation Demand Management (TDM) program that helps with reducing traffic volumes and congestion by targeting driver behaviour and mode choice;
- Continuing to deliver and expand transportation engineering under the Transportation System Management program so that our roads and networks continue to operate optimally without increasing the physical size of the road; and
- Continuing to establish and grow the Road Safety Program to deliver on Vision Zero

The TMP supports the Strategic Plan recommendation to add one new program: the Emerging Transportation Technologies Office would oversee and support the adoption of appropriate new technologies and services. The goal of the new mobility and emerging technology program is to be a source of research, analysis, partnerships, testing and pilot projects for new transportation technologies and services. Specific new mobility and emerging technology examples in the transportation field include, but are not limited to, ride-hailing, micro-transit, micro-mobility, Mobility-as-a-Service (MaaS), e-commerce, electrification, self-driving technology, drone delivery and connected mobility.

Next Steps

TMP updates at 5-year intervals will be required to ensure the transportation model reflects updated population and employment growth. These updates will also report on key performance indicators (KPIs) tied to the plan to ensure the City is progressing toward achieving the mode share targets and other goals and to align with Official Plan updates.

As part of final completion of the TMP, the attachments in this report and the [StoryMaps](#) content online will be assembled into a final accessible complete document and submitted as a Municipal Class Master Plan Environmental Assessment (EA).

Financial Implications

The TMP provides the vision and guidance for the city's future transportation network and outlines design standards and programs to achieve these goals. The

capital and operating budgets are the tool for Council to set and manage the pace and extent to which the plan is implemented.

Staff from Finance and Engineering and Transportation Services worked with Dillon Consulting and Watson and Associates to draft a memo outlining financial considerations to accompany the staff report for the TMP (Attachment 6).

Affordability of transportation options is one of the core values of this plan, and so the following approach is recommended for Council's consideration to scope out and pace the implementation of the TMP in an efficient and affordable manner.

The TMP financial considerations include:

- analysis of impact on the City's capital forecast;
- an assessment of potential development charges revenue, carried out by Watson and Associates on behalf of Dillon Consulting and the City of Guelph;
- comparator costs of a car-focused scenario if no investments were made toward sustainable transportation networks; and
- a high-level assessment of potential sources of revenue for future study and consideration, as required.

Capital Budget Impacts

The TMP should be implemented at a pace that balances affordability with the desire to meet established goals. Too slow, and we risk experiencing worsening congestion; too fast, and it could be an undue burden on property taxes and staff's capacity to deliver.

The 2021 10-year Capital Forecast included 31.25 km of road improvements that the TMP also recommends. Comparing a road reconstruction project designed with 2021 standards against the same road designed with the TMP recommended standard indicates a potential increase between 0% and 7% per road construction project over the next ten years. This represents approximately \$26 million in additional funding for the projects included in the forecast between 2021 and 2030 under the "Roads and Right of Way" program of work.

The driver of this cost difference is due to enhancing the level of service standards (better quality of design). For example, capital projects that now fall within the cycling spine network will include fully protected cycling facilities where prior to the TMP, the City may have accepted in-road bike lanes. Similarly, some capital projects fall within the pedestrian priority network requiring wider sidewalks and street trees where otherwise this may not have been costed into the forecast.

The capital cost impact of implementing Stage 1 of the Quality Transit Network, transit optimization, was approved as reported in the [2021 Guelph Transit Action Plan \(route review\)](#). The staff report indicates a \$37.63 million investment for the purchase of electric buses and charging infrastructure over a seven-year period starting in 2022.

Comparative Costs

The TMP financial capacity analysis includes a comparative cost of widening arterial roads, representing the impact if the recommended mode share targets are not achieved as the population grows. This scenario is equivalent to Alternative 4 – car focus and would result in about 15 kilometers of additional road widenings, at a total cost of \$65-\$100 million.

The opportunity cost of transportation investments is also important to consider. By investing in the TMP, Council is actively reducing the societal health care costs by reducing collisions, increasing active transportation health benefits, and contributing to greenhouse gas emissions reductions. Delivering the TMP presents the stacked benefit of addressing multiple strategic priorities of the community.

Capital Funding

Including the \$26 million for implementation of the TMP, the total roads cost to 2031 is \$186 million and the potential DC revenues are \$104.9 million (56.4% of gross capital costs) between 2021 and 2030. This is a high-level estimate and actual DC revenue will be determined by growth and capital cost estimates in the DC Background Study which will begin in 2022.

The balance of funding will come from a combination of grants and tax funded capital reserve funds. A portion of the work on most roads will be considered a benefit to existing residents and therefore not eligible for DC funding. For portions where that benefit is due to reconstruction of existing infrastructure, the City's Infrastructure Renewal strategy would address the funding needs. Expansion of infrastructure that is not DC eligible would be part of the City Building strategy. Where appropriate, grants would be accessed to support these works as well.

Alternative Sources of Revenue

The TMP considers that the pace and level of infrastructure investment may need to increase in future budget years to achieve the goals set within the plan. To maintain affordability, additional sources of funding may be required. The following may be evaluated and presented to Council for future consideration, where appropriate:

- Exploring funding opportunities with the private sector and non-profits
- Conventional financing tools such as alternative financing and procurement, pay-for-parking strategies, user fee increases such as fares or vehicle registration fees
- Emerging tools such as: utility levy, curbside use fees, various tolling mechanisms, congestion pricing, and new mobility charge

These opportunities would need detailed study to determine their applicability to Guelph, and evaluation for how they would help achieve the goals and core values of this plan, including equity, affordability and supportive of land use. The TMP recommends staff begin to explore these alternate funding models for consideration.

Operating Budget Impacts

Maintaining the Transportation Network

Maintenance of the transportation networks requires growth in staff time, materials and equipment as the network of protected bike lanes and new sidewalks grows.

The 2022 10-year Capital Forecast proposes about 19.7 km of cycling spine network and about 5.9 km of enhanced pedestrian amenities (to implement the Pedestrian Priority Network) could be constructed by 2031. The additional cost of maintenance of enhanced pedestrian and cycling amenities will be approximately \$113,000 annually, including staff resources by 2031.

Since the 2031 capital plan does not include any projects that require additional travel lanes because of the TMP, there is no associated operating impact for road widenings.

Beyond 2031, operating impacts will be calculated and reported through future budget cycles and TMP updates.

The recommended projects in the TMP will continue to be aligned to the capital budget unless the key performance indicators suggest an increased pace in delivering capital projects is required. As such, there are no resource requirements for the capital construction component of the TMP to 2031. The pace of capital implementation will be reviewed during future TMP updates.

Implementing the Quality Transit Network

The [Guelph Transit Action Plan](#), approved in November 2021, represents Stage 1 of the Quality Transit network recommended in the TMP. The operating costs of implementing the Quality Transit Network to 2031 are captured in the Transit Route Review staff report that estimates a net operating cost of \$13.09 million at implementation.

Staff Resources for Delivering the Recommended Policies and Programs

To optimally deliver on the recommendations of the TMP additional staff resources would be required. There are four full-time equivalent staff resources needed by 2031. These include:

- An additional project manager in the strategic transportation planning program, approved in 2021 through the Capital Resourcing Strategy report
- A road safety technologist II, approved for 2023 of the current multi-year operating budget, with an operating impact fully recovered from automated enforcement programs
- A policy analyst to establish the Emerging Transportation Technologies Office (ETTO), with an operating impact of \$128,700 annually
- A future additional active transportation project manager, with an operating impact of \$128,700 annually

The ETTO analyst was recommended but not funded for the current 2022-2023 period. The ETTO will be considered again in future budget cycles.

The annual operating impact for staffing not already approved by 2031 represents an additional \$257,400 annually from the time the positions are approved.

In summary, total operating costs to deliver the TMP in 2031 are estimated at approximately \$370,400, or a 0.15% annual tax impact. This is in addition to the costs of the outlined in the transit route review report.

Consultations

For a summary of community engagement during the final phase of this plan, please see Attachment 2. Previous engagement memos from earlier in the plan are available at Guelph.ca/tmp and will be formally documented as part of the Environmental Assessment documentation for the project upon approval of this plan.

Strategic Plan Alignment

The TMP has been designed to align fully with the Navigating our Future pillar of the Guelph. Future Ready. Strategic Plan 2019-2023. [Future Ready Action plan and performance measurement framework](#), published in September 2021.

Attachments

Attachment-1 [Transportation Master Plan \(StoryMaps\)](#)

Attachment-2 Engagement Memo

Attachment-3 Policy Recommendations

Attachment-4 Recommended Updates to the Official Plan

Attachment-5 Program Recommendations

Attachment-6 Financial Considerations Memo

Departmental Approval

Krista Walkey, General Manager, Planning and Building Services

Robin Gerus, General Manager Transit

Tara Baker, General Manager Finance, City Treasurer

John Regan, General Manager, Economic Development and Tourism

Gene Matthews, General Manager Parks

Doug Godfrey, General Manager, Operations

Dave Elloway, General Manager Fire Services

Report Author

Jennifer Juste, Manager, Transportation Planning

This report was approved by:

Terry Gayman, P.Eng.

General Manager/City Engineer

Engineering and Transportation Services

Infrastructure, Development and Enterprise Services

519-822-1260 extension 2369

Terry.gayman@guelph.ca

This report was recommended by:

Jayne Holmes, P.Eng., PMP

Deputy Chief Administrative Officer

Infrastructure, Development and Enterprise Services

519-822-1260 extension 2248

Jayne.holmes@guelph.ca