



CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Transportation Division
and
PLANNING AND ECONOMIC DEVELOPMENT DEPARTMENT
Transportation Planning and Parking Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	December 4, 2023
SUBJECT/REPORT NO:	Main Street Two-Way Conversion Implementation and One-way Street Conversion Considerations (PW23074/PED23248) (City Wide) (Outstanding Business List Item)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Mike Field (905) 546-2424 Ext. 4576 Dipankar Sharma (905) 546-2424 Ext. 3016 Steve Molloy (905) 546-2424 Ext. 2975
SUBMITTED BY:	Carolyn Ryall Director, Transportation Division Public Works Department
SIGNATURE:	
SUBMITTED BY:	Jackie Kennedy Director, Engineering Services Division Public Works Department
SIGNATURE:	
SUBMITTED BY:	Brian Hollingworth Director, Transportation Planning and Parking Planning and Economic Development Department
SIGNATURE:	

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

RECOMMENDATION

- (a) That funding for the detailed engineering design of the two-way conversion of Main Street between Dundurn Street South and Main Street East/King Street East (Delta) in alignment with the principles established by the Main Street Two-Way conversion study, be submitted as Capital Project ID #4032411048 at a value of \$1,000,000 through the 2024 annual capital budget process for consideration of Council;
- (b) Funding for the implementation of Main Street between Dundurn Street South and Main Street East/King Street East (Delta), following the completion of detailed engineering design, be earmarked in the 2026 capital budget at a value of \$26,492,000 and considered for future approval by Council to enable construction targeted to begin in 2026 and completion in 2028;
- (c) That the remaining unbudgeted candidate one-way to two-way street conversions and alternative complete street interventions as identified in Appendix “E” to Report PW23074/PED23248 be programmed, and that funding associated with the conversions be identified and brought forward as part of future annual capital budget submissions for consideration of Council.

EXECUTIVE SUMMARY

Between 2017 and 2022, the Main Street corridor from Dundurn Street South to Main Street East/King Street East (Delta) experienced 2,065 collisions, with 73% occurring at intersections and 27% at mid-block locations. Notably, 84 of total collisions involved pedestrians, and 37 involved cyclists. Pedestrians and cyclists have high injury rates when involved in collisions, emphasizing the need for safety improvements. The intersection of Main Street and John Street had the highest frequency of fatal and injury-related collisions in the city, followed by Main Street at Wellington Street. Sideswipe collisions on Main Street were significantly more prevalent compared to the city average, with a higher severity rate, partly attributed to the historical one-way configuration of Main Street.

In May 2022 Council provided direction by motion to convert Main Street from a one-way operation to two-way operation and to report back on how it could be implemented and what resources are required. Further, Council directed to report back on the state of the conversion of other one-way streets to two-way operations, in addition to Main Street. Council also directed that interim immediate safety measures be implemented on Main Street and King Street.

Immediate safety measures were implemented in 2022 to improve safety ahead of two-way conversion. Measures deployed in various locations included lane reductions, traffic barriers, parking changes, pedestrian crossing enhancements, No Right Turn on Red restrictions, signal timing changes, pedestrian count down timers, leading pedestrian interval signals, and selected painted transit lanes. These measures led to a notable reduction in collisions on Main Street and King Street, by about 42%.

WSP Canada Inc. was selected to examine the conversion of Main Street to a two-way operation as per the Council direction. This study focused on finding the most effective method for conversion rather than questioning its necessity. Guiding principles were established to identify opportunities and address safety concerns, pedestrian and cyclist-friendly infrastructure, transit, accessibility, greenery, and parking.

The study excluded a segment of Main Street West, which falls under the jurisdiction of the Ministry of Transportation Ontario. To facilitate the comprehensive conversion, reconfiguration of exit ramps from Highway 403 is essential, and discussions with the Ministry are ongoing. This segment of Main Street would be completed as a future second phase in coordination with Light Rail Transit works, as necessary.

Three design alternatives were evaluated based on safety, traffic flow, pedestrian-friendliness, cyclist network, social equity, transit, parking, and cost. Option three, Asymmetric Lane Capacity, was selected as the preferred solution due to its comprehensive benefits.

Extensive consultations, including public engagement, were conducted, and feedback emphasized pedestrian and cyclist prioritization, cycling infrastructure, reduced side street access, and traffic congestion concerns.

The Main Street Two-Way Functional Design Plans (Option three) are conceptual and need further detailed engineering using a consulting assignment at a cost of approximately \$1,000,000. The estimated construction budget includes traffic signal reconstruction (\$8,425,000), roadway rehabilitation (\$10,000,000), corridor improvements (\$3,557,000), and contingency/miscellaneous costs (\$4,510,000), totalling \$26,492,000. Detailed design is expected to take 24-30 months, with construction over two years, starting in 2026-2028 to avoid disruptions due to light rail transit construction on King Street.

Further to the one-way conversion of Main Streets, Council provided additional direction to be provided with an update and reassessment of all remaining one-way streets in the City. This report also includes a high-level review of all other one-way arterial and collector streets in the City. This review utilized the evaluation framework that was developed as part of the 2018 Transportation Master Plan while taking into

consideration more recent experience collected through the development of the City's Complete Streets Design Manual. The review re-confirmed the benefits of converting many of the remaining one-way streets to two-way operations, which include safer traffic speeds and improved routing opportunities. However, the review also recommends that some streets remain one-way, but with lane reductions. These lane reductions would serve to re-prioritize under-utilized vehicle lanes for other purposes including cycling facilities, expanded pedestrian space, green infrastructure or on-street parking and loading.

A summary of the evaluation of 14 street conversions (excluding Main Street) in Appendix "E" of Report PW23074/PED23248.

Alternatives for Consideration – see page 16

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: Undertaking an engineering consultant assignment to prepare the detailed design drawings and tender documents is estimated to cost approximately \$1,000,000. Capital Project ID #4032411048 at a value of \$1,000,000 has been included in the 2024 annual capital budget process for consideration by Council.

Implementation (construction) of the Main Street two-way conversion is estimated to cost approximately \$26,492,000. Completion of detailed engineering design will further refine the project's budget cost estimate. It is proposed that funding be identified, for Council approval, through the annual capital budgeting process. Funding for implementation would be required for the construction phases, anticipated to begin in 2026 and be completed in 2028. Project costs would be shared across the 2026-2028 budget years. A detailed cost breakdown is included in Appendix "F" to Report PW23074/PED23248.

Staffing: It is proposed that external services, through an engineering consulting assignment, be used to deliver detailed design/contract documents. Internal resources would oversee the work of the consultant and it is anticipated that a project team will be required consisting of approximately four temporary positions within the Engineering Services and Transportation sections, which would be funded through gapping or the capitalization of the project budget. Further, external contract administration support can supplement existing internal resources to aid in delivering the implementation phase of the project.

Legal: N/A

HISTORICAL BACKGROUND

On February 13, 2019, Council approved the Hamilton Strategic Road Safety Program and Vision Zero Action Plan 2019-2025 (Report PW19015) that identifies that no loss of life is acceptable, and that traffic fatalities and injuries are preventable. Further, that the City's goal is to eliminate traffic related injuries and fatalities.

On May 11, 2022, Council unanimously passed a motion entitled 'Safety Enhancements to Major Arterial Roads' which provided direction to undertake the following actions:

- (a) That staff identify actions that can be taken immediately to improve safety for all users along Main Street and King Street such as expanded and enhanced pedestrian space, temporary lane reductions, removal of parking restrictions, reduced speed limit, synchronized traffic signal options, no right turn on red restrictions at intersections, and leading pedestrian intervals;
- (b) That the conversion of Main Street from one-way to two-way be approved as an immediate safety intervention and that an implementation plan be developed for the conversion of Main Street from one-way to two-way that integrates a Complete Streets redesign that will enable safer use for all people who need to use the streets including public transit riders, pedestrians, motorists and cyclists and that these spaces also contribute to climate resilience by providing shade trees and permeable surfaces;
- (c) That staff be directed to undertake engagement with the public and advisory committees on the medium- and long-term vision of Main Street that leverages a Complete Streets, Equity Diversity and Inclusion and Climate Change approach;
- (d) That staff consult with Metrolinx and the Ministry of Transportation on the implications of the implementation plan on Light Rail Transit and Highway 403 interchanges;
- (e) That staff report back in early 2023 with an implementation plan for the two-way conversion of Main Street that includes an assessment of costs, construction timing and resource requirements;
- (f) That the City retain a consultant to prepare the implementation plan for Main Street funded from Vision Zero Priorities Capital Budget (#4662020050) at an upset limit of \$400,000; and

- (g) That staff update and reassess all remaining one-way streets in the City of Hamilton utilizing the street conversion framework identified in the Transportation Master Plan and report back to Council.

Between May and November 2022, short-term roadway safety enhancements on Main Street and King Street were planned and implemented, including several amendments to By-law No.01-215 (Traffic) and By-law No.01-218 (On-Street Parking) to support the changes (refer to Appendix “D” to Report PW23074/PED23248, pages 25-27).

On June 16, 2022, the Main Street Two-Way Conversion informational webpage (www.hamilton.ca/mainstreetconversion) was published.

On July 5, 2022, a Communications update: Safety Enhancements to Main Street and King Street (CRO22022) was issued to Council outlining progress on the immediate safety enhancements on Main Street and King Streets.

On July 8, 2022, Council approved the Complete Streets Design Manual (PED21020(a)/PW21002(a)) which supports the design of roadways and considers the needs of all road users and supports the principles of Vision Zero.

On July 13, 2022, WSP Canada Inc. was contracted through the City’s Roster Consultant procurement process to undertake a Main Street Two-Way Conversion Implementation Study assignment.

On July 27, 2022, a second communications update: Safety Enhancements to Main Street and King Street (CRO22022a) was issued to Council outlining progress on the immediate safety enhancements on Main Street and King Streets.

On August 12, 2022, Council approved five Community Safety Zones (PW22066) and four Automated Speed Enforcement Program operating locations along Main Street and King Street for implementation in 2023.

On September 20, 2022, a third communications update: Safety Enhancements to Main Street and King Street (CRO22022b) was issued to Council outlining progress on the immediate safety enhancements on Main Street and King Streets.

On May 2, 2023, the Engage Hamilton Main Street Two-Way conversion webpage was published publicly (<https://engage.hamilton.ca/mainstreetconversion>).

On May 10, 2023, the Main Street Two-Way Functional Design Plans were made available for public viewing through the City’s Main Street Two-Way Conversion

webpage (www.hamilton.ca/mainstreetconversion), in advance of the Public Information Centre and Community Meetings.

On May 18, 2023, the City hosted a virtual Public Information Centre regarding the Main Street Two-Way Conversion initiative. Further, the Main Street Two-Way Functional Design Plans were added to the Engage Hamilton platform utilizing an interactive online public commenting tool.

On May 25, 2023, an in-person Community Meeting at City Hall was jointly hosted by Ward 1 and Ward 2 offices regarding the Main Street Two-Way Conversion initiative.

On May 29, 2023, an in-person Community Meeting at the Bernie Morelli Recreation Centre was jointly hosted by Ward 2 and Ward 3 offices regarding the Main Street Two-Way Conversion initiative.

On June 5, 2023, the public commenting period concluded for the Main Street Two-Way Functional Design Plans interactive online public commenting tool.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

The conversion of Main Street from one-way operation to two-way operation supports the Council approved Vision Zero Action Plan 2019-2025 and Complete Streets Design Manual. Conversion of Main Street from one-way to two-way operation will require amendments to By-law No.01-215 (Traffic) in accordance with the Ontario Highway Traffic Act, R.S.O. 1990, c. H.8.

RELEVANT CONSULTATION

The following internal and external parties have been consulted during the Main Street Two-Way Conversion study phase and in the development of this report:

- Transportation Division
- Transportation Planning & Parking Division
- Engineering Services Division
- Transit Division
- Financial Planning Administration & Policy Division
- Communication & Strategic Initiatives Division
- LRT Project Office
- Healthy Built Environments Division
- Ministry of Transportation Ontario
- Metrolinx
- Hamilton Strategic Road Safety Committee

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- Business Improvement Area Sub-Committee
- Hamilton Police Services
- Ward 1, Ward 2, and Ward 3 Councillor Offices

Studying the conversion of Main Street from one-way operation to two-way operation is exempt from the Municipal Engineers Association Municipal Class Environmental Assessment based upon the provincial framework requirements. Regardless, because of the significance of the project and its importance to the safety of residents and all road users, it was carried out to generally follow the Municipal Class Environmental Assessment process, specifically phases one and two of Schedule B projects. Public and external stakeholder consultation and engagement was undertaken under the environmental assessment framework.

ANALYSIS AND RATIONALE FOR RECOMMENDATION

Council's direction included two components, the first being the implementation of the Main Street two-way conversion and second the plan for conversion of other existing on-way streets to two-way operation.

Main Street Two-Way Conversion Implementation:

From 2017 to 2022, the stretch of Main Street between Dundurn Street South and Main Street East/King Street East (refer to Appendix "A" to Report PW23074/PED23248 – Study Area) experienced a total of 2,065 collisions. It's worth noting that the majority, 73% of these collisions, happened at intersections, while 27% occurred at mid-block locations. When compared to the citywide data, intersections had 16% fewer collisions, while mid-block locations had 15% more compared to Main Street. In terms of safety, Main Street's intersection with John Street has the highest frequency of fatal and injury-related collisions in the entire city. Following closely, the Main Street and Wellington Street intersection takes the second spot, and the Main Street and Victoria Avenue intersection comes in sixth. These numbers highlight that road users face a higher risk of collisions at Main Street intersections compared to other parts of the city.

Out of the 2,065 collisions that occurred on Main Street, 84 of them involved pedestrians, and 37 involved cyclists. Annual collision data shows that 89.7% of pedestrians involved in a collision sustained injuries, and 77.4% of cyclists involved in a collision are injured. These statistics, which reflect both the high injury rates among vulnerable road users and the collision frequency at Main Street intersections, strongly justify the benefit of safety improvements.

Main Street exhibits a notable prevalence of sideswipe collisions, accounting for 49% of all collisions, in contrast to the citywide average of 17%. This pattern also extends to the

severity of sideswipe collisions, with 26% of these incidents resulting in fatalities or injuries, whereas the citywide figure stands at only 8%. The historical one-way setup of Main Street stands out as a contributing factor to both the rate and nature of collisions experienced along the corridor.

Main Street and King Street saw the implementation of immediate short-term safety measures in 2022. The primary goal of these measures was to enhance safety temporarily until the transition to a two-way operation could be realized. These measures were designed to prioritize the protection of vulnerable road users by implementing strategies that create time or space separation between pedestrians and vehicles. The changes encompassed several aspects, including lane reconfiguration, the installation of ladder crosswalks, the establishment of pedestrian buffers, the incorporation of leading pedestrian intervals at signalized intersections, temporary lane control bump outs, expanded street parking, restrictions on right turns on red, enhancements to transit facilities, the establishment of community safety zones, and the operation of automated speed enforcement. To gauge the effectiveness of these safety measures, it is typically necessary to analyze multiple years of data, normally spanning five years. While a full five-year dataset is currently unavailable, an examination of the available collision data following the implementation of these short-term measures reveals a notable reduction in collisions on Main Street and King Street, amounting to an approximate 42% reduction.

WSP Canada Inc. was selected via the roster consultant process to assist in the examination of the conversion of Main Street from a one-way to a two-way operation, as per the Council direction. It is important to note that Council had already made the decision to proceed with the conversion, so the project's scope was explicitly narrowed to determine the most effective method for carrying out this conversion, rather than questioning whether it should be done.

Guiding principles were formulated, and these principles served as a foundation for identifying opportunities by capitalizing on existing safety concerns, Council and public input, and available frameworks, such as the Vision Zero Action Plan, Pedestrian Mobility Plan, Transportation Master Plan, and Complete Streets Design Manual, among others. These identified opportunities encompassed various aspects, including:

1. Enhancing safety for all road users.
2. Developing a pedestrian-friendly corridor.
3. Improving connectivity for cyclists.
4. Prioritizing the efficiency of two-way transit operations.
5. Enhancing accessibility.
6. Addressing parking and loading requirements.
7. Incorporating greenery and streetscaping elements into the design.

The segment of Main Street West, spanning from Paradise Road South to Dundurn Street South, has been excluded from the study. This decision is driven by the fact that a significant portion of this segment falls under the jurisdiction of the Ministry of Transportation Ontario, necessitating their formal endorsement and agreement for any modifications. The recent revisions to the realignment of the light rail transit corridor aids in permitting the full conversion of Main Street, which will incorporate reconfiguration of the Highway 403 exit ramps and intersections. The scheduling of this work, and the future expanded two-way of Main Street will be coordinated with the light rail transit works. In the interim, it is proposed that minor adjustments to this section of Main Street be made. These alterations are strategically recommended to support the initiation of the Main Street conversion process, commencing from Dundurn Street South.

As part of the comprehensive study, three distinct design alternatives for Main Street were identified and evaluated. These alternatives were developed and subjected to a thorough assessment against the backdrop of the opportunities previously identified. In order to systematically analyze and rank these alternatives, in accordance with the guiding principles and Council direction, a set of evaluation criteria was established by the project team. These criteria were pivotal in shaping the alternative designs and ultimately guided the selection of the most viable option.

The key evaluation criteria that informed the decision-making process include:

1. **Safety and Conflict Mitigation:** Prioritizing the minimization and mitigation of conflicts between motorists and vulnerable road users, ensuring their safety.
2. **Traffic Operation:** Methodically evaluating the impact of each alternative on roadway capacity and the operational dynamics of intersections.
3. **Pedestrian Friendliness:** Focusing on the provision of safe, pedestrian-friendly routes that are convenient and accessible.
4. **Cyclist Network:** Assessing the extent to which each design facilitates cycling, including connectivity to key destinations.
5. **Social Health and Equity:** Emphasizing the creation of an inclusive and equitable environment for all users of the roadway.
6. **Transit Operations:** Scrutinizing the impact and compatibility of each design alternative with local transit operations.
7. **On-Street Parking:** Deliberate on the consequences of each alternative for on-street parking availability.

8. Cost: Carefully estimating the anticipated construction costs associated with the implementation of each conceptual design.

These evaluation criteria were systematically applied to assess each design alternative, ensuring that the ultimate selection aligns with the overarching objectives and principles.

Three distinct design alternatives were formulated to address the challenges and opportunities presented by the corridor:

(i) Alternative One - Do Nothing:

The "Do Nothing" alternative entails maintaining the existing roadway configuration without any significant changes. This option, also referred to as Option One, was assessed based on several key considerations:

- Does not fulfil the objective of enhancing westbound capacity.
- Lacks provisions for pedestrian and cyclist-friendly infrastructure.
- Safety outcomes remain suboptimal under this option.
- Least opportunity for improving social health and equity.
- Does not align with Council's directives.

(ii) Alternative Two - Symmetric Lane Capacity:

Option Two proposes a reconfiguration of the roadway, converting the existing four eastbound lanes into two eastbound lanes and two westbound lanes. Key points regarding this option are:

- Provides balanced eastbound and westbound traffic capacity on Main Street.
- Does not effectively address the high volume of existing eastbound traffic, potentially worsening congestion compared to the current conditions.
- Traffic analysis indicates that this option would likely result in more congestion when compared to Options One and Three.
- Eastbound transit travel times will degrade as a result of congestion.

(iii) Alternative Three - Asymmetric Lane Capacity:

Option three introduces a reconfiguration of the existing roadway, resulting in an asymmetric layout. This design entails one westbound vehicular lane and two to three eastbound vehicular lanes, the specific number depending on the segment of the corridor. This option's highlights are:

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- Provides additional east bound capacity (current prevailing travel demand) when compared to Alternative one and two.
- Provides better safety and conflict mitigation opportunities
- Pedestrian environment is the friendliest of the three options
- Allows for incorporation of cycling facilities Victoria to Sherman (short term) and Dundurn to Sherman (longer term post light rail transit construction)
- Provides improved opportunities for social health and equity
- Provides space to incorporate street trees and green infrastructure

Based on the evaluation of alternative solutions, Option Three – Asymmetric Lane Capacity was determined to be the preferred solution and used to focus the study's efforts, including consultation and engagement. Design alternative Option three, the Main Street Two-Way Functional Design Plan, has been attached as Appendix "B" to Report PW23074/PED23248 – Main Street Two-Way Functional Design Plans.

As previously noted, the study falls under an exemption from the Municipal Engineers Association Municipal Class Environmental Assessment. However, due to the project's significance, the evaluation and analysis for the preferred design underwent a process equivalent to a 'Schedule B' Municipal Class Environmental Assessment Study.

Ensuring comprehensive input, extensive internal and external consultations were conducted, including public engagement. An internal stakeholder group was formed to examine various aspects, including needs, opportunities, constraints, objectives, evaluation criteria, and alternative evaluation.

Three public engagement sessions were organized, and the Engage Hamilton platform was leveraged to supplement the interactive sessions. The primary engagement event was a virtual Public Information Centre held on May 18, 2023, with over 300 participants (see Appendix "D" in Report PW23074/PED23248 for the May 18, 2023, Public Information Centre presentation). Additionally, the public was encouraged to contact the city through email, phone calls, letters, social media, and other means to share their thoughts, desires, and concerns regarding the study.

While all three alternative options were presented, the focus was primarily on option three, as it was identified as the preferred choice based on evaluation criteria. A summary of the consultation and engagement efforts can be found in Appendix "C" in Report PW23074/PED23248 – Public Engagement Report.

Based on the engagement summary, seven key themes emerged:

- Prioritizing pedestrians, cyclists, and transit users.
- Allocating street space for cycling and green infrastructure.

- Extending cycling options along Main Street with enhanced protection.
- Expanding Hamilton's cycling network.
- Reducing side street access to Main Street.
- Minimizing driveways along Main Street.
- Addressing traffic congestion concerns.

The level of public engagement was greater than typical City projects which demonstrates the high level of interest in the conversion of Main Street to two-way operations. Engagement is summarized as follows:

- 362 public engagement session attendees
- 81 unique questions from public engagement session attendees
- 149 e-mails received by the project general e-mail inbox
- 500 comments recorded on the interactive online public commenting tool

All comments from the consultation and engagement process were carefully reviewed and used to inform the development of the final Main Street two-way functional design plan. These comments will continue to guide the detailed design phase, evolving the functional plans into a construction-ready design that considers the feedback from the community collected during the engagement activities.

The Main Street Two-Way Functional Design Plans, referred to as Option Three, should be regarded as conceptual representations and do not constitute a fully engineered design for the Main Street two-way conversion. These functional plans serve the purpose of providing a "proof of concept" and illustrating the general appearance of the detailed design, including how key components will be integrated. These functional design plans played a pivotal role in soliciting public input during the study's engagement phase.

Advancing from a functional plan to a comprehensively detailed design suitable for tendering and construction requires a thorough engineering process. This ensures that the design aligns with the project's objectives, is pragmatic, and is ultimately feasible for construction. Given the substantial scope of transitioning from a functional design to a detailed one and taking into consideration the current limitations of available internal resources, the engagement of external consulting services would be necessary. It is estimated that a detailed engineering assignment would cost approximately \$1,000,000, and this process would be initiated through a formal request for proposal.

The conversion of Main Street from one-way operation to two-way operation represents a significant undertaking. Within the project scope, there are a total of thirty traffic signals, all currently configured to accommodate one-way traffic flow. These signals necessitate reconstruction to support the new two-way traffic flow only. Furthermore,

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many of the intersections do not currently meet the Accessibility for Ontarians with Disabilities Act requirements, which demands additional reconstruction efforts. The estimated budget allocation for the reconstruction of these traffic signals is \$8,425,000.

The resurfacing of Main Street has already been included in the existing five-year capital plan, due to the need for pavement rehabilitation. It is advantageous to synchronize the resurfacing work with the two-way conversion, capitalizing on economies of scale and enabling seamless coordination with other physical alterations along the corridor. The estimated budget for the resurfacing of Main Street within the project limits is \$10,000,000.

In alignment with the overarching objectives of the two-way conversion, a range of supplementary activities are needed. These include geometric adjustments, the creation of median islands, the integration of cycling facilities, the implementation of green infrastructure, and the incorporation of decorative elements such as crosswalks and intersections. The estimated budget allocation to cover the costs associated with these project enhancements is approximately \$3,557,000.

A detailed budget cost estimate is included as Appendix “F” to Report PW23074/PED23248– Project Budget Cost Estimate and summarized as follows:

<u>Item:</u>	<u>Budget Estimate:</u>
Traffic Signal Reconstruction	\$ 8,425,000
Roadway Rehabilitation	\$10,000,000
Corridor Improvements	\$ 3,557,000
Contingency & Miscellaneous	\$ 4,510,000
Total:	\$26,492,000

The construction cost estimate will be further refined through the undertaking of the detailed design process and consider methods to reduce the overall project cost where possible.

Given the extensive nature of the Main Street conversion to two-way operation, it is reasonable to anticipate that the detailed design phase will span approximately 24-30 months. The complexity of the project makes it challenging to execute construction within a single construction season. Consequently, a phased approach is expected, with construction activities spread over a span of two-three years. The specifics of the staging and construction schedule will be defined during the detailed design process.

A preliminary assessment of the project's implementation indicates that the detailed design phase could commence in 2024 and be completed in 2025, followed by construction activities taking place in 2026/2028. This proposed delivery schedule is

strategically planned to facilitate the conversion of Main Street to two-way operation in advance of the commencement of extensive light rail transit construction on King Street. This timeline aligns with the preference of Council, ensuring minimal disruption to the community.

Conversion of existing on-way streets to two-way operation:

The Citywide Transportation Plan identifies an evaluation framework to rebalance streets in a context-sensitive manner. The intent of the evaluation framework is to implement a best complete street outcome, which could be either a one-way or two-way street.

The framework considers a multi-modal transportation assessment, which integrates the application of complete streets typologies and vision zero principles. The evaluation includes a review of potential impacts, such as neighbourhood infiltration, on-street parking/loading, and service operations (example: transit, waste, and emergency response). The framework includes opportunities to facilitate city-building initiatives and opportunities as well as compatibility and/or integration with other transportation infrastructure and servicing plans.

An evaluation summary of fourteen streets conversions which includes existing and proposed implementation timing (excluding Main Street) is provided in Appendix “E” to Report PW23074/PED23248.

Future Enhancements

The conversion of Main Street to two-way operation will achieve several objectives including reduced traffic speeds, improved safety, and improved pedestrian experience. The preferred configuration represents the next step in the evolution of Main Street and Downtown/Lower City transformation. The preferred concept considers needs for transit and vehicular movement prior to and during light rail transit construction.

Following the completion of the light rail transit project, there are further opportunities to evolve Main Street because light rail transit will result in mode shifts away from car travel, and the need to maintain capacity for trunk transit bus routes will be reduced.

One of the key opportunities is the incorporation of a high-quality cycle track between Dundurn Street and Victoria Street which could be created by removing an additional eastbound lane and reconfiguration the sidewalk space. This option could also incorporate additional green infrastructure. A next step in advancing this option would be a community-wide visioning session that utilizes the preferred near-term conversion plan as the starting point.

ALTERNATIVES FOR CONSIDERATION

Council could direct staff to utilize Alternative 3 (symmetrical lane capacity) as the basis for the two-way street design. This alternative is not recommended as it would result in greater levels of congestion than other alternatives and have implications for eastbound transit movement.

Council could choose to maintain the existing road configuration. This alternative does not align with Council's directions and would not lead to the benefits of the two-way alternatives.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report PW23074/PED23248 – Study Area

Appendix "B" to Report PW23074/PED23248 – Main Street Two-Way Functional Design Plans

Appendix "C" to Report PW23074/PED23248 – Public Engagement Report

Appendix "D" to Report PW23074/PED23248 – May 18, 2023, Public Information Centre presentation

Appendix "E" to Report PW23074/PED23248 – Remaining One-way Street Conversion Summary

Appendix "F" to Report PW23074/PED23248 – Project Budget Cost Estimate