1. Montreal-Blair Road Transit Priority Corridor Environmental Assessment Study - Recommendations

Étude de l'évaluation environnementale du couloir prioritaire de transport en commun du chemin de Montréal et du chemin Blair

COMMITTEE RECOMMENDATIONS

That Council:

1. **Approve the functional design for the Montreal-Blair Road Transit Priority Corridor Environmental Assessment Study, as described in this report; and,**
2. **Direct Transportation Planning staff to finalize the Environmental Study Report and proceed with its posting for the 30-day public review period in accordance with the Ontario Municipal Class Environmental Assessment process.**

RECOMMANDATIONS DU COMITÉ

Que le Conseil :

1. **approuve la conception fonctionnelle de l'Étude de l'évaluation environnementale du couloir prioritaire de transport en commun du chemin de Montréal et du chemin Blair selon les modalités exposées dans le présent rapport;**
2. **demande au personnel des Services de la planification des transports de finaliser le Rapport de l'étude environnementale et d'enchaîner avec la publication de ce rapport pour la période d'examen public de 30 jours conformément au processus de l'évaluation environnementale de portée générale du gouvernement de l'Ontario.**

DOCUMENTATION

1. Vivi Chi, Director, Transportation Planning, Transportation Services Department, dated August 23, 2021 (ACS2021-TSD-PLN-0005).

   Vivi Chi, Directeur, Planification des transports, Direction générale des transports, daté le 23 août 2021 (ACS2021-TSD-PLN-0005) .

Subject: Montreal-Blair Road Transit Priority Corridor Environmental Assessment Study - Recommendations

File Number ACS2021-TSD-PLN-0005

Report to Transportation Committee on 1 September 2021

and Council 8 September 2021

Submitted on August 23, 2021 by Vivi Chi, Director, Transportation Planning, Transportation Services Department

Contact Person: Frank McKinney, Program Manager, Transportation Planning, Transportation Services Department
(613) 580-2424, 28540, Frank.McKinney@ottawa.ca

Ward: Rideau-Rockcliffe (13), Beacon Hill-Cyrville (11) and Innes (2)

Objet : Étude de l'évaluation environnementale du couloir prioritaire de transport en commun du chemin de Montréal et du chemin Blair

Dossier : ACS2021-TSD-PLN-0005

Rapport au Comité des transports

le 1er septembre 2021

et au Conseil le 8 septembre 2021

Soumis le 23 août 2021 par Vivi Chi, Directeur, Planification des transports, Direction générale des transports

Personne ressource : Frank McKinney, Gestionnaire de programme, Planification des transports, Direction générale des transports

(613) 580-2424, 28540, Frank.McKinney@ottawa.ca

Quartier : Rideau-Rockcliffe (13), Beacon Hill-Cyrville (11) et Innes (2)

REPORT RECOMMENDATIONS

That the Transportation Committee recommend that Council:

1. **Approve the functional design for the Montreal-Blair Road Transit Priority Corridor Environmental Assessment Study, as described in this report; and,**
2. **Direct Transportation Planning staff to finalize the Environmental Study Report and proceed with its posting for the 30-day public review period in accordance with the Ontario Municipal Class Environmental Assessment process.**

RECOMMANDATIONS DU RAPPORT

Le Comité des transports recommande au Conseil :

1. **d'approuver la conception fonctionnelle de l'Étude de l'évaluation environnementale du couloir prioritaire de transport en commun du chemin de Montréal et du chemin Blair selon les modalités exposées dans le présent rapport;**
2. **de demander au personnel des Services de la planification des transports de finaliser le Rapport de l'étude environnementale et d'enchaîner avec la publication de ce rapport pour la période d'examen public de 30 jours conformément au processus de l'évaluation environnementale de portée générale du gouvernement de l'Ontario.**

EXECUTIVE SUMMARY

Assumption and Analysis

The 2013 Transportation Master Plan (TMP) identifies Montreal Road and Blair Road as transit priority corridors in the 2031 Affordable Network and Network Concept. As outlined in this report, the Montreal-Blair Road Transit Priority Corridor Environmental Assessment (EA) Study resulted in the recommended plan and functional design for transit priority measures and active transportation improvements on Montreal Road (St. Laurent Boulevard to Shefford Road) and Blair Road (Montreal Road to Blair Station). The EA study identified the right-of-way (ROW) requirements that need to be protected from encroaching development for future implementation of the project.

The recommended plan includes the following key benefits:

- Provide transit priority measures on Montreal Road and Blair Road;
    - Implement sections of bus-only lanes and queue jump lanes.
    - Support new bus routes and services.
    - Improve bus stop locations and amenities.
- Improve multi-modal connectivity to Blair and Montreal stations, as well as to adjacent communities, employment centres and commercial uses;
- Implement the Complete Streets design and improve active transportation facilities by providing new segregated cycle tracks, improved sidewalks and a new multi-use pathway;
- Implement the protected intersection design;
- Provide barrier-free access for all users and implement accessibility design standards;
- Improve road safety for all users;
- Maintain existing roadway capacity;
- Expand public realm and placemaking opportunities that include tree planting and landscaping;
- Consider and incorporate climate change mitigation and adaptation strategies; and,
- Encourage transit-oriented development and regeneration.

The recommended plan also includes the preferred location for a new bus loop and bus lay-up facility to support integration with the Stage 2 Montreal O-Train Station, enhance local bus operations and support future bus network changes.

Implementation of the project will require approximately 1.95 hectares of private and public property.

Financial Implications

Project costs were developed in accordance with the Council-approved Project Delivery Review and Cost Estimating process for implementing capital projects. The estimated cost for design, construction, property, public art, and contingencies in 2021 dollars is approximately $150 million. Funding will be subject to the City's future capital budget priorities.

Public Consultation/Input

Consultation included three rounds of Consultation Group meetings, two public open houses and numerous individual stakeholder meetings throughout the study. Meetings were held with the Agency Consultation Group (regulatory agencies, National Capital Commission, Hydro Ottawa, Hydro One and other utility companies, various City Departments), and the Business and Public Consultation Groups (landowners, businesses, community associations, interest groups). Feedback was also received from Indigenous peoples and the Accessibility Advisory Committee. The project website provided study information, and consultation events were advertised through newspapers, emails, buckslips and social media.

Overall, there is strong public support for this project. Some issues were raised during consultation that have been addressed, as described in this report. Concerns were raised about property impacts to commercial and residential properties from which land will be required. Property impacts have been minimized where possible as part of the refinement of the preferred design. Further refinement may be possible at the detailed design phase.

Conversion of two of the four existing lanes on Montreal Road from general purpose to transit was also suggested. However, a significant reduction in vehicle volumes would be required for this option to function adequately. Traffic volumes in the corridor are likely to remain high based on its role and function in the City's roadway network, and there is a lack of suitable alternative corridors in proximity to Montreal Road to accommodate diverted traffic.

BACKGROUND

The Transportation Master Plan (TMP) identifies Montreal Road and Blair Road as Transit Priority Corridors to accommodate future travel demand and meet modal share

objectives. Transit priority corridors complement the rapid transit network by providing improved city-wide transit access to major employment, commercial and institutional land uses.

The TMP identifies the following sections of the study corridor:

- Montreal Road from St. Laurent Boulevard to Blair Road; and Blair Road from Montreal Road to Blair Station, in the 2031 Affordable Rapid Transit and Transit Priority Network; and,
- Montreal Road from Blair Road to Ogilvie Road in the Network Concept.

The TMP describes this project as requiring road widening to provide continuous bus lanes along the corridor. These roadways are also identified in the TMP as cycling spine routes.

On May 2, 2018, Transportation Committee approved the Statement of Work for the Montreal-Blair Road Transit Priority Corridor Environmental Assessment (EA) Study (ACS2018-TSD-PLN-0005).

The study area included a section of Blair Road approximately 1.2 kilometres north of Montreal Road. Although Blair Road north of Montreal Road is not part of the TMP's Transit Priority Corridor, it was included in the study to assess the potential transit connection from Wateridge Village through the National Research Council to Blair Road.

The EA study area for Montreal Road was extended eastward from Blair Road to Shefford Road to ensure connectivity and design tie-in to the future Montreal Station on Line 1 of Ottawa's O-Train network.

In addition, the study area was expanded to include the interchange of Montreal Road and St. Joseph Boulevard with Highway 174, and the intersection of St. Joseph Boulevard and Bearbrook Road to determine a suitable location for a new bus turnaround and layover facility (bus loop) at Montreal Station.

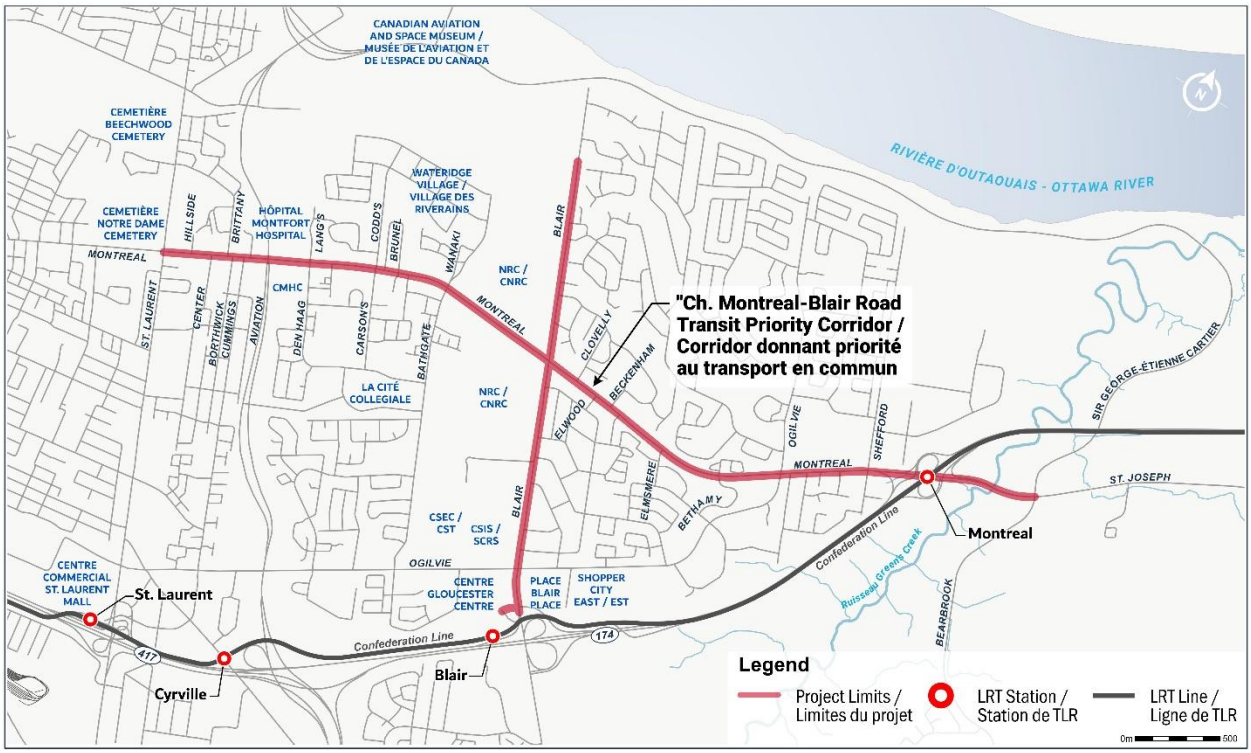


Figure 1: Montreal-Blair Road Transit Priority Corridor EA Study Area

The Montreal Road corridor extends from St. Laurent Boulevard in the west to Shefford Road in the east, a distance of approximately 5.5 kilometres. It serves a diverse range of land uses including employment, commercial, residential and institutional, as well as the new Wateridge Village community. Employment lands include Canada Housing and Mortgage Corporation (CHMC), Montfort Hospital and National Research Council (NRC). The study area also includes the NCC's Aviation Parkway and its multi-use pathway, which intersects Montreal Road east of St. Laurent Boulevard. The east end of the study corridor connects to the planned roadway modifications as part of the future Montreal O-Train Station.

The Blair Road corridor extends from north of Montreal Road to the intersection of Blair Road and the westbound Highway 174 off-ramp at the existing Blair Station on O-Train Line 1, a distance of approximately 2.8 kilometres. Blair Road north of Ogilvie Road supports employment land use on the west side and residential on the east side. Federal employment lands include the NRC, Canadian Security Intelligence Service (CSIS) and Canadian Security Establishment (SCE). South of Ogilvie Road to Blair Station, Blair Road supports employment and commercial lands on both sides. The

south portion of the study area is within the Blair Transit Oriented Development (TOD) Plan Area that includes the Blair Mixed Use Centre.

The City's Official Plan (OP) includes Right-of-Way (ROW) protection of 37.5 metres for Montreal Road, and 30 metres for Blair Road from Montreal Road to Ogilvie Road. For Blair Road north of Montreal Road, its existing ROW varies from 20 to 23 metres.

The draft New OP identifies Montreal Road as a Transit Priority Corridor and Mainstreet Corridor that is part of the inner urban and outer urban transect policy areas. The southwest portion of the Montreal Road and St. Laurent Boulevard intersection is identified as the East Gateway in the Montreal Road District Secondary Plan. The draft New OP identifies Blair Road south of Montreal Road as a Transit Priority Corridor that is in the outer urban transect.

This EA study ties into several projects: the Montreal Road Revitalization project (North River Road to St. Laurent Boulevard); the Blair Road Widening for Transit Priority and High Occupancy Vehicle Lanes project (Blair Station to Innes Road); and the Stage 2 LRT project. Connecting the EA study's recommended plan into these projects will contribute to the overall improvements and connectivity to transit, pedestrian and cycling infrastructure of the broader area.

The outcome of the study will:

- Protect the roadway corridor from encroaching development;
- Provide transit priority measures where needed;
- Improve integrated mobility with Montreal and Blair O-Train stations;
- Improve active transportation facilities and accessibility features;
- Improve boulevard space for landscaping, tree planting and snow storage;
- Encourage transit-oriented development and regeneration of existing development; and,
- Guide planning and development of existing and future land uses.

DISCUSSION

Montreal Road is an arterial road that transitions to Rideau Street in the west and St. Joseph Boulevard in the east at the interchange with Highway 174. Within the study area, the existing street includes a basic four-lane cross-section with auxiliary lanes. Transit service operates in mixed traffic, affecting speed and reliability of service. The corridor includes some sections with short blocks, numerous intersections and frequent site accesses. Parts of the corridor include a two-way left turn lane. On-road painted bike lanes are present in some sections, with a short section of raised cycle tracks between Ogilvie Road and Shefford Road.

Blair Road south of Montreal Road is a north-south arterial that connects to Blair Station and Highway 174. Blair Road north of Montreal Road is a major collector road. For most of its length, Blair Road has a basic two-lane cross-section with a mix of urban and rural edge treatment. The roadway widens significantly between Ogilvie Road and Blair Station. Transit service operates in mixed traffic. Paved shoulders are used as cycling facilities north of Ogilvie Road. There are no dedicated cycling facilities south of Ogilvie Road to Blair Station.

The EA study assessed opportunities for both corridors to improve transit user experience that included options such as: physical measures like dedicated bus lanes and queue jump lanes; transit signal priority at intersections; improvements to bus stop locations and amenities; and improvements to transit connections between the LRT stations and other destinations in the community. The study looked to improve the transportation environment for all modes by including the Complete Streets design approach, improving multi-modal connectivity, and protecting space for tree planting and placemaking. The study resulted in a functional design for a transit priority corridor that is compatible with surrounding land uses and minimizes impacts on the surrounding environmental (social, natural/physical, and economic) conditions.

The EA study reviewed the forecasted travel demand to 2046 and confirmed that growth in transit ridership will require transit priority measures on Montreal Road and Blair Road.

The recommended plan for Montreal Road is to reconstruct the roadway to provide transit-only lanes where required between St. Laurent Boulevard and Shefford Road and provide improvements to pedestrian and cycling facilities.

The recommended plan for Blair Road is to reconstruct the roadway to provide isolated transit measures from Montreal Road to Blair Station and include improvements to pedestrian and cycling environments.

Development of the Recommended Plan

Criteria were developed to evaluate alternative designs within their specific context. The criteria were grouped into the following categories:

- Transportation System Sustainability;
- Ecological and Physical Sustainability;
- Land Use, Social and Community Sustainability; and,
- Economic Sustainability.

The assessment was also informed by OC Transpo's planned bus route network.

Evaluation of Alternative Designs on Montreal Road

The study assessed the following alternative designs for Montreal Road:

- Transit priority with sections of exclusive bus lanes;
- Four lane roadway with curb-side bus lanes;
- Six lane roadway with curb-side bus lanes;
- Four lane roadway with median bus lanes; and,
- Six lane roadway with median bus lanes.

All alternatives assumed complete reconstruction of Montreal Road, including relocation of utilities where needed, with new and improved pedestrian and cycling facilities.

In the four lane alternatives, the existing general-purpose traffic lanes would be reallocated to bus lanes (one in each direction). In the six lane alternatives, the entire corridor would be widened to provide new bus lanes. The transit priority alternative would maintain the existing four lanes for general purpose traffic, with selective widening for transit queue jump lanes at major intersections, as well as for some

sections of curb-side bus lanes.

The lane reallocation from general traffic to transit would encourage transit modal shift via auto capacity reduction and would have smaller property impacts than other alternatives. It would result in a slightly greater increase in transit ridership compared to other alternatives. It would also result in significant traffic impacts, with long queues in some sections that would increase congestion and potentially block transit lanes.

Widening to six lanes to add lanes for transit would encourage mode shift to transit via new continuous lanes, and result in similar increase in transit ridership as lane reallocation. This alternative would require significant roadway widening with notable property impacts and some access restrictions.

The transit priority with sections of exclusive bus lanes alternative would provide transit priority measures where needed and result in a similar level of service as continuous bus lanes. Property impacts would be mostly at intersections where widening for transit would occur.

All alternatives would have property impacts. Both four and six median bus lane designs require more space at intersections compared to curb-side alternatives. Median bus lane alternatives offer potentially higher ridership and rapid transit service in the corridor but result in wider stop spacing. Median bus lanes would also introduce operational and design challenges, particularly at the transitions from median to curb-side transit at east and west ends of the study area. Issues include limited ability to provide continuous transit lanes, potential delays to transit vehicles, conflicts with general purpose traffic (weaving and merging) and impacts to property access.

Evaluation of Alternative Designs at Montreal Station Bus Loop

At the future Montreal Station, a new bus loop is needed to support local bus operations, as well as future bus network changes expected with the opening of Stage 2 LRT. The bus loop will allow for additional transit services along Montreal Road and nearby communities and improve local bus connections with the LRT. The facility will include turnaround and parking spaces for buses, a facility for bus operators, and landscaping and storm water management features.

Four alternative sites (shown in Figure 2) were evaluated:

- Site 1 on the north side of St. Joseph Boulevard, east of the interchange with Highway 174 eastbound on-ramp;
- Site 2 on the south side of St. Joseph Boulevard, east of the interchange with Highway 174 eastbound on and off-ramps;
- Site 3 on the north side of St. Joseph Boulevard, east of the intersection with Bearbrook Road and the Sir Georges Etienne Cartier Parkway; and,
- Site 4 on the north side of St. Joseph Boulevard, west of the St. Joseph Boulevard and Bearbrook Road intersection; this option would also require converting the existing St. Joseph and Bearbrook signalized intersection into a multi-lane roundabout.

Figure 2: Alternative Sites for Montreal Station Bus Loop

Evaluation of Alternative Designs on Blair Road

The transportation assessment of travel demand to year 2046 showed that widening of Blair Road to add dedicated bus lanes was not required. Buses will continue to operate in mixed traffic but will benefit from isolated transit priority measures and capacity improvements at intersections, improved bus stop configurations and amenities, and design features to help transit users access bus stops and new active transportation facilities from the residential community and employment centres.

Two alternative designs were evaluated:

1. Improve the existing roadway with buffered on-road bike lanes on both sides; and,
2. Improve the existing roadway with a new northbound cycle track on the east side and a new multi-use pathway on the west side.

Both alternatives included isolated transit priority measures and protected intersection design features.

Recommended Plan

The recommended plan will result in improvements to Montreal Road and Blair Road that are appropriate for the context of each corridor. The shared benefits to the implementation of the project will include:

- Provide transit priority measures;
    - Support new bus routes and services.
    - Improve bus stop locations and amenities.
- Improve multi-modal connectivity to Blair and Montreal stations, as well as to adjacent communities, employment centres and commercial uses;
- Improve active transportation facilities;
- Improve road safety for all users;
- Implement accessibility design standards;
- Maintain existing roadway capacity;
- Expand public realm and placemaking opportunities that include tree planting and landscaping;
- Consider and incorporate climate change mitigation and adaptation strategies; and,
- Encourage transit-oriented development and regeneration.

Figure 3 identifies in red the recommended transit priority lanes and queue jump lanes. When implemented, these measures will increase transit operating speeds and transit travel time reliability.

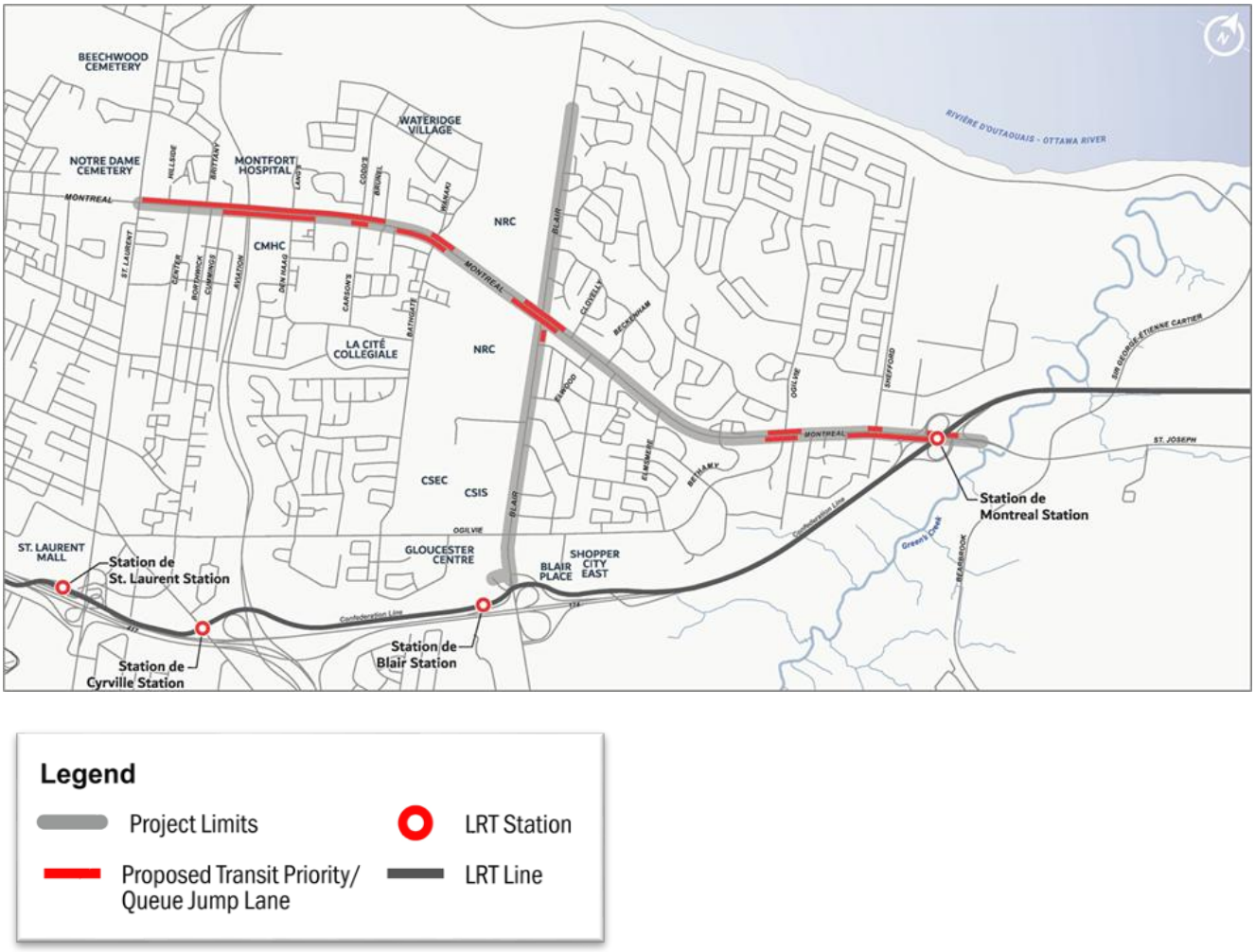


Figure 3: Recommended Transit Priority Measures

Implementation of the recommended plan will support the City's climate change objectives by helping increase a modal shift to sustainable transportation. The coordinated transit priority measures and improved pedestrian and cycling facilities will support frequent transit service and improve equity by improving transit, pedestrian and cycling modal choice.

Montreal Road

The recommended plan for Montreal Road will result in new transit priority measures that will add segments of continuous curb-side bus lanes, as well as shorter “queue jump” bus lanes at key locations. Combined with transit signal priority at intersections, this plan identifies measures where they are most needed to meet the future 2046 travel demand projections. Transit priority lanes will be shared with right-turning vehicles in some locations to minimize ROW requirements and property impacts. The recommended measures will provide a similar level of service as continuous bus lanes and will address projected transit ridership of approximately 500 riders per hour. Implementation of the recommended plan will result in travel time benefits, support new bus routes and services, and improve bus stop amenities throughout the corridor.

The transit priority lanes on Montreal Road will be provided at the following locations:

Eastbound:

- From Aviation Parkway to Den Haag Drive (500 metres);
- At Codd’s Road (queue jump); and,
- From Shefford Road to Montreal Station (500 metres).

Westbound:

- At Shefford Road (queue jump); and,
- From Codd’s Road to St. Laurent Boulevard (1.4 kilometres).

The queue jump lanes will be provided in both directions at:

- Bathgate Drive;
- Blair Road; and,
- Ogilvie Road.

The recommended plan will also improve active transportation facilities along the entire corridor. The Complete Streets and road safety-related modifications include:

- Continuous 1.8-metre cycle track and 2.5-metre-wide sidewalk on both sides;

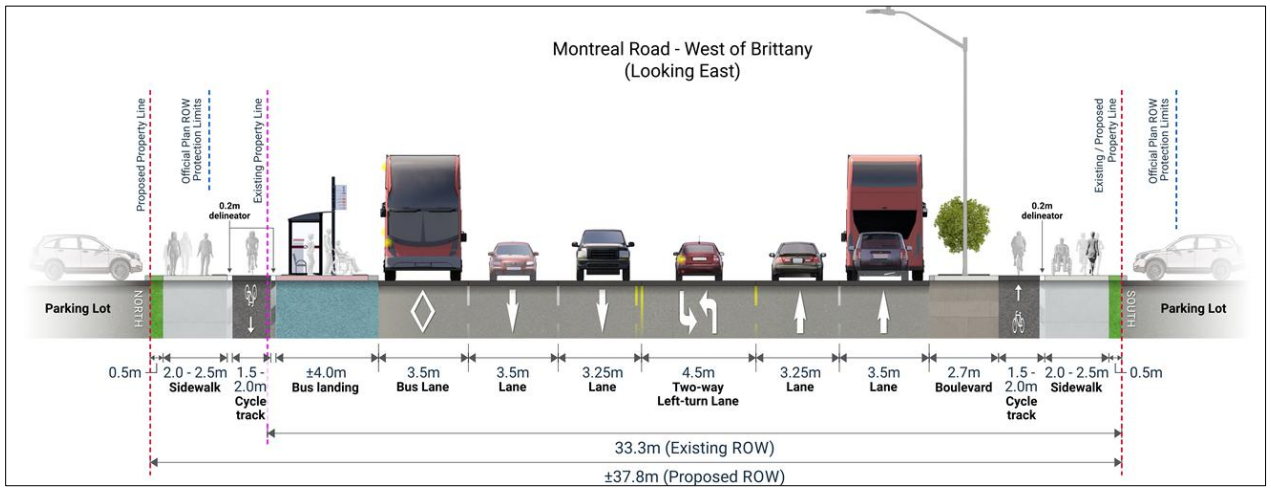
- Protected intersections;
- Additional accessibility design features, such as improved passenger loading areas, tactile walking surface indicators, unobstructed sidewalks and smooth ground and floor surfaces, and resting areas;
- Improved connectivity to north-south cycling spine routes and pathways;
- Advanced pedestrian and cycling phase and protected left turn phase at intersections;
- Removal of right turn channels and right turn lanes where they are not required; and,
- Improved geometry of some driveway access (reducing lengths of depressed curbs, tightening the radius to driveway access and ensuring they are perpendicular to the roadway).

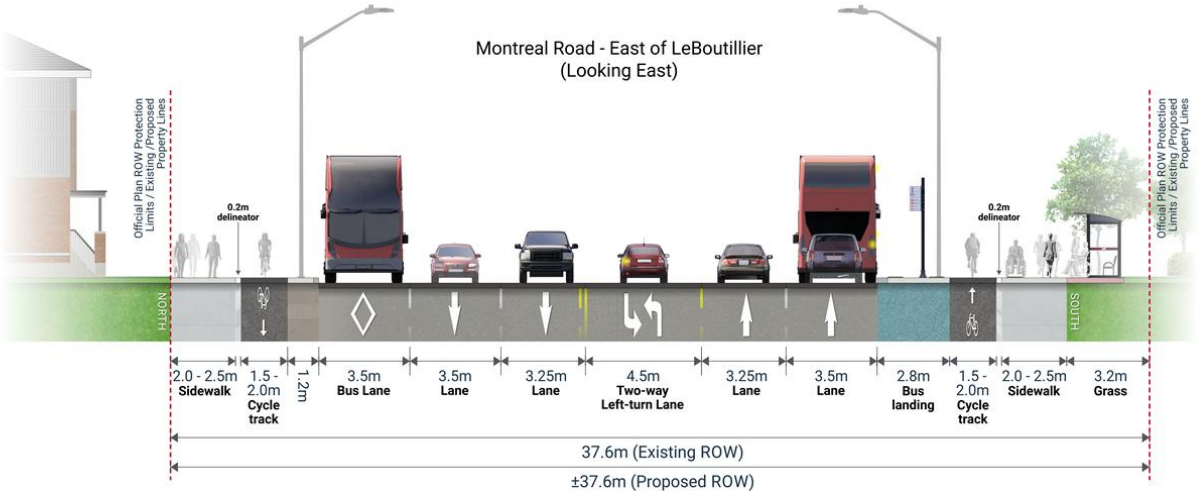
The general-purpose vehicle capacity will remain the same as it is today (two lanes in each direction).

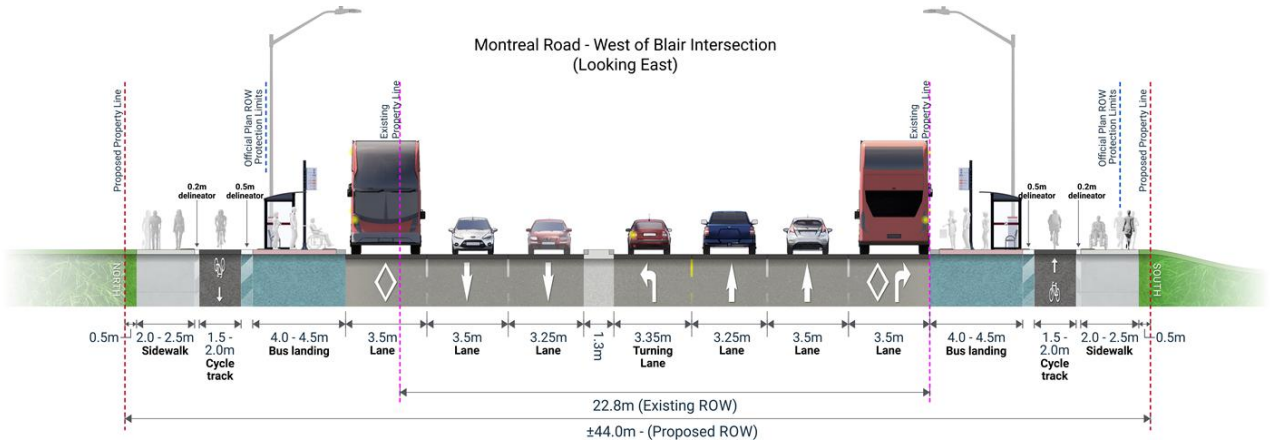
The recommended plan includes new cycle tracks and wider sidewalks on the Montreal Road bridge over the National Research Council, just west of Blair Road. This will require widening or replacement of the bridge, which will be decided based on the condition of the bridge at the time of project implementation. The bridge was built in 1986 and is in good overall condition. The ultimate timing of bridge renewal will depend on future project prioritization and funding availability.

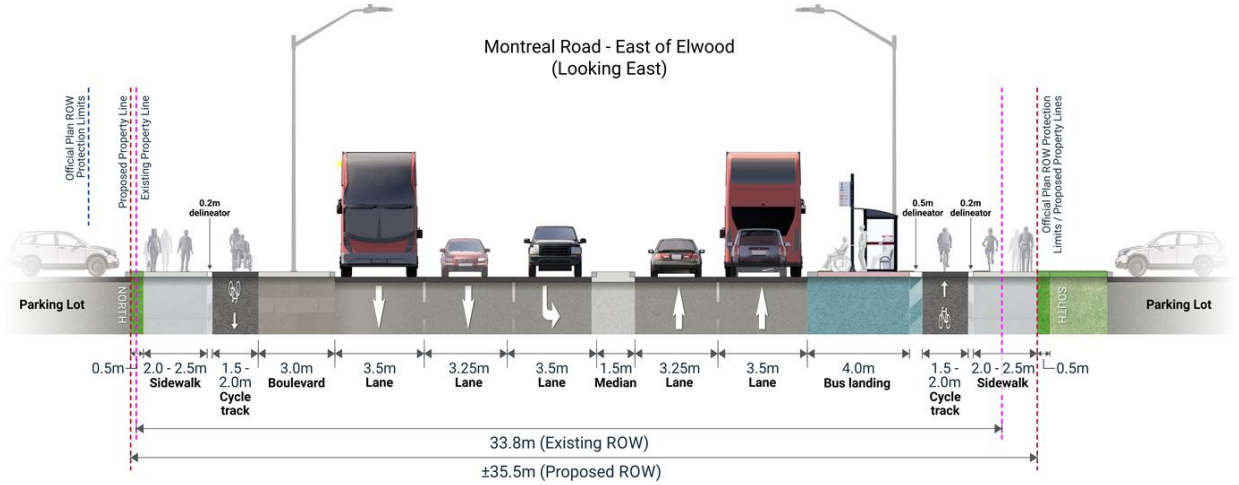
Most of the property requirements can be accommodated within the OP protected ROW of 37.5 metres. Some properties will be impacted where the existing ROW is less than that, as well as where additional widening is required to implement the plan, including at some intersections.

The representative cross-sections of the Montreal Road recommended plan are shown below:


Montreal Road - West of Brittany
(Looking East)
Proposed Property Line
Official Plan ROW Protection Limits
Existing Property Line
0.2m delineator
Existing / Proposed Property Line
Official Plan ROW Protection Limits
0.2m delineator
Parking Lot
NORTH
SOUTH
Parking Lot
0.5m
2.0 - 2.5m Sidewalk
1.5 - 2.0m Cycle track
±4.0m Bus landing
3.5m Bus Lane
3.5m Lane
3.25m Lane
4.5m Two-way Left-turn Lane
3.25m Lane
3.5m Lane
2.7m Boulevard
1.5 - 2.0m Cycle track
2.0 - 2.5m Sidewalk
0.5m
33.3m (Existing ROW)
±37.8m (Proposed ROW)


Montreal Road - East of LeBoutillier
(Looking East)
Official Plan ROW Protection Limits / Existing / Proposed Property Lines
0.2m delineator
0.2m delineator
Official Plan ROW Protection Limits / Existing / Proposed Property Lines
NORTH
SOUTH
2.0 - 2.5m Sidewalk
1.5 - 2.0m Cycle track
1.2m
3.5m Bus Lane
3.5m Lane
3.25m Lane
4.5m Two-way Left-turn Lane
3.25m Lane
3.5m Lane
2.8m Bus landing
1.5 - 2.0m Cycle track
2.0 - 2.5m Sidewalk
3.2m Grass
37.6m (Existing ROW)
±37.6m (Proposed ROW)


Montreal Road - West of Blair Intersection
(Looking East)
Proposed Property Line
Official Plan ROW Protection Limits
Existing Property Line
0.2m delineator
0.5m delineator
NORTH
SOUTH
0.5m
2.0 - 2.5m Sidewalk
1.5 - 2.0m Cycle track
4.0 - 4.5m Bus landing
3.5m Lane
3.5m Lane
3.25m Lane
1.3m
3.35m Turning Lane
3.25m Lane
3.5m Lane
3.5m Lane
4.0 - 4.5m Bus landing
1.5 - 2.0m Cycle track
2.0 - 2.5m Sidewalk
0.5m
22.8m (Existing ROW)
±44.0m - (Proposed ROW)


Montreal Road - East of Elwood
(Looking East)
Official Plan ROW Protection Limits
Proposed Property Line
Existing Property Line
0.2m delineator
0.5m delineator
0.2m delineator
Official Plan ROW Protection Limits / Proposed Property Lines
Parking Lot
NORTH
SOUTH
Parking Lot
0.5m
2.0 - 2.5m Sidewalk
1.5 - 2.0m Cycle track
3.0m Boulevard
3.5m Lane
3.25m Lane
3.5m Lane
1.5m Median
3.25m Lane
3.5m Lane
4.0m Bus landing
1.5 - 2.0m Cycle track
2.0 - 2.5m Sidewalk
0.5m
33.8m (Existing ROW)
±35.5m (Proposed ROW)

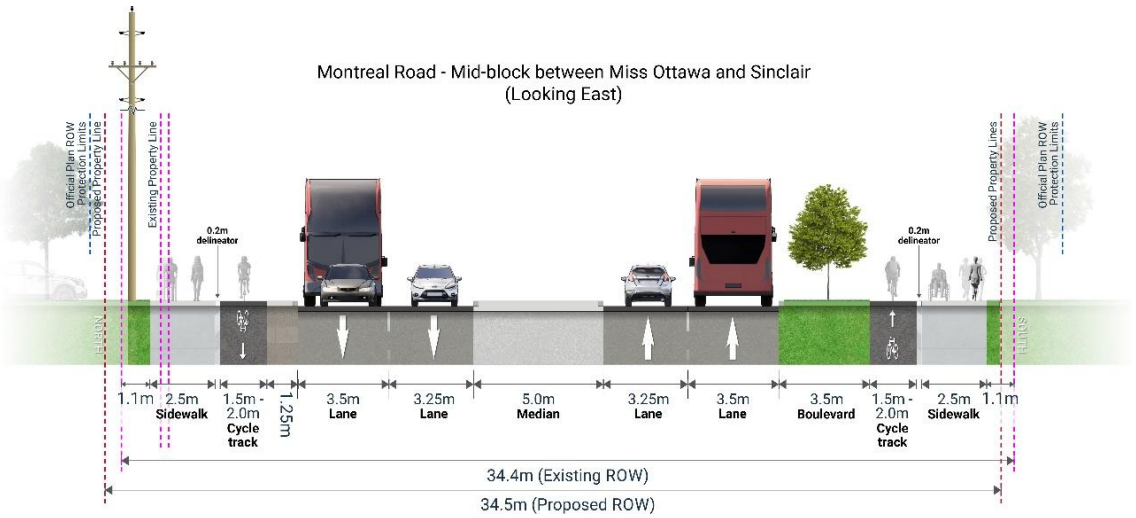


Figure 4: Representative cross-sections on Montreal Road

In some locations, the EA study includes an interim design to minimize property disruption in the near future and reduce project costs. For example, the existing building in the south-east corner of the Montreal Road and St. Laurent Boulevard intersection is impacted by this project in the ultimate design, but the building can remain in place until the property redevelops, at which time the City would acquire all of the required ROW.

Montreal Station Bus Loop

The new bus loop will be located on Site 1, in the Northeast corner of the St. Joseph Boulevard and Highway 174 interchange. The site shown on Figure 5 is entirely on City-owned land and is not within the NCC Greenbelt. It is an optimal location given it is just east of Montreal Station, has effective access/egress opportunity for buses and no additional property is required for implementation.

Figure 5: Recommended Location for Bus Loop

The bus loop will require the following modifications on St. Joseph Boulevard:

- New eastbound left turn lane to assist buses with accessing the bus loop;
- Shorter westbound right turn lane to Highway 174 on-ramp to reduce conflicts between turning buses and westbound traffic; and,
- New cycle track and sidewalk on the north side, adjacent to the bus loop.

This design will tie in with the planned cycling connectivity improvements along St. Joseph Boulevard, between Montreal Station and Bearbrook Road, to be constructed as part of the Stage 2 O-Train project.

The bus loop will be designed to retain flexibility to accommodate the potential for further development of the site which may include development that incorporates the bus loop into its design and of air rights over the bus loop itself. A shared access for buses and future development will likely be needed given existing roadway geometry and related site constraints.

Blair Road

For Blair Road between Montreal Road and Blair Station, the recommended plan incorporates isolated transit priority measures and improvements to active transportation in the corridor. Key elements of the recommended plan are:

- Dedicated northbound left-turn lane for buses at the intersection of Blair Road and Montreal Road;
- Improved bus stops, boulevard and amenity spaces throughout the corridor;
- New 1.5-metre northbound cycle track and an improved 1.8-metre sidewalk on the east side of the road;
- A new 4.0-metre multi-use pathway and an improved vegetated drainage ditch along the west side of the road;
- Protected intersections and accessible design elements, such as improved passenger loading areas, tactile walking surface indicators, unobstructed sidewalks and smooth ground and floor surfaces, and resting areas;
- At Claver Street, a new signalized intersection to help pedestrians access bus stops and the multi-use pathway from the residential community and employment centres;
- At the Blair and Ogilvie Road intersection, the protected intersection design as well as additional through and turn lanes for capacity improvements; and,
- At Blair Station entrance, a protected intersection design and removal of the southbound right turn channel.

The cycle track, sidewalk and multi-use pathway will significantly improve connectivity to Montreal Road, Ogilvie Road and Blair Station, as well as to the adjacent residential communities, employment centers and commercial uses. To accommodate the new active transportation facilities and other improvements, the existing Blair Road ROW will be utilized more fully. The corridor will need to be widened primarily along the west side of Blair Road, where the use of Hydro One lands will be required to accommodate the new multi-use pathway. The protected ROW can accommodate a cycle track and sidewalk instead of the pathway if that is required at project implementation.

Figure 6 shows a representative cross-section for Blair Road between Montreal Road and Ogilvie Road, looking south. For most of this section, the roadway will remain two lanes (one in each direction), with turn lanes provided at intersections.

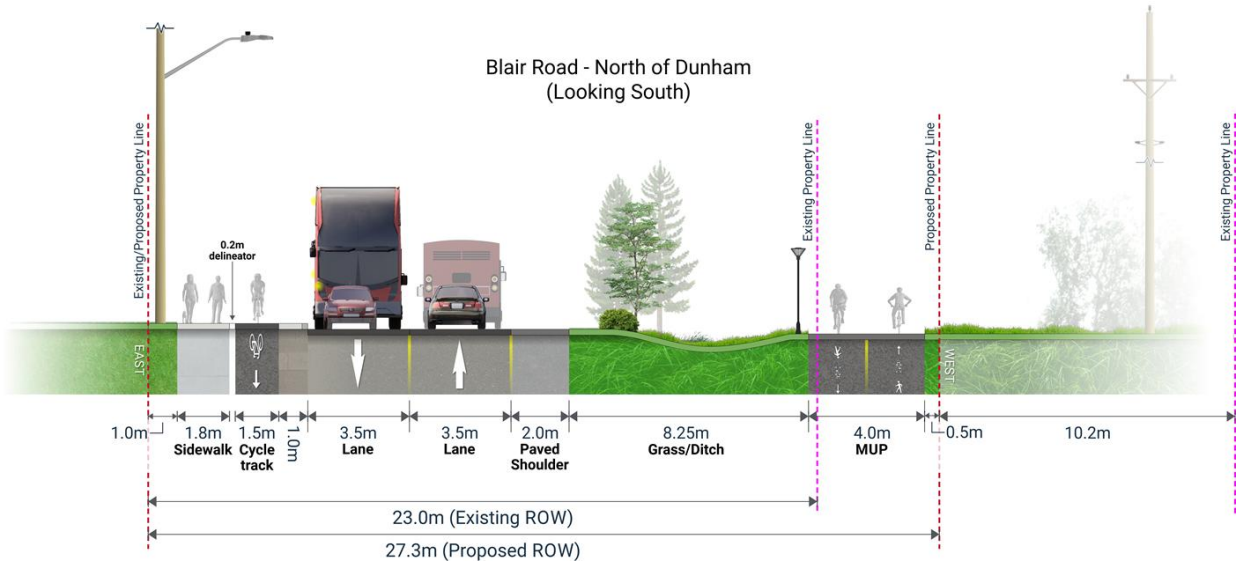


Figure 6: Recommended Cross-Section for Blair Road north of Ogilvie Road

The EA study did not identify a need for road modifications for transit priority on Blair Road north of Montreal Road. Existing roadways, including those within the NRC campus, and new links proposed in the Former Canadian Forces Base (CFB) Rockcliffe Community Design Plan and Wateridge Village Subdivision Plans, can be used for future transit and active transportation links.

Public realm and placemaking improvements

Along the Montreal Road and Blair Road corridors, the recommended plan provides opportunities for new placemaking and public realm improvements. These spaces will provide for visually interesting and people-friendly areas such as urban nodes and neighbourhood gateways, pathway connections and seating and rest areas. The areas would include tree planting, shade and landscaping. Also included in the urban placemaking will be wayfinding signage, distinctive surfaces, benches, pedestrian lighting, low maintenance landscaping/shade trees, and public art.

Strategic Directions and Policies of Draft New Official Plan

The EA recommended plan supports numerous policy directions and objectives identified in the draft New OP, including the following:

1. Provide mobility options to safely and equitably navigate the city

The recommended plan will result in improved sidewalks, new cycle tracks and new multi-use pathway, improved intersections, and transit stops. It will also improve public spaces with increased shade that will encourage active transportation and outdoor recreation in all seasons. The plan will contribute to safe, direct and convenient transit, pedestrian and cycling networks, and improve crossings along desire lines (preferred pathways that arise naturally between destinations), including a new controlled crossing at Blair Road and Claver Street. The plan supports active transportation for all ages and abilities with the design that is universally accessible.

2. Promote healthy 15-minute neighbourhoods

The New OP encourages development of healthy, walkable, 15-minute neighbourhoods that support active transportation and transit, reduce car dependency, and enable people to live car-light or car-free. They increase the number of transportation options and convenience to access services, amenities and schools. The recommended plan results in improvements to sustainable transportation and will contribute to the growth and success of 15-minute neighbourhoods. It will provide safe and convenient pedestrian/cycling routes and facilities to rapid transit stations and street transit stops on the transit priority network. It will include separation of movements within signalized intersections and from motor vehicles.

3. Support growth management and a greener and more resilient city

The recommended plan will support multi-modal travel, the movement of goods and services, access to properties, public space functions, street trees and shade corridors, and contribute to streetscaping and overall quality of the urban environment.

4. Support the shift towards sustainable modes of transportation

The overarching mobility goal of the OP is that by 2046, more than half of all trips will be made by sustainable transportation such as walking, cycling, transit or carpooling. The recommended plan supports the shift to energy efficient transportation modes by

providing increased access to sustainable modes of travel. The general-purpose vehicle capacity will remain as today and will support the electrification of private and public vehicles.

5. Ensure new mobility solutions facilitate seamless, multi-modal travel

The recommended plan will result in improved transit service that will protect the City's investment in its transit system and help ensure the entire transit network remains a fundamental structuring element of urban growth patterns. The plan will improve multi-modal connectivity to Blair and Montreal LRT stations, as well as to employment centres and nearby communities.

6. Guide the inter-urban flow of people and goods

The Montreal Road and Blair Road corridors include major employers and institutions with a sub-regional catchment area. The recommended plan improves safe and convenient access to these employment centres through choice of various transportation modes.

7. Protect and invest in rights-of-way

The recommended plan protects the ROW for improvements to sustainable transportation. In particular, Montreal Road is a design priority area where the widening of ROW will be used toward public realm improvements, including widened sidewalks, cycling facilities, street trees and street furniture. Furthermore, the City will require the dedication of lands for transit, pedestrian and cycling facilities as a condition of development approval.

Opportunities for Phasing of Project Implementation

The Montreal Road and Blair Road transit priority corridors could be implemented in sections, such as:

a) Montreal Road from St. Laurent Boulevard to Blair Road.

b) Montreal Road and Shefford Road intersection. The queue jump lanes, protected intersection and other active transportation improvements would improve transit and active transportation connectivity to Montreal Station.

c) Bus Loop at Montreal Station. This facility would ideally be in operation at the

opening of the O-Train Line 1 East LRT extension.

d) Blair Road from Montreal Road to Blair Station.

Phasing will be dependent on funding availability, critical travel demand, future development and intensification, opportunities to coordinate with such development, asset renewal needs and Council priorities.

Property Impacts

The implementation of the project will require approximately 1.95 hectares of public lands (from NCC, CMHC, NRC, City of Ottawa) and private lands.

Cost Estimate

The project cost estimate is $150 million (in 2021 dollars).

FINANCIAL IMPLICATIONS

There are no financial implications associated with the recommendations of this report. Funding for design, construction, property, public art, and contingencies will be subject to future Council consideration and approval.

LEGAL IMPLICATIONS

There are no legal impediments to approving the recommendations as outlined in this report.

COMMENTS BY THE WARD COUNCILLOR(S)

Coun. Tierney - These improvements are much needed, and long requested by the community. I am excited to see this new corridor take shape and have residents feel safe as they travel to and from their destinations. Servicing this community will continue to encourage and serve pedestrians and cyclists alike as we move towards a greener Ottawa.

Coun. King - Councillor King is aware of the report and supportive. This long term planning is needed to support residents' expanding use of alternative transportation modalities and the growing population of Wateridge Village.

Coun. Dudas - Innes Ward Councillor Laura Dudas is aware of the report and is

supportive of the recommendations.

ADVISORY COMMITTEE(S) COMMENTS

The Accessibility Advisory Committee (AAC) representative attended consultation events and provided feedback. AAC is in support of the recommended segregated facilities for pedestrians and cyclists on Montreal Road and the east side of Blair Road. The AAC is also in support of the recommended multi-use pathway on the west side of Blair Road. Overall, AAC encourages the City to invest in segregating pedestrians and cyclists as much as possible, including at bus stops. Furthermore, AAC is supportive of the EA study providing space for rest areas to maximize the usability of sidewalks and multi-use pathway. Overall, AAC supports the EA study's goal of ensuring sufficient space is protected as part of the functional design for future implementation of accessibility design standards, including protected intersections.

CONSULTATION

Consultation included three rounds of meetings with the Agency Consultation Group (regulatory agencies, National Capital Commission, Hydro Ottawa, Hydro One and other utility companies, various City Departments), Business Consultation Group (landowners, businesses) and Public Consultation Group (community associations, Bike Ottawa, Council on Aging of Ottawa, Accessibility Advisory Committee, residents and special interest groups). Also, two public open houses were held. Given the COVID-19 pandemic restrictions, the second public consultation event was web-based and included a recorded video presentation, display boards and an online survey hosted on the project website. Additional consultation was held with individual landowners, condominium corporations and other stakeholders as needed.

Representatives of Indigenous communities were invited to attend meetings and provide feedback. Comments were received from the Algonquins of Ontario and incorporated into the EA study's Cultural Heritage Evaluation report and Stage 1 Archaeological Assessment report.

Overall, consultation has shown strong support for the project, including:

- Improvements to the efficiency and reliability of transit and to multi-modal connectivity to Blair and Montreal stations.

- Improvements to pedestrian and cycling facilities to enhance safety and accessibility for all users of all ages and abilities. This included support for segregating pedestrians and cyclists and maximizing the width of cycle tracks and sidewalks.

- Additional enhancements to road safety and speed management (via design elements such as protected intersection design, minimizing lane widths and corner radii, removing channelized right turns where possible, introducing advance pedestrian and cycling signal phases and protected left-turn phase at intersections). For Montreal Road in particular, there was sensitivity to the needs of the aging population given the numerous retirement homes and the presence of Montfort Hospital in the corridor.

- Enhancement of public space and public realm by improving bus stops, providing benches, shade and rest areas, planting trees and improving boulevard space.

- Contribution to the Montreal Road arterial mainstreet potential by providing incentive for urban and transit-oriented development and redevelopment.

- Minimization of roadway widening and minimizing property impacts.

- Not increasing capacity for general vehicle traffic.

Some issues were raised during consultation and they are summarized and addressed as follows:

- Reallocation of road space: Some stakeholders recommended that the Montreal Road transit priority corridor, particularly between St. Laurent Boulevard and Den Haag Drive, be implemented by reallocating existing general purpose travel lanes to transit-only use (i.e. by converting one vehicle lane into a bus lane in each direction). The lane reallocation approach would minimize property requirements, reduce the overall roadway cross-section and reduce roadway capacity for vehicles (to encourage use of transit, walking and cycling). Furthermore, given that the COVID-19 pandemic has resulted in changes to how people travel, and uncertainty around what the “new normal” for travel patterns and traffic volumes will be, the reallocation scenario was promoted by some stakeholders to take advantage of reduced traffic volumes in the corridor.

The EA study team assessed the feasibility of reallocating one general purpose lane in each direction to transit-only lanes as part of the evaluation of alternative designs (4 lane versus 6 lane alternatives). This analysis indicated that two general purpose lanes are required based on existing traffic volumes in the corridor, regardless of the transit lane configuration.

A single lane for general purpose traffic results in multiple failing movements at large intersections in all directions and failing movements at minor intersections in the east and west directions. For one general purpose lane to function adequately, there would need to be a reduction in east and westbound vehicle traffic by 200–250 vehicles per hour in the morning peak hour. In the afternoon peak hour, a reduction of east and westbound traffic of up to 500 vehicles per hour is required at major intersections and 100–200 vehicles per hour at minor intersections.

While one general purpose lane per direction could increase transit ridership along Montreal Road by 3 percent compared to the EA recommended plan, traffic volumes in the corridor are likely to remain high. This conclusion is based on historical traffic volumes, future land use potential, and the road's role and function as an arterial in the City's roadway network. Furthermore, there is a lack of suitable alternative corridors in proximity to Montreal Road to accommodate diverted traffic.

The City is monitoring the evolving impacts of the pandemic on transportation and considering short-term and long-term implications. Additional data will be collected in the future to use for the TMP Update and other transportation-related decisions.

- How the Montreal Road Transit Priority Corridor connects to Montreal Road Revitalization project west of St. Laurent Boulevard: Given the capacity reductions currently being implemented on Montreal Road west of St. Laurent Boulevard, some stakeholders expressed concern about potential downstream effects of vehicular traffic from east to west of St. Laurent Boulevard. Based on the EA study team's review of existing traffic data, there is significant volume of turns at the Montreal/St. Laurent intersection. As the current lane configuration for westbound traffic has peak period bus lane beginning west of St. Laurent Boulevard, planned modifications to Montreal Road east of St. Laurent as part of this project will not result in changes to traffic patterns or impact capacity west of St. Laurent Boulevard.
- Removal of Two-way Left Turn Lane (TWLTL): There are two segments of the

Montreal Road corridor which currently have TWLTL. Between St. Laurent Boulevard and Aviation Parkway, the TWLTL provides for full-movement vehicular access at unsignalized intersections with local streets and to/from properties fronting onto Montreal Road. Between LeBoutillier Street and west of the Codd's/Carson's intersection the TWLTL provides access to properties fronting onto Montreal Road. Some residents asked if the existing TWLTL could be removed and replaced with shorter unidirectional left-turn lanes where traffic warrants them: the leftover road space could be repurposed as part of the EA design. The study team considered removing the TWLTL; however, this lane is typically placed in between sections of existing unidirectional left-turn lanes. Removing short sections of TWLTL would not gain sufficient space for implementation of other linear road elements, such as transit lanes or cycle tracks. As redevelopment and intensification of properties occurs in the corridor, access management and need for TWLTL should be reviewed as part of development conditions of approval.

- Property impacts to private properties: The EA study team discussed concerns with landowners regarding impacts to their residential and commercial properties. Concerns were generally in regard to the amount of land acquisition needed from their front yards and landscaped spaces, driveways and parking lots. Property impacts have been minimized where possible as part of the refinement of the preferred design, and further refinements may be possible at the detailed design phase, when property requirements will be finalized. Some of the landowners also expressed concern about noise, vibration, air pollution and loss of privacy if the road is widened and located closer to their homes. The refinement of the preferred design has also addressed these issues by shifting the roadway slightly in some segments. The impact assessment has been undertaken to include potential mitigation measures where required.

- New pedestrian crossings on Montreal Road: Some comments received recommended additional pedestrian crossings be considered in some sections of Montreal Road (between Codd's/Carsons and Bathgate/Burma, and between Lang's/Den Haag and Codd's/Carsons) to reduce the spacing between existing signalized intersections. The need for additional crossings will be assessed prior to project implementation. In addition, the City of Ottawa regularly assesses the need for additional signalized crossings, where warranted and can advance implementation outside of this EA study.

ACCESSIBILITY IMPACTS

The City's Accessibility Design Standards and the requirements of the *Accessibility for Ontarians with Disabilities Act* were applied as part of the development of the functional design to ensure that the Montreal Road and Blair Road transit priority corridors support inclusive communities and are barrier free for users of all ages and abilities. The Accessibility Advisory Committee was consulted, as described earlier in the report.

ASSET MANAGEMENT IMPLICATIONS

The recommendations documented in this report are consistent with the City's Comprehensive Asset Management (CAM) Program objectives. The implementation of the Comprehensive Asset Management program enables the City to effectively manage existing and new infrastructure to maximize benefits, reduce risk, and provide safe and reliable levels of service to community users. This is done in a socially, culturally, environmentally, and economically conscious manner.

CLIMATE IMPLICATIONS

The EA study's evaluation of alternative solutions and designs included consideration of the potential effects of the project on climate change (i.e., the project's contribution to greenhouse gas emissions), and the potential effects of climate change on the project (i.e., where the project is vulnerable or resilient to climate change).

As part of the Climate Change Master Plan, Council approved short, mid and long-term greenhouse gas emission targets to reduce community wide emissions 100 per cent by 2050. This was followed by Council receiving the Energy Evolution strategy, the framework for how Ottawa can achieve these targets. One of the actions identified in the strategy to achieving the targets is to expand transit to reflect the 2013 Transportation Master Plan's Concept Network, which includes Montreal Road and Blair Road as transit priority corridors. The recommended improvements to transit and active transportation infrastructure will encourage use of sustainable modes of transportation and contribute to reducing greenhouse gas emissions.

The climate projections for the National Capital Region indicate that Ottawa will experience warmer, wetter and more unpredictable weather over the coming decades. Regional climate-related hazards include increased extreme heat days, increases in peak stormwater runoff, and projected changes to average temperature. The

reconstruction of Montreal Road and Blair Road corridors will offer opportunities to build-in climate resiliency measures. The protected ROW will provide more room in boulevard areas for tree planting and street landscaping and curb-side transit facilities will provide more opportunity for shade and bus shelter enhancements. More frequent severe storm events with increased runoff of roadway drainage may require larger roadside storm sewers and ditches. Appropriate in-corridor catch basins and pipes for stormwater conveyance and management will be provided. On the west side of Blair Road, the existing rural cross-section and drainage ditch will be enhanced with low impact development (bioswale) features.

ENVIRONMENTAL IMPLICATIONS

The EA study has identified environmental impacts and proposed mitigation measures as highlighted below. The project will be designed and implemented with the benefit of contemporary planning, engineering, and environmental best practices and plans. The Environmental Study Report will include mitigation measures to reduce impacts on the environment including detailed stormwater management reports, corridor landscaping and recommendations for tree conservation, environmental site assessments and measures to mitigate noise along the corridor as required.

Stormwater Management

The recommended plan will result in some increase to impervious services; however, lane widths have been minimized to help offset increases that might be realized through separate pedestrian and cycling facilities and new protected intersections. Runoff quality and quantity control will be achieved through existing or enhanced storm services in urban sections (along Montreal Road and Blair Road, south of Ogilvie Road) and low impact bioswales in rural sections (along Blair Road between Montreal Road and Ogilvie Road).

Landscaping

The recommended plan for Montreal Road and Blair Road includes space for landscaping along the corridor, around bus stops and at urban nodes (the crossing of arterial roads) and neighbourhood gateways (connections to adjacent neighbourhoods). The landscaping and placemaking strategy includes recommendations for tree protection, the planting of new species, and the establishment of places to rest and

experience the corridor.

Natural Environment

Natural heritage features within the study area are limited due to intensive urbanization and existing transportation infrastructure. Some tree removals will be required to accommodate the new cross-section but will be mitigated through a tree inventory and tree conservation at detailed design. There is potential for the project to interact with Species at Risk (SAR) or SAR habitat. Twelve SAR have been identified as having the potential to occur within the study area (in the vicinity of Aviation Parkway, Green's Creek and other wooded areas near the corridor). Potential impacts on SAR will be mitigated through environmental site assessments at detailed design that will identify species in the corridor and provide specific mitigation to avoid or minimize the risk as well as consultation with the federal, provincial and local authorities to ensure that risks are reduced or eliminated.

Noise

The corridors include noise sensitive uses along the corridor. A noise and vibration study was undertaken to identify the need for any new or upgraded noise mitigation measures along the corridor where private outdoor spaces either back onto or flank the corridor. The assessment will also be refined during the detailed design for the corridor.

Where future residential developments are being proposed, the requirement for noise attenuation measures will be evaluated at that time and any necessary mitigation will be included as a condition of development approval.

RISK MANAGEMENT IMPLICATIONS

There are no risk implications with approving this EA report. Any potential risks with the actual project will be addressed at the design phase.

RURAL IMPLICATIONS

The project limits are within the urban boundary.

TERM OF COUNCIL PRIORITIES

The recommendations contained herein aims to support the following priority and outcomes of the City of Ottawa Strategic Plan 2019-2022:

Outcomes:

- An integrated transportation network that incorporates all modes of getting around;
- Residents have easy access to their preferred transportation choice; and
- Transportation infrastructure investment is sustainable and meets long-term needs.

SUPPORTING DOCUMENTATION

Document 1: Evaluation of Alternative Designs

Document 2: Functional Design

DISPOSITION

Following Transportation Committee and Council approval of the functional design, the Transportation Services Department will finalize the Environmental Study Report and make it available to the public for the 30-day review period.