

Staff Report



To	City Council
Service Area	Infrastructure, Development and Enterprise Services
Date	Wednesday, May 26, 2021
Subject	Transportation Master Plan– Our Preferred Future: Selecting the Preferred Alternative

Recommendation

1. That Council approve staff’s recommendation to proceed with Alternative 3, the “Sustainability and Resiliency Focus” as the preferred solution for the Transportation Master Plan.
 2. That staff be directed to develop an implementation plan, policies and financial strategy to support Alternative 3 for Council’s approval in December 2021.
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Executive Summary

Purpose of Report

This report presents the work completed to date to develop the alternative solutions and to recommend a preferred solution to achieving the vision, values and goals of the Transportation Master Plan (TMP). The Transportation Master Plan is a key deliverable of the Strategic Plan to deliver a future-ready, connected transportation system and to support sustainable interregional travel.

Key Findings

The TMP established a vision that transportation in Guelph will be safe, equitable, sustainable, complete, affordable and supportive of land use. This is strongly aligned to the Navigating our Future pillar of the Strategic plan.

The TMP is built on a strong foundation of technical analyses and community engagement. The project team has conducted four rounds of engagement both in-person and virtually since the project launched, and collected over 2,000 responses to-date.

The “Sustainability + Resiliency Focus” is the recommended preferred solution to achieve the plan’s goals based on technical studies, analysis and extensive community engagement.

Financial Implications

Full financial implications of this plan will be presented in December 2021 as part of the final Transportation Master Plan. This study is a [Tier 1 project](#) and is subject to quarterly public reporting on budget, schedule and scope. The project remains within budget.

Operating and capital impacts as a result of future capital project implementation will be provided to Council through the budget process.

Report

Introduction

The City has completed Phase 2 of the Transportation Master Plan (TMP) update, which is required to replace the City's [2005 Guelph Wellington Transportation Study](#) and support the work in progress on the City's A Place to Grow: Growth Plan for the Greater Golden Horseshoe conformity work ([Shaping Guelph](#)). Together, these studies ensure that population and employment growth in Guelph can be safely and adequately accommodated, leading to a future-ready, livable and prosperous community beyond 2031. The City's [Strategic Plan: Future Ready](#) Navigating our Future direction requires an updated TMP to lay out a path toward adopting clean and efficient technology, improving connectivity and safety, and providing affordable, attractive and reasonable transportation options for everyone.

Transportation industry practices are trending toward sustainable integrated multi-modal transportation master plans. Accordingly, this TMP is being developed as a sustainability-driven, equity-based plan that is innovative when compared to traditional car-focused TMPs. The TMP follows the Municipal Class Environmental Assessment (EA) framework. Phase 1, Problem and opportunity identification, was completed in 2020 and summarized in [Attachment 1 - January 2020 information report](#). As part of Phase 1, Council participated in a [workshop](#) on Complete Streets to learn about the benefits and approaches to inclusive street design within constrained areas.

Phase 2, Alternative solutions, is summarized in this report. As per the EA framework for Master Plans, the implementation plan for the TMP will conclude the engagement process and a notice of completion will be circulated upon Council's approval of the final TMP in December 2021.

This staff report explains the justification for recommending Alternative 3 as the preferred solution to Moving Guelph Forward. Full documentation of the TMP is available in [Attachment 2 - Virtual Open House StoryMaps](#) website and provides details on:

- The vision, values and goals;
- Strategic directions papers on topics including new mobility, road safety, and resiliency;
- Existing conditions including trends for trip length, purpose and mode of transportation (mode share);
- Description of the problem statements determined through a combination of technical analysis and public engagement;
- Description of the priority networks established to address the problem statements;
- Description of the alternative scenarios developed to integrate the priority networks; and
- Evaluation criteria and outcome to identify the preferred solutions.

Exploring and evaluating alternative solutions

The TMP has developed and evaluated four (4) alternative solutions to address the goals and problem statements. Details can be found in the [StoryMaps](#), and in [Attachment 3 - Evaluation Memo](#). Results of community engagement on this phase of work is available in [Attachment 4 – Engagement Memo](#). The four alternatives were compared against criteria as outlined in Attachment 3 to determine which alternative is the preferred solution for the TMP. This determination is required so staff can prepare a comprehensive implementation plan under the directions provided by the preferred solution. The four alternatives are generally described as follows (for fulsome descriptions of the alternatives, the public and Council are encouraged to review the StoryMaps linked above).

Alternative 1: Do Nothing

The first option is a “do nothing” scenario in all EAs. This option assumes the City will carry out the existing commitments in the 2018 consolidated Official Plan and supporting master plans to completion but will not add any additional changes to the transportation network. Alternative 1 is not recommended for further consideration, as it does not address the goals and problem statements laid out in this plan.

Alternative 2: Sustainability Focus

This option prioritizes a mode shift to sustainable transportation (bike, walk, bus) with approximately 46 km of roads identified as candidates for future widening to accommodate improvements supporting a Quality Transit Network and Core Cycling Spine. Generally, congestion for vehicles (cars, trucks) is managed by supporting significant mode share shift toward sustainable modes; however, modest congestion is projected in future on some routes. Alternative 2 provides less flexibility in the future to accommodate emerging technologies and transportation trends such as driverless vehicles.

The evaluation of alternatives results in a tie between Alternative 2 and Alternative 3 as a preferred solution. Alternative 2 was supported by the public in the January 2021 survey and engagement.

Alternative 3: Sustainability and Resiliency Focus

This option acknowledges that the City needs to anticipate how changes in technologies, mobility services and personal travel choices will impact the road network. It protects additional arterial road corridors for future widening to accommodate these unknowns.

Alternative 3 maintains all the features of Alternative 2 to continue supporting a mode shift to sustainable modes of travel and maintaining vehicle levels of service through mode shift. It results in slightly less congestion in the future. It is slightly more costly because it includes approximately 68 km of potential road widenings. It scores higher on the improvements to the transportation network due to the flexibility and capacity (resiliency) it builds into the system to adapt and respond to emerging technologies, services and behavioural trends in the future.

Stakeholder engagement preferred this option, and community (public) survey data indicates it was slightly less preferred than Alternative 2 but was still viewed favourably.

Alternative 4: Car Focus

This option takes a traditional approach to ensuring adequate car capacity, and also identifies improvements to transit and active transportation infrastructure.

However, it assumes the road widenings serve both sustainable modes and vehicles simultaneously. A shared car and transit lane will be less able to deliver high-quality transit service, and therefore will result in slower and/or lower mode share shifts to transit.

This option also supports continued growth in trips by vehicles (“induced demand”), which puts pressures on parking supply, land consumption for future development, and greenhouse gas emissions. It also impacts the ability to design complete streets that reduce the risk of severe injury collisions on vulnerable road users. Accommodating vehicle demand with wider streets leads to higher speeds, longer crossing times, and potential for more severe collisions.

Alternative 4 is the most expensive and environmentally impactful plan, as it requires the most extensive road network widening to deliver sufficient space for all modes of transportation city-wide. It is not recommended for further consideration.

Common features in all alternatives

All four alternatives assume that the Hanlon Expressway improvements proposed by the Ontario Ministry of Transportation will proceed, but are unlikely to be completed before 2031.

All alternatives assume the existing permissive truck route, and will recommend a Goods Movement Strategy as part of the final TMP implementation plan.

All alternatives include Metrolinx’s plan for two-way all-day GO service and interregional bus service between Guelph and surrounding regions. The City will also continue coordinating with adjacent municipalities to support interregional transit services.

Alternatives 2-4 recommend the Cycling Spine Network, which provides protected, dedicated cycling facilities designed with all ages and abilities in mind. They also include the Quality Transit Network, which enhances transit service through protections for transit priority measures and for potential future transit priority lanes.

Staff recommend Alternative 3 as the preferred solution

Alternative 3 is best positioned to move Guelph forward to 2051. It maintains vehicle travel in Guelph, while supporting significant enhancements to the convenience and efficiency of sustainable modes of travel. It protects space for future needs, such as for curbside programming for rideshare services or other emerging mobility technologies such as autonomous delivery vehicles. Alternative 3 is future-ready, sustainability-focused, and protects the needs of people who drive. Details on the technical evaluation of alternatives is available in [Attachment 3 – Evaluation Memo](#).

Conscious of the environment and people’s well-being

Alternative 3 sets the City up for success in achieving the [Net Zero Carbon by 2050 goals](#) of the Community Energy Initiative by supporting a shift toward sustainable transportation and electric mobility, and resulting in improved air quality. Policies to support electric mobility and new technologies that are cleaner will be presented in

the final TMP. The recommended priority networks that support pedestrian and cyclist movement continue the City's progress toward improving opportunities for physical activity and access to parks and trails.

Goods movement is maintained

All alternative solutions assumed no change to the current [permissive truck route](#) network. The final TMP will recommend that the City develop a Goods Movement Strategy as a top priority next step. The proposed network improvements in Alternative 3 will improve goods movement by removing cyclists from the road along most truck routes, assigning them to protected spaces away from vehicles.

In all alternatives, there is anticipated to be some sections of road network where congestion is expected as the city grows. In Alternative 3, an additional 4% of the current permissive truck route will experience some congestion during peak hours by 2051, compared to the "do nothing" alternative. The proposed Goods movement strategy will look for opportunities to support efficient goods movement throughout the City.

Interregional travel is factored into the plan

Alternative 3 supports continued coordination and collaboration with Provincial and regional municipal partners to advance improvements to the Hanlon Expressway and to interregional transit (GO rail and bus transit and other transit service providers). This key strategic priority is important to addressing concerns about increased car and truck traffic through neighbouring municipalities.

Interregional travel must also consider parking, both for regional transit riders, and for visitors arriving by car. The TMP will make high-level recommendations on parking strategies to help guide the Downtown Parking Master Plan update and other future studies. Recommendations will be presented in the next phase of the TMP based on technical data analysis and stakeholder feedback.

Addresses equity through a Vision Zero approach

Equity is one of the core values of this plan and addressed in several goals, including Goal 1: People of all ages and physical ability will be able to travel safely using any transportation mode that they choose. The TMP Strategic Directions paper on road safety recommends the City formally adopt the Vision Zero approach and aspirational goal of zero serious injuries and deaths. The Community Road Safety Strategy was approved by Council in 2020 and provides a road safety approach that is already strongly aligned to Vision Zero principles.

Alternative 3 builds on this work and presents a path to achieving a network of complete streets for all road users, regardless of ability, income, ethnicity, employment status or age. This network supports more equitable access throughout the city by improving connectivity and convenience of non-auto modes of travel. Improvements through the Quality Transit Network help close the travel time gap between travel by car versus by bus. Protecting for a complete network of four-lane arterial roadways ensures future expansion of transit and other emerging forms of transportation remain possible city-wide, throughout all of our neighbourhoods.

Makes transit and active transportation a priority

The work of the [Community Plan](#), Strategic Plan and engagement for this plan all indicated strong desire for enhanced public transit and active transportation in

Guelph. This alternative presents network improvements that will support the goals to enhance these modes of transportation. The implementation plan presented next December will also support the development of a Connectivity Index to track progress on these and other mobility networks in the City, as noted in the Strategic plan action plan.

The TMP's proposed Quality Transit Network recommends a staged approach, starting with operational improvements, and eventually as ridership demand and operational needs dictate, moving to dedicated transit lanes:

- Stage 1: operational improvements throughout the network
- Stage 2: where four lanes exist, converting curb lane for transit priority use (either peak hours, or all day as determined through future transit studies)
- Stage 3: widening two-lane roads to four lanes for transit priority use of curb lane.

It is worth noting that ridership is not the only criteria for widening roads from two to four lanes: four-lane arterials improve transit service levels and operations even with traditional service by alleviating conflicts between stopped busses and moving vehicles.

COVID-19 Considerations

A Metrolinx-led survey on the impacts of the COVID-19 pandemic on transit ridership indicates there will be a delayed return to previous ridership growth levels. Teleworking is a significant impact to transit ridership, particularly amongst professional office and institutional workers, and especially for longer commutes. Essential workers and those with shorter commutes have not experienced the same shift away from using transit during the pandemic. Many office-based employers have indicated that some of the increased telework in offices is expected to continue post-COVID, likely through hybrid in-person and remote work arrangements. Remote school has also had a significant impact on post-secondary transit usage during the pandemic but in-person learning is largely expected to return post-COVID. The majority of pre-pandemic transit riders in the Metrolinx survey indicated they would return to transit once a vaccine is rolled out or the pandemic is declared over. More analysis on the impacts of the COVID-19 pandemic will be included in the next phase of the TMP.

Guelph Junction Railway

Guelph Junction Railway (GJR) is not recommended for passenger rail. A preliminary technical assessment of the GJR as a potential passenger rail corridor did not recommend further study or consideration. Population and potential demand would not support sufficient ridership. The corridor alignment presents many at-grade crossings that would impact traffic flow and safety considerations with increased train activity. There are also challenges to siting station locations. Finally, introducing passenger rail service would compete with the proposed Guelph North-South Bus Rapid Transit and the Stone Rd Priority Bus routes.

Access to Downtown is improved for all

The recommended alternative improves connections to and from the Downtown for all modes of transportation and does not compromise the ability to travel by car. Quality transit network improvements, protected and comfortable cycling routes, and more pedestrian connections will make it easier for people to get to and around

Downtown. This is also important to supporting the interregional travel goals of this plan and the Strategic Plan. The next phase of work will recommend opportunities to align the TMP with complementary policies, such as the Downtown Parking Master Plan.

Alternative 3 is the most “Future Ready”:

Alternative 3 – Sustainability and Resiliency Focus provides the most flexibility in the public right of way to address future changes to technology, social behaviours and mobility services.

The TMP recommendations developed as part of the implementation plan will be presented in December. Among them, and in line with the Strategic Plan and associated [action plans](#), will be support of the establishment of the Emerging Mobility Technology Office to provide continuous study, pilot projects, policy research and recommendations on how the City should position itself or adapt to new transportation technologies and services. This office will consider, for example, whether the City should embrace e-scooters, bikeshare, autonomous (driverless) vehicles, and ‘Mobility as a Service’ apps. Staff resources were identified in the 2022 to 2024 Operating Budget Forecast to support this work.

The TMP is built on a strong foundation of technical analyses and community engagement

The vision of the TMP is that transportation in Guelph will be safe, equitable, sustainable, complete, affordable, and supportive of land use. It draws inspiration directly from the tremendous engagement efforts of the [Community Plan](#) (May 2019) “we move freely” themes, which also inform our [Strategic Plan – Navigating our Future](#).

Through additional community engagement, the TMP team confirmed the vision, values and goals and established the problem statements. The results of this engagement are summarized in [Attachment 1 – January 2020 Engagement memo](#) and [Attachment 4 – March 2021 Engagement memo](#).

Technical work included updating the City’s transportation model to most accurately represent travel trends out to 2031. The transportation data analyses and updates to the model help to describe existing conditions such as mode share, trip distribution patterns, and existing capacity constraints in the network. It also helps to understand how different alternatives may impact road capacity and mode share into the future. The data, for example, allowed the team to determine traffic-zone level mode share targets specific to the local land use and travel characteristics, which then were rolled up to inform the city-wide mode share targets for 2051.

Limitations of the data

The TMP informs the City’s infrastructure, programs and policy changes required by 2051, but it is important to note that the foundational data analysis and modeling uses population and employment data projections to 2031 only because that is all that is currently available.

Forecasting travel beyond 2031: Shaping Guelph will ultimately result in a growth management strategy that will plan for growth in Guelph to 2051. Through this work, a preferred scenario for growth, which includes focus areas for both population and employment growth, will be selected. Once a preferred growth scenario is endorsed by Council, information on forecast distribution can be

integrated into the infrastructure master plans including the next update to the TMP. Once available, forecasts to 2051 will be used to update the transportation model and identify where there is a need to update the assumptions and recommendations of the final TMP. It is not expected that the updated data will have an impact on the recommendations of the TMP.

All trips versus only internal trips: The modeling information used in the TMP considers both trips that are completely internal to the City, as well as trips that start or end outside the city. However, for the purposes of proposing a mode share target for 2051, only internal trips are considered, as these are the trips that can be influenced by City policies, programs and capital investments.

Inclusion of undeveloped areas: The modeling work assumes that the Guelph Innovation District and the Clair Maltby Secondary Plan areas are included.

Impacts of COVID-19: The model uses data that predates the COVID-19 pandemic. There is very little certainty about how COVID-19 will change people's travel behaviours at this time. To be conservative, the model assumes trends for car ownership and trips based on pre-COVID patterns. A strategic assessment of potential impacts and trends resulting from COVID, including changes to active transportation trips and transit ridership, will be included in the final TMP.

Alignment of the TMP with other plans

The TMP project team is working closely with project leads on a number of master plans to ensure coordination and alignment of policies and projects, including but not limited to:

- Guelph's Community Plan
- Guelph. Future Ready. Strategic Plan
- Official Plan review update and Shaping Guelph
- Comprehensive Zoning Bylaw Review
- Clair-Maltby Secondary Plan
- 2020 Community Road Safety Strategy implementation
- Speed Limit Review
- Transit Route Review
- Transit Signal Priority Feasibility Study
- Downtown Parking Master Plan (future)
- Downtown Infrastructure Renewal Program
- Guelph Trails Master Plan
- Sustainable Transportation plans: Cycling Master Plan, Active Transportation Network and Sidewalk Needs Assessment

Existing policies and master plans are reflected in the direction of this TMP, while the TMP will also help inform and direct the upcoming plans and projects that are not yet completed.

Next Steps

Staff will proceed with the Council-approved preferred solution to develop the implementation plan for the TMP. This next step represents the fourth and final phase of work under this study. There will be additional opportunities for stakeholder and community engagement throughout this final phase. The implementation plan will include:

- Policy and program recommendations to support the preferred solution, such as developing a Goods movement strategy and establishing a new / emerging mobility program
- Capital plan and cost estimates for implementing the network improvements and other capital infrastructure and service improvements
- Strategic assessment of Covid-19 impacts on transportation trends
- Recommended street hierarchy and cross sections to support the goals of the TMP.

The final plan is scheduled to be presented to Council in December, 2021.

Financial Implications

The TMP study is being completed as a Tier 1 project with [quarterly reports](#) on budget provided to council. The project is currently within budget.

Total implementation cost estimates for the final TMP:

The next phase of work for the TMP will study the cost implications for the long-range capital budget, development charge background study, and operating budget.

Operating impacts of capital projects:

The preferred solution would result in an increase to operating impacts as more segments of protected cycling facilities are built to implement the Cycling Spine network. Winter maintenance is the primary operating cost. Operating impacts as a result of future capital project implementation will be provided to Council through the budget process.

Staff resourcing impacts:

The forthcoming implementation plan and final report will outline the future resourcing impacts of approving the TMP.

Consultations

The TMP has conducted exhaustive engagement of the community and stakeholders over the first three phases of the study: project launch, identifying issues and opportunities, and developing alternative solutions. A comprehensive summary of engagement is included in [Attachment 4](#).

Stakeholder groups include, among others:

- Metrolinx
- Ministry of Transportation Ontario (MTO)
- Adjacent Municipalities: Wellington County, Puslinch Township, Region of Waterloo and Town of Halton Hills.
- Business Community, specifically those involved in goods movement
- Chamber of Commerce
- University of Guelph
- Guelph Wellington Developer Association
- Downtown Guelph Business Association
- First Nations: Mississaugas of the Credit, Six Nations of the Grand River, and Haudenosaunee Confederacy
- General public and interest groups including but not limited to: seniors groups, active transportation groups, and neighbourhood coalitions

Strategic Plan Alignment

The TMP is one of the strategic actions required for delivery this year in the Strategic plan action plan. The TMP aligns with three of the five pillars in the Strategic Plan. The findings of this report most strongly align with Navigating our Pillar, by recommending a preferred solution that:

- Identifies opportunities to support the adoption of clean efficient transportation technology including electric vehicles and autonomous vehicles, smart/intelligent transportation systems, and services to improve mobility;
- Presents a clear path for providing safe, attractive and reasonable transportation options for everyone, including quality transit networks, first-last mile multi-modal connectivity to workplaces and transportation hubs, improved active transportation networks; and,
- Identifies opportunities to continue collaborations with regional transportation authorities to improve two-way all day GO train service and interregional highway operations.

The recommended solution also supports Building our Future by continuing to build strong, vibrant, safe and healthy communities that foster resilience in the people who live here.

Sustaining our Future is addressed through the climate and environmental goals met by Alternative 3. The recommended solution supports the efforts to reduce our carbon footprint resulting from transportation sector through policy change that prioritizes and supports lower-carbon transportation options

Attachments

Attachment-1 [January 2020 Engagement memo](#)

Attachment-2 [Virtual Open House "StoryMaps"](#)

Attachment-3 [Evaluation memo](#)

Attachment-4 [March 2021 Engagement memo](#)

Departmental Approval

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