

TO:	CHAIR AND MEMBERS RAPID TRANSIT IMPLEMENTATION WORKING GROUP MEETING ON JUNE 30, 2020
FROM:	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	NORTH CORRIDOR TRANSIT OPTIONS REVIEW

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions **BE TAKEN** with respect to transit routes along Richmond Street and Western Road between the Masonville Transit Hub, Western University and the Downtown:

- (a) The following two approaches for improving transit **BE ADVANCED** for further consideration;
 - i) Option 1 – Intersection improvements on both Western Road and Richmond Street;
 - ii) Option 3 – Rapid transit on Richmond Street, with intersection improvements on Western Road; and
- (b) Staff **BE DIRECTED** to report back with a work plan and fee estimate to provide further assessment of transit options for the north based on the Council's preferred approach.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
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- Civic Works Committee – June 19, 2012 – London 2030 Transportation Master Plan;
- Civic Works Committee – October 7, 2013 – Bus Rapid Transit Strategy;
- Civic Works Committee – July 21, 2014 – Rapid Transit Corridors Environmental Assessment Study Appointment of Consulting Engineer;
- Civic Works Committee – June 2, 2015 – Rapid Transit Funding Opportunities;
- Civic Works Committee – August 24, 2015 – Shift Rapid Transit Initiative Appointment of Survey Consultants;
- Strategic Priorities and Policy Committee – November 9, 2015 – Shift Rapid Transit Update;
- Strategic Priorities and Policy Committee – January 28, 2016 – Downtown Infrastructure Planning and Coordination;
- Strategic Priorities and Policy Committee – May 5, 2016 – Shift Rapid Transit Business Case;
- Strategic Priorities and Policy Committee – September 12, 2016 – Rapid Transit Implementation Working Group;
- Strategic Priorities and Policy Committee – May 3, 2017 – Rapid Transit Alternative Corridor Review;
- Strategic Priorities and Policy Committee – May 15, 2017 – Rapid Transit Corridors;
- Civic Works Committee – July 17, 2017 - Shift Rapid Transit Additional Engineering and Legal Survey;

- Strategic Priorities and Policy Committee – July 24, 2017 – Rapid Transit Master Plan and Business Case;
- Strategic Priorities and Policy Committee – September 18, 2017 – Project Management Plan, Communications Plan and Consulting Fees Amendment;
- Strategic Priorities and Policy Committee – April 23, 2018 – Bus Rapid Transit Environmental Assessment Initiative;
- Civic Works Committee – March 14, 2018 – The History of Rapid Transit;
- Strategic Priorities and Policy Committee – March 25, 2018 – Investing in Canada Infrastructure Program - Public Transit Stream Transportation Projects for Submission;
- Strategic Priorities and Policy Committee – March 25, 2019 – Investing in Canada Infrastructure Program, Public Transit Stream, Transportation Projects for Submission; and
- Strategic Priorities and Policy Committee – October 28, 2019 – Investing in Canada Infrastructure Program, Public Transit Infrastructure Stream, Approved Projects.

2019-2023 STRATEGIC PLAN

The following report supports the Strategic Plan through the strategic focus area of “Building a Sustainable City” by implementing and enhancing safe and convenient mobility choices for transit riders, automobile users, pedestrians, and cyclists.

BACKGROUND

Context

On March 26, 2019, Council selected ten transportation projects to be submitted for approval under the Public Transit Infrastructure Stream (PTIS) of the Investing in Canada Infrastructure Program (ICIP) from a list of eligible projects capable of being constructed within the funding window.

On June 25, 2019, the Province pledged \$103.2 M for all ten of the transit and transit-supportive projects under the ICIP program, and on August 23, 2019, the Federal government announced \$123.8 M for the same projects.

The current approved ICIP projects were part of an initial funding application window. A second ICIP application window is anticipated. The ten approved ICIP projects did not utilize the full funding allocation, leaving an available balance to support future applications for transit-supportive works. A further breakdown of available ICIP funding is provided later in this report.

The rapid transit (RT) plan was presented for ICIP consideration as five component projects able to stand alone or work in combination with other projects on the list. Council prioritized three of the RT projects for the ICIP funding application: the Downtown Loop, the East London Link and the Wellington Gateway. The West and North corridor RT projects were not prioritized at the time, providing opportunity for further discussion of transportation needs for those parts of the city.

Purpose

On January 14, 2020, Council directed staff to explore further options for improving transit service to North London through the following resolution:

That the following actions be taken with respect to the transit routes along Richmond Street and Western Road between the Masonville Transit Hub, Western University and the Downtown:

- a) *the Civic Administration BE DIRECTED to work with London Transit Commission to identify:*
 - i) *enhancements to roadway geometry, including, but not limited to, intersection design;*
 - ii) *traffic controls, including signal design and operations;*
 - iii) *transit routing and stop locations; and*
 - iv) *other potential short and long term improvements to enhance transit service and connectivity along these corridors; and,*
- b) *the Civic Administration BE DIRECTED to report back to a future meeting of the Strategic Priorities and Policy Committee, in advance of the next project intake opportunity for the Public Transit Infrastructure Funding – Transit Stream Program, with the results of the review set out in a) above.*

The approved Environmental Assessment for London’s rapid transit initiative provides the foundation to continue exploring options for improving transit service to North London. Staff was able to review transit options for the North under the current consulting contract for the Environmental Assessment and representatives of the London Transit Commission continued their participation on the project team.

This report summarizes the development and assessment of options to optimize transit service to North London addressing a) parts i) through iv) of the resolution.

DISCUSSION

Overview of North Corridor Review

Status of the Environmental Assessment

The Rapid Transit Initiative Environmental Assessment followed the Transit Project Assessment Process (TPAP) – a provincially regulated protocol created to support transit initiatives (O.Reg. 231/08). On June 4, 2019, the City of London received a “Notice to Proceed with Transit Project” from Ontario’s Minister of Environment, Conservation and Parks. This process allows the City to proceed with any or all components of the Bus Rapid Transit project in accordance with the Environmental Project Report (EPR).

The engineering work, technical studies and consultation that went into the EPR provide the foundation to review alternatives to the approved design concept. The North Corridor Review (Appendix A) provides a Master Plan-level evaluation of a range of measures to improve transit, including elements of the Original Design proposed in the EPR, for comparison purposes.

Any options that increase the footprint of the Original Design or extend beyond the previous study limits may require an additional Environmental Assessment and public

consultation, culminating in an addendum to the EPR. Additional analysis and data gathering may include but not be limited to: traffic and transit operations, natural environment, cultural heritage, archaeology, stormwater and utilities. The length of time required to complete the additional analysis would vary depending on the study area and range of options. At a minimum, it is anticipated that any further study would take at least one year to complete.

Environmental Assessment implications were included as an evaluation criterion in the corridor review.

Transit Service for North London

Two primary transit corridors connect Downtown to Masonville Place: Wharnccliffe/Western Road and Richmond Street. As the City grows, there will continue to be transit needs along both. To address potential short-and long-term needs for both corridors, three approaches to improving transit were developed and evaluated:

- Option 1:** Intersection improvements on both Western Road and Richmond Street
- Option 2:** Rapid transit on Western Road, with intersection improvements on Richmond Street
- Option 3:** Rapid transit on Richmond Street, with intersection improvements on Western Road

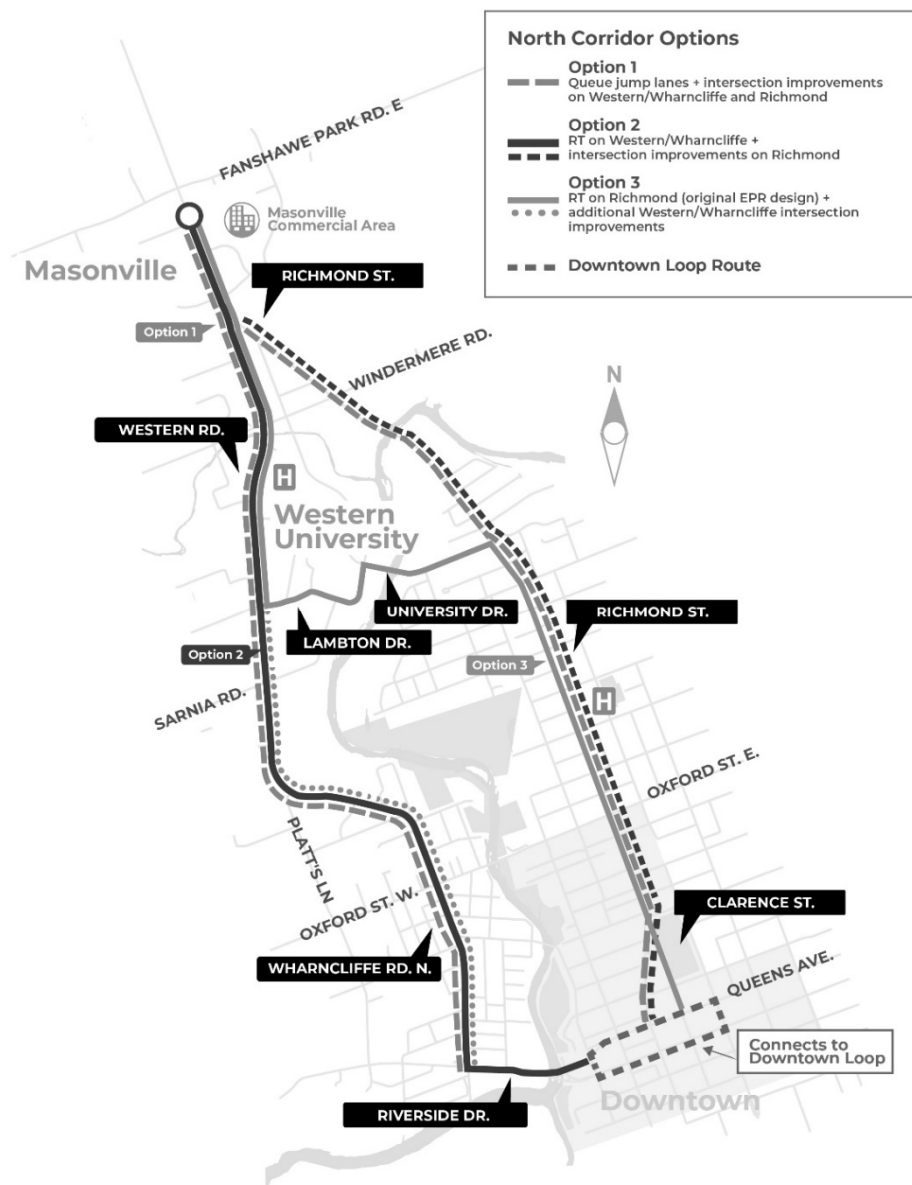


Exhibit 1: North Corridor Review Map

Interactions with West Corridor Review

On November 26, 2019, Council passed a resolution directing staff to explore further options for improving transit service in the West end of the city.

The North Corridor Review considers transit options along both Richmond Street and Western Road/Wharnccliffe Road. Under some North options, Segment 1 of the West Corridor Review (Wharnccliffe Road south of Oxford Street West) would need to accommodate the transit demand of both the West and North RT corridors.

This section of Wharnccliffe Road would have the highest frequency of buses of the City's RT network outside of the downtown core, potentially accommodating the 10-minute frequency of RT for the West Corridor plus the 5-minute frequency of RT for the North Corridor and some continued local transit routes.

The West Corridor Review is detailed in a companion SPPC report. The West review establishes a baseline for Segment 1 by reviewing options independent of the north corridor review. However, this North Corridor Review considers the influence on Wharnccliffe Road South of Oxford Street West (Segment 1) when evaluating measures to improve transit. The implications of North and West route interactions are reflected in the detailed evaluation tables in Appendix A.

Supporting Documentation

The North and West Corridor Reviews are presented in separate concurrent reports to be considered in tandem.

Staff were able to complete both corridor reviews using remaining budget under the existing Environmental Assessment contract. The project team was able to build on baseline information, studies, modelling and past analysis from the Rapid Transit Master Plan and EPR.

Attached in Appendix A is the North Corridor Review technical memorandum and detailed evaluation tables. This work was supported by traffic analysis of conceptual roadway configurations, preparation of high-level concept drawings and qualitative assessment of measures to improve transit.

Order of magnitude capital cost estimates were prepared for all alternatives. These were based on per-metre cost estimates for each typical roadway configuration, derived from the London RT network cost estimate prepared with the EPR. These costs include infrastructure costs and associated contingencies, utility relocation costs, allowance for property acquisition, and additional bus fleet requirement costs. The estimates also include engineering and project management costs and applied contingency consistent with the master planning level of detail available.

The costs presented in the West Corridor Review are reflective of the West segment only, while the costs presented in the review of the North Corridor include any additional works as a result of overlap in RT service on Wharnccliffe Road south of Oxford Street West.

The cost estimates have been inflated to reflect nominal dollars and broken down into their ICIP-funded and municipally funded shares, reflecting any ineligible costs.

Developing Options to Improve Transit

A full range of transit improvement measures was considered when developing options for evaluation. However, some options were considered operationally infeasible or not applicable under ICIP, and therefore were not carried forward for evaluation.

Table 1: Options Developed*

<p>Minor Transit Improvements/ Lowest Cost</p> <p>↑↓</p> <p>Major Transit Improvements/ Highest Cost</p>	<ul style="list-style-type: none"> • Express bus service • Transit signal priority – enhancing existing transit service • Intersection improvements (queue jump lanes) • Convert existing lane to two-way transit-only lane • Convert existing lanes to transit-only lanes • Widen to add a two-way transit-only lane • Widen to add transit-only lanes
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* Only bolded options were incorporated into one of the three transit options for evaluation

Table 1 summarizes transit improvement measures considered as part of this review and highlights those that were incorporated as part of one of the three evaluated transit options. The following sections provide a brief explanation of each and the detailed evaluation tables are included in Appendix A.

Express Service

Express bus service is intended to reduce travel times over conventional local service by making fewer stops and following more direct routes. LTC already operates express routes 90 on Richmond Street and 93 on Western Road. Express bus service is considered through LTC’s annual service reviews and does not require infrastructure investment under ICIP. This option was not carried forward for evaluation.

Enhancing Transit Service with Transit Signal Priority (TSP)

The Transportation Intelligent Mobility Management System (TIMMS) project, currently funded as one of the 10 approved ICIP projects, includes transit signal priority and other traffic signal improvements – such as sensors and video cameras – along major corridors. The project will reduce intersection delays and smooth traffic flow for both transit and drivers. Installing priority signals for transit would provide benefit to local and express routes, but would not implement any rapid transit buses or infrastructure. It would not require an infrastructure investment under ICIP since the City has already received funding approval for the TIMMS project. As such, Transit Signal Priority measures were considered to reflect an existing condition, and were not carried forward for further evaluation under the north review.

Intersection Improvements

This option would add or extend right-turn lanes at signalized intersections that buses can use as queue jump lanes, while maintaining four lanes of general traffic. Queue jump lanes improve transit travel times by allowing buses to bypass traffic and get to the front of the queue at signals. Transit signal priority would provide a head start for transit with an advance green transit only signal phase. Intersections were assessed to determine the lane length needed for a bus to by-pass through traffic 50 per cent of the time, and 95 per cent of the time, during peak hours.

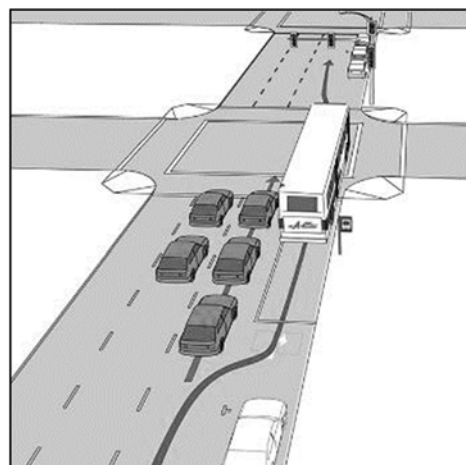


Diagram of queue jump lane.

While intersection improvements would benefit transit operations at intersections, buses would still be operating in mixed traffic for the majority of the route and experience delays associated with congestion and right-turning movements. Providing priority for transit at intersections may also increase delay for drivers due to adjusted signal timing.

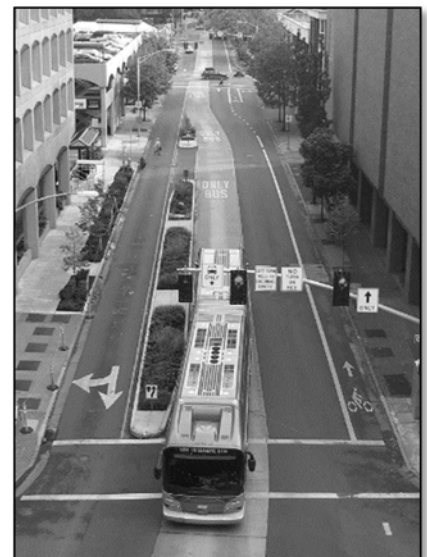
Queue jump lanes are not the same as bus bays which require drivers to yield the right-of-way to buses when the bus indicates an intention to re-enter the adjacent traffic lane. Ontario has Yield to Bus legislation, however, compliance is a concern, particularly on high-volume roads. Bus bays only are useful in specific circumstances (i.e. stops with higher passenger loads and ridership needing mobility aids or stops with schedule layovers requiring the bus to sit longer). Increased use of bus bays would have a negative impact on transit schedule adherence and therefore were not considered as part of this review.

At some intersections on Richmond Street, traffic flow forecasts continue to show traffic operating at a low Level-of-Service (LOS), in part due to the lack of turning lanes at select signalized intersections. In these particular instances, poor traffic flow would obstruct the transit benefit of queue jump lanes. In these cases, the intersections were considered to receive a full range of improvements, including widening to accommodate the addition of left and right turn lanes. Full intersection improvements at these locations would take advantage of the ICIP funding opportunity to improve mobility for both transit and drivers.

Two-way transit-only lane options

A two-way transit lane consists of a single transit-only lane in the centre of the road. Buses travelling in both directions alternate use of the lane controlled by signals at either end of the shared lane.

Options for two-way transit-only lanes were considered initially, but not included as part of the evaluation. Two-way transit-only lanes would require complex signal operations, which result in transit delays and would only be feasible for short segments framed by signalized intersections. Plus, the design requirements for safe operation and maintenance would result in widening impacts and costs nearly equal to those of two single-direction transit-only lanes.



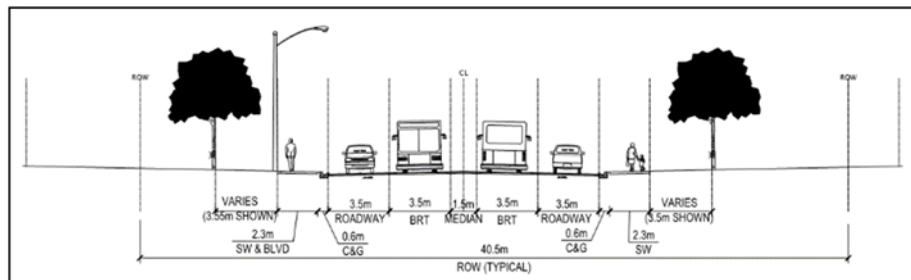
Two-way transit lane in Eugene, Oregon.

Centre-running transit-only lanes

Transit-only lanes run down the centre of the road with a raised centre median. RT stops are located on sheltered platforms in the centre of the road while local service continues to run in the curb lane. RT passengers access the protected centre platform by crossing the road at a signalized cross-walk.

The raised centre median restricts unsignalized side streets and mid-block driveways to right-in/right-out access. Without the raised centre median, drivers would inevitably try to turn left from the centre-running transit-only lanes, resulting in stopped vehicles blocking RT buses and decreasing the reliability of the RT service. Left-turn movements are consolidated at signalized intersections to provide protected, safe turns across on-coming traffic. The centre-running transit-only lanes would increase the radius for drivers completing U-turns, which would make the movement easier for drivers to manoeuvre.

Centre-running transit-only lanes provide the purest form of RT in terms of their ability to support service frequency and reliability. Centre-running RT is also the most efficient configuration for winter maintenance.



Example of centre-running RT.

Evaluating Options to Improve Transit

Each North option was evaluated against the following 14 criteria (Table 2).

These criteria support the evaluation and comparison of options. They are not intended to carry equal weight but provide insight into how different options balance transit benefit against physical impacts, operational impacts, study implications and cost.

Detailed evaluation tables are provided in Appendix A.

Table 2: Evaluation Criteria

Benefit to transit operations	Transit operations, including reliability and travel time delay, considered, with input from LTC.
Increase in Ridership	Ability to grow transit ridership by attracting new or choice riders based on implementing enhancements.
Benefit to traffic operations	Traffic operations assessed with modelling including signalized intersection operations, queue lengths, and potential for traffic diversion, with consideration for pedestrians and cyclists.
Least property impacts	Impacts to buildings and properties assessed for each option, indicating potential full and partial property impacts.
Least cultural heritage impacts	For options that would result in some form of property impact to a property with potential cultural heritage value or interest, a Cultural Heritage Evaluation Report would be required with timing and cost implications.
Least impact on trees	A high-level assessment of the number of trees impacted. This did not include a Tree Inventory to assess the health, size or type of trees.
Least impact on utilities	A high-level assessment of above-ground utilities, based on previously collected utility information.
Least impact on driveways	A high-level assessment of the number of driveways and potential parking impacts.
Redevelopment potential	For options that include widening, considered ability to encourage redevelopment and potential opportunities to merge residual parcels.
Most consistent with City's policy objectives	Assessed whether options support the goals and objectives of the London Plan.
Least EA Implications	Identified whether options would trigger the need for an addendum to the approved EA and the related study, consultation and timing implications.
Interaction with West Corridor	Compatibility with Segment 1 of the West Corridor review, Wharnccliffe Road south of Oxford Street.
Constructability	Potential impacts on lane closures, traffic detours and other constructability challenges.
Capital cost	High-level cost estimates developed using costs for similar roadway configurations to provide a range of potential capital costs.

Developing North Transit Options

The following three sections provide a detailed description for each of the proposed transit options, highlighting key assumptions, benefits and challenges.

OPTION 1: Intersection Improvements along both Western Road and Richmond Street

Description and Assumptions

As an alternative to higher order transit on either Richmond Street or Western Road, a concept was developed to implement intersection improvements (queue jump lanes and transit signal priority) along both corridors. By adding or extending right-turn lanes, buses would be able to bypass the general traffic queues during peak traffic periods. Option 1 assumes intersection improvements on Western Road and Richmond Street would benefit existing express and local bus routes operating in mixed traffic. Option 1 would not include RT buses or station infrastructure.

Option 1 considers intersection improvements along Western Road at the existing signalized intersections of Althouse, Sarnia Road, Lambton Drive, Burnlea Walk, Elgin Road, and Windermere Road. Intersection improvements would be implemented on Richmond Street at the existing signalized intersections of Oxford Street East, Grosvenor Street, Victoria Street, Broughdale Avenue, University Drive, Windermere Road, Western Road, and Sunnyside Drive.

The Richmond Street corridor between Central Avenue and Huron Street currently experiences significant traffic congestion due to the lack of turn lanes at critical intersections. In this area, it was determined that adding queue jump lanes and transit signal priority would not alleviate the impact of turning movements on transit operations. Therefore, it is recommended that the intersections of Richmond with Cheapside Street and Huron Street receive full intersection improvements, including widening the road as required to accommodate the necessary additional turning lanes.

The Original Design proposed in the EPR included a reconfiguration of the intersection of Western Road and Richmond Street in order to direct longer-distance through trips away from Richmond Street. Option 1 assumes the existing configuration of the intersection would remain, with through traffic prioritized along Richmond Street.

Considerations

Option 1 is anticipated to provide a minor improvement to transit operations based on the addition of queue jump lanes and widening at signalized intersections. It would also take advantage of Transit Signal Priority included as part of the TIMMS project. Since Option 1 is geared towards local and express buses operating in mixed traffic, there would still be transit delays associated with congestion and right-turn movements.

Option 1 would provide limited potential to attract new ridership compared to a rapid transit solution. Based on the limited improvement to transit operations, Option 1 is not anticipated to encourage redevelopment or intensification (other than what would occur naturally), and thus is not consistent with the City's policies that designated Richmond Street as a Rapid Transit Corridor. Additionally, this option would not provide a range of viable transportation options that encourage sustainable modes of transportation and discourage sprawling development patterns.

Option 1 would minimize property impacts, as any widening required for implementation would be located at intersections, limiting the number of cultural heritage properties, trees and utilities that would be impacted.

Option 1 could be progressed as a quickstart implementation for RT in the North. There would be no further Environmental Assessment implications to Option 1, as the intersection improvements identified are covered under Schedule A+ of the Municipal Class Environmental Assessment process and the previous EA addressed ultimate road widening needs. Overall this option would keep initial implementation and operating costs low. However, curbside queue jump lanes would not be compatible with transition to the ultimate EPR design and result in future throw away costs.

Finally, since this option for the North Corridor assumes no rapid transit north of Oxford Street along Wharncliffe/Western, there would be no adverse impacts to the operations of Segment 1 of the West corridor, which recommended four general traffic lanes with transit operating in mixed traffic.

Capital Cost Estimate

The Option 1 estimated total project cost ranges from \$17.6M to \$24.1M.

OPTION 2: Rapid Transit on Western Road with intersection improvements on Richmond Street

Description and Assumptions

Option 2 considers locating rapid transit on Western Road, paired with the same intersection improvements recommended for Richmond Street in Option 1. Providing rapid transit infrastructure on Western Road would not alleviate the need for continued local and express bus service on Richmond Street.

From Masonville Place to Platt's Lane, Option 2 with RT on Western Road would include two centre-running transit-only lanes separated by a median with four general traffic lanes.

The Original Design proposed in the EPR included reconfiguring the intersection of Western Road and Richmond Street in order to prioritize north/south bound through traffic along Western Road. Option 2 assumes that the Western Road/Richmond Street intersection would retain its current configuration, so that through traffic continues to follow Richmond Street, maintaining capacity for RT along Western Road.

Sub-Options:

The Western Road corridor, south of Platt's Lane to Oxford Street, was recently widened to four general traffic lanes in 2018, including expansion of the rail crossing. That raised the question of how to approach this brand new stretch of road if rapid transit is on Western Road.

Three sub-options were considered for Western Road/Wharncliffe Road South of Platt's Lane.

- 2a – Existing conditions: four general traffic lanes and buses would operate in mixed traffic.
- 2b – Convert two traffic lanes to transit only lanes: Some widening would be required at signalized intersections to convert two existing lanes to dedicated

transit-only lanes. Transit-only lanes would be centre-running and include a centre-median to restrict left-turns to signalized intersections.

- 2c – Widen to add two transit-only lanes: Widening would be required to accommodate two additional centre-running transit-only lanes and maintain the recently upgraded four general traffic lanes. This option would have significant impacts to property, newly installed hydro/aerial utility and the reconstructed rail crossing. For this reason, Option 2c was screened out, and the evaluation focused on Options 2a and 2b.

Implications for the West Corridor

Under both Option 2 scenarios, the segment of Wharnccliffe Road south of Oxford Street West would be shared by two rapid transit routes, additional local transit routes and general traffic. Therefore, the North Corridor review had to consider the implications for Wharnccliffe Road south of Oxford Street West when evaluating options.

The configuration of Western Road north of Oxford Street West influences the design of Wharnccliffe Road south of Oxford Street West (West Segment 1):

- 2a – Mixed traffic could be carried south through the intersection at Oxford Street West (consistent with West Option 1)
- 2b – Conversion of two traffic lanes to transit-only lanes would need to be carried south through the intersection at Oxford Street West (triggering West Option 2 and associated impacts)

This 1.5 km stretch of Wharnccliffe Road between Oxford and Riverside would need to support 10-minute RT frequency for the West Corridor, 5-minute RT frequency for the North Corridor and some local service, making it the busiest segment in the rapid transit network outside of the Downtown Loop.

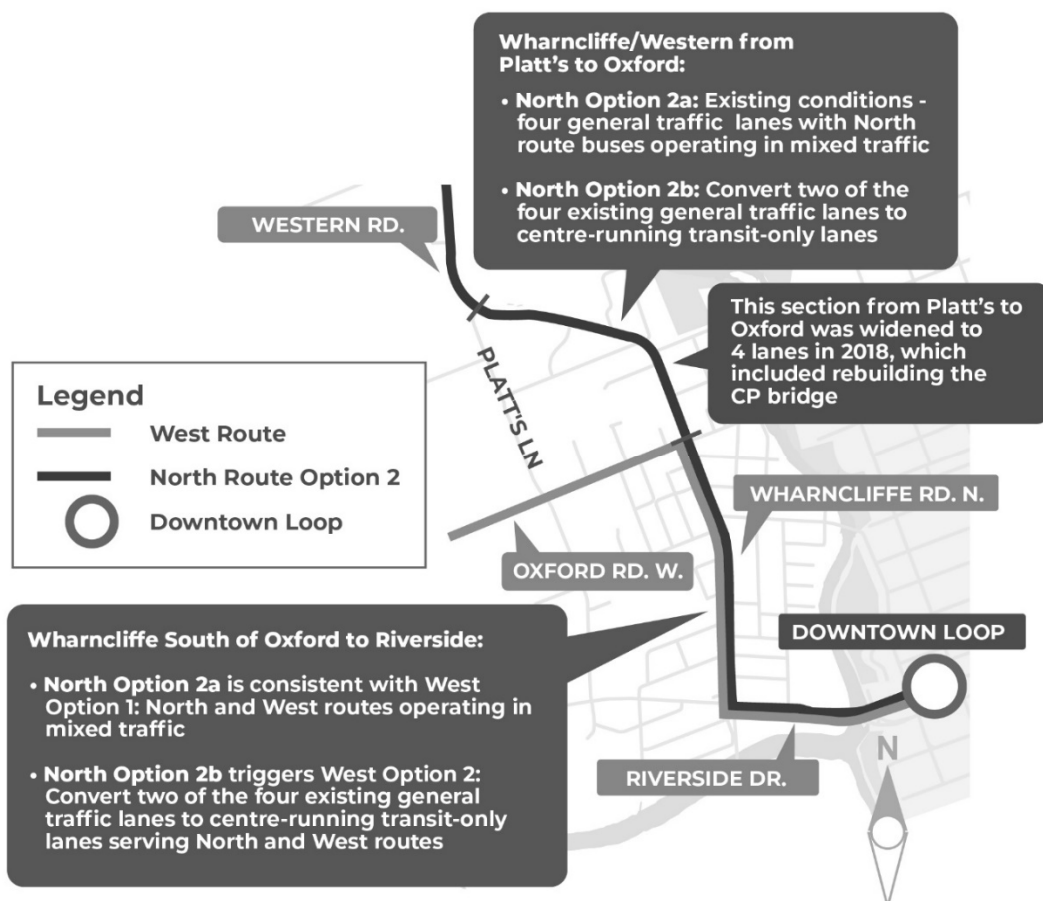


Exhibit 2: North and West Corridor Interactions

Considerations

Option 2 provides centre-running transit-only lanes along Western Road from Masonville Place to Platt's Lane. Centre-running transit is most reliable as buses are separated from general traffic congestion and not impacted by the right-turn movements that impact curb-side transit-only lanes.

Widening Western Road from Masonville Place to Platt's Lane to accommodate the additional transit-only lanes would maintain the existing capacity of general traffic lanes. While the addition of the centre median may impact some drivers (as mid-block left-turns would be restricted), the separation would provide safer road operations overall.

Overall, for either Option 2a or 2b, there is a moderate potential to attract ridership based on this corridor's connections to key trip generators, including the downtown core, Western University, Masonville Mall, University Hospital, and others. Other key trip generators on Richmond Street, including St. Joseph's Hospital, and King's University College, and student residences would continue to be served by local bus routes. The presence of a rapid transit system along Western Road would likely encourage redevelopment and intensification, though this potential is somewhat limited by the floodplain and natural features of the North Thames River.

Option 2 requires additional widening of Western Road from Lambton Drive to Platt's Lane, which would result in several impacts to properties, some with cultural heritage value.

Option 2 has the greatest Environmental Assessment implications. The segment of Western Road north of Lambton Drive is consistent with the EPR; however, Western Road/Wharncliffe Road between Lambton Drive and Oxford Street would require an EPR addendum. This would include conducting studies for traffic, natural environment, archaeology, stormwater, cultural heritage, utilities and more, which is anticipated to take a minimum of one year to complete.

Capital Cost Estimate

The Option 2a estimated total project cost ranges from \$108.5M to \$133.0M.

The Option 2b estimated total project cost ranges from \$136.4M to \$168.0M.

Option 3: Rapid Transit along Richmond Street with Intersection Improvements along Western Road

Description and Assumptions

The RT alignment for Option 3 is consistent with the Original Design recommended in the EPR, paired with the same intersection improvements recommended for Western Road in Option 1. Providing rapid transit infrastructure on Richmond Street would not alleviate the need for continued local and express bus service on Western Road.

This option considers centre-running transit-only lanes on Richmond Street from Central Avenue to University Drive, through Western University Campus and continuing north along Western Road from Lambton Drive to Masonville Place.

Option 3 assumes that the Richmond Street/Western Road intersection would be reconfigured to better prioritize north/south-bound through traffic along Western Road, where capacity would be retained via four general traffic lanes. Consistent with Option 1 above, Western Road is also considered to have intersection improvements at the existing signalized intersections of Althouse Entry and at Sarnia Road which would

include the extension of transit lanes for local service from Lambton Drive to the Sarnia Road intersection.

Finally, since this option for the North Corridor assumes no rapid transit immediately north of Oxford Street along Wharncliffe Road/Western Road, there would be no adverse impacts to the operations of the West corridor, which recommended four general traffic lanes with transit operating in mixed traffic and intersection improvements at Riverside Drive and Oxford Street West.

Considerations

The centre-running transit-only lanes for Option 3 provide the most reliable transit solution for this rapid transit corridor. Where road widening occurs to accommodate the infrastructure, traffic capacity in the existing four general traffic lanes would be maintained. The installation of centre medians would restrict left-turns to signalized intersections, representing a minor impact to drivers, but would result in safer road operations overall. Additionally, in areas where road widening is not occurring (Richmond Street from Central to University), traffic operations would experience a minor increase in delay during peak hours due to two of the four general traffic lanes being converted to transit-only lanes.

Locating rapid transit on Richmond Street provides the greatest potential for ridership increase as it serves the most trip generators (including downtown, Western University, Masonville Place, two hospitals, etc.). Rapid transit on Richmond Street is consistent with City policies that designated Richmond Street as a Rapid Transit Corridor and would provide the highest potential for redevelopment and intensification.

The slightly reduced traffic volumes on Richmond Street resulting from the reconfigured intersection at Western Road would also provide more flexibility to improve cycling infrastructure from where RT connects into Western University at University Drive to north of the Thames River.

Option 3 would require widening of the corridor for significant segments, and the introduction of centre-island passenger platforms would result in further widening requirements. It is anticipated that 9 properties (including 7 cultural heritage properties) would be fully impacted, with an additional 93 properties (including 30 cultural heritage properties) being partially impacted.

Option 3 is consistent with the design concept assessed under TPAP, so there would be no further Environmental Assessment implications. The additional intersection improvements to Western Road, outside of the EPR boundary, are covered under the Municipal Class Environmental Assessment, and do not need further study.

Capital Cost Estimate

The Option 3 estimated total project cost ranges from \$154.6 M - \$172.0 M.

PRELIMINARY RECOMMENDATION

Based on the review of alternative approaches for short- and long-term transit improvements for the North Corridor, it is recommended that Options 1 and 3 be carried forward for further consideration. These options can be evaluated in more detail and compared on a segment-by-segment basis (similar to the West Corridor Review) with consideration for possible staging of implementation.

Staff can report back with a work plan and fee estimate to provide further assessment of transit options for the north based on the Council’s preferred approach

FINANCIAL IMPLICATIONS

In early 2018, the federal and provincial governments allocated a total of \$375.6 million to London to support transit improvement initiatives (\$204.9 Federal plus \$170.7 Provincial). Municipal matching requirements of \$136.6M would support total eligible funding program of \$512.2M.

In early 2019, the federal government announced the Investing in Canada Infrastructure Program (ICIP) - Public Transit Infrastructure Stream (PTIS), a cost-shared infrastructure funding program between the federal and provincial governments and municipalities. In March 2019, City Council approved a list of ten transit and transit-supportive projects to be submitted under the ICIP–PTIS program. This list included the Downtown Loop, the East London Link, and the Wellington Gateway. In June 2019, the Government of Ontario approved \$103.1 million to support these projects, followed by approval for \$123.8 million from the Government of Canada in August 2019. The ten approved PTIS projects will utilize \$225.1 million of the \$375.6 million allocation, leaving an available balance of \$150.5 million.

A placeholder for transit connections in the North and West was approved in the 2020 – 2023 Multi-Year Budget (see Table 1). A total of \$136.7 million is in the capital budget for the North Connection.

Table 1 - North Connection in 2020-2023 Multi-Year Budget

\$(000's)	Life to Date	2020-2023	2024-2029	Total
North Connection				
Federal/Provincial Share	1,878		84,204	86,082
Municipal Share	3,158		47,464	50,622
Total	5,036	0	131,668	136,704

After funding the placeholders for the North and West connections, approximately \$42 million of funding is still available for other transit related projects (remaining allocation of federal and provincial funding plus municipal matching, noting that the matching municipal share is currently unfunded).

SUMMARY

The high-level recommendations outlined in this report are the result of a thorough review that aimed to determine the best approach to serve North London’s current and future transit needs. They represent the greatest opportunities to capitalize on available funding opportunities while delivering excellent value for residents of North London, and London as a whole.

For the purposes of this review, each corridor’s distinct ridership needs, land uses, traffic volumes and cultural and environmental conditions were considered, ensuring the recommendations support appropriate levels of infrastructure investment along North London’s critical transit routes.

The need to maintain existing traffic capacity was balanced with the ridership requirements of each corridor, and the potential transit benefits were weighed against other key considerations, such as physical impacts (for example, to trees and properties), operational impacts, study implications and cost.

Neither of the recommended approaches have impacts on the existing Environmental Assessment, meaning the City could potentially move forward with improvements without the need for any study addendums.

With this in mind, it is the project team’s recommendation that an even more detailed review be undertaken once a preferred approach to improving transit for the North is identified.

With clarity on the preferred approach, the project team could further break down the North’s selected corridors/options into distinct segments, honing in on and taking into consideration the unique needs of each area. The team could then report back on short- and long-term transit improvement options by segment, with the same detailed level of consideration undertaken on the West Corridor Review.

SUBMITTED BY:	
JENNIE DANN, P.ENG. PROJECT DIRECTOR, MAJOR PROJECTS	
CONCURRED BY:	RECOMMENDED BY:
ANNA LISA BARBON, CPA, CGA MANAGING DIRECTOR, CORPORATE SERVICES AND CITY TREASURER, CHIEF FINANCIAL OFFICER	KELLY SCHERR, P.ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES & CITY ENGINEER

Appendix A