

**Report to  
Rapport au:**

**Transportation Committee  
Comité des transports  
3 June 2015 / 3 juin 2015**

**and Council  
et au Conseil  
10 June 2015 / 10 juin 2015**

**Submitted on May 26, 2015  
Soumis le 26 mai 2015**

**Submitted by  
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**Ward: SOMERSET (14): CAPITAL (17) / File Number: ACS2015-PAI-PGM-0100  
CAPITALE (17)**

**SUBJECT: O'Connor Street Bikeway (Wellington Street to Fifth Avenue) –  
Recommendation**

**OBJET: Voie cyclable de la rue O'Connor (de la rue Wellington à l'avenue  
Fifth) – Recommandation**

## **REPORT RECOMMENDATION**

**That Transportation Committee recommend that Council approve the functional plan and direct staff to design and implement the O'Connor Street Bikeway from Wellington Street to Fifth Avenue as described in this report, subject to approval of the Strategic Initiatives envelope of the Capital Budget.**

## **RECOMMANDATION DU RAPPORT**

**Que le Comité des transports recommande au Conseil d'approuver le plan fonctionnel et charge le personnel de concevoir et mettre en œuvre le projet de voie cyclable de la rue O'Connor, entre la rue Wellington et l'avenue Fifth, tel que décrit dans le présent rapport, sous réserve de l'approbation de l'enveloppe des initiatives stratégiques du budget d'immobilisation.**

## **EXECUTIVE SUMMARY**

### **Assumptions and Analysis**

The Council-approved Ottawa Cycling Plan (OCP) identifies the O'Connor Street Bikeway for implementation in Phase 1 (between 2014 and 2019). The O'Connor Street Bikeway Study developed a functional plan for the bikeway between Wellington Street and Glebe Avenue, which includes: a segregated bi-directional bikeway on the east side between Wellington Street and Pretoria Avenue; bike lanes on both sides between Pretoria and Strathcona Avenues; and, shared-use lanes between Strathcona and Glebe Avenues. The study was coordinated with the Glebe Neighbourhood Cycling Plan Study, which recommends shared-use lanes for the bikeway between Glebe Avenue and Fifth Avenue.

The project is not a full street reconstruction, but a retrofit that generally works within the existing curbs. Implementation of the project will be coordinated with the planned resurfacing of O'Connor Street between Somerset Street West and Isabella Street, and is proposed in two stages, first, Laurier Avenue and Fifth Avenue followed by Wellington Street to Laurier Avenue.

A detailed and accurate schedule will be developed during the preliminary and detailed design stages of the project. The recommended plan is consistent with the policy direction of the OCP, Transportation Master Plan (TMP), Downtown Moves, Ottawa on the Move, and the Centretown Community Design Plan, with current municipal and provincial design guidelines for cycling facilities, and with Provincial and national best practices.

## **Financial Implications**

The total estimated cost for design and implementation of the recommended plan is \$4M. Of which, \$0.2M is available within 907530 O-OTM O'Connor Street Cycling Facility Study and \$3.8M is pending Council consideration through the Strategic Initiatives exercise.

## **Public Consultation/Input**

The O'Connor Street Bikeway and Glebe Neighbourhood Cycling Plan Studies included comprehensive consultation, including a public workshop, online consultations, stakeholder meetings, a bicycle tour of the study area and a public open house. Stakeholders included the general public, property and business owners, community associations, community groups, ward councillors, the Accessibility Advisory Committee, the Environmental Stewardship Advisory Committee, the Ministry of Transportation of Ontario, the National Capital Commission, and various City departments.

Overall, the public is supportive of the project but some had concerns with the draft proposal for designated bike lanes south of Strathcona Avenue, primarily from the perspective of impacts to on-street parking and curbside access. The study team also received input in support of designated bike lanes within the Glebe neighbourhood and objections to the recommendation for shared-use lanes.

## **RÉSUMÉ**

### **Hypothèses et analyse**

Le Plan sur le cyclisme d'Ottawa (PCO), approuvé par le Conseil, désigne la voie cyclable de la rue O'Connor pour la mise en œuvre de la Phase 1 (de 2014 à 2019). L'étude sur la voie cyclable de la rue O'Connor a donné lieu à l'élaboration d'un plan fonctionnel pour la voie cyclable reliant la rue Wellington à l'avenue Glebe, qui prévoit une voie cyclable bidirectionnelle séparée du côté est, entre la rue Wellington et l'avenue Pretoria, des voies cyclables des deux côtés de la chaussée entre les avenues Pretoria et Strathcona, et des voies partagées entre les avenues Strathcona et Glebe. Cette étude a été coordonnée avec celle sur le Plan sur le cyclisme du quartier Glebe, qui recommande l'aménagement de voies cyclables partagées entre les avenues Glebe et Fifth.

Le projet ne consiste pas à reconstruire intégralement la chaussée, mais plutôt à réaliser des travaux de rénovation qui tiennent globalement compte des bordures

existantes. Sa mise en œuvre sera coordonnée avec les travaux d'asphaltage prévus sur la rue O'Connor, entre les rues Somerset Ouest et Isabella, et sera faite en deux étapes : à partir de 2016 entre les avenues Laurier et Fifth, et après 2017 entre la rue Wellington et l'avenue Laurier. Le plan recommandé est conforme à l'orientation stratégique du PCO et d'autres documents de politiques connexes, aux lignes directrices locales et provinciales sur la conception des infrastructures cyclables, et aux pratiques exemplaires provinciales et nationales en la matière.

### **Répercussions financières**

Le coût total pour la conception et la mise en œuvre du plan recommandé est estimé à 4 millions de dollars, dont 0,2 million proviendra de l'étude 907530 O-OTM de l'installation réservée aux vélos de la rue O'Connor et 3,8 millions nécessiteront l'approbation du Conseil dans le cadre du programme d'Initiatives stratégiques.

### **Consultation publique/commentaires**

Les études sur la voie cyclable de la rue O'Connor et le Plan sur le cyclisme du quartier Glebe ont fait l'objet de nombreuses activités de consultation, notamment un atelier public, des consultations en ligne, des réunions de parties intéressées, une visite à vélo du secteur visé et une réunion portes ouvertes. On compte parmi les parties intéressées des membres du public, des propriétaires, des commerçants, des associations et des groupes communautaires, des conseillers municipaux, le Comité consultatif sur l'accessibilité, le Comité consultatif sur la gestion environnementale, le ministère des Transports de l'Ontario, la Commission de la capitale nationale ainsi que divers services de la Ville.

Globalement, les membres du public soutiennent le projet, bien que certains d'entre eux soient préoccupés par la proposition de voies cyclables réservées au sud de l'avenue Strathcona, essentiellement en raison des répercussions sur le stationnement sur rue et sur l'accès aux bordures. L'équipe chargée de l'étude a également reçu des commentaires favorables aux voies cyclables réservées dans le quartier Glebe et d'autres opposés au projet de voies partagées.

### **BACKGROUND**

With the east-west bikeway established along Laurier Avenue through the downtown and extending east and west, the City has recognized the need to provide a comparable central bikeway to allow for safe and comfortable cycling access to and from the City's

core along a north-south axis. As a result, Council has directed staff to develop and implement a Cross-Town Bikeway along O'Connor Street.

Council's direction comes primarily from the OCP (November 2013), which identifies O'Connor Street between Wellington Street and Fifth Avenue as a Spine Route, and as the north-south Cross-Town Bikeway through central Ottawa. The OCP also schedules implementation of the bikeway in Phase 1 of the Plan (between 2014 and 2019). Other supporting policy documents include the TMP (November 2013), Downtown Moves (March 2013), Ottawa on the Move (Budget 2012) and the Centretown Community Design Plan (May 2013).

The project is not a full street reconstruction, but a retrofit that generally works within the existing curbs. O'Connor Street between Somerset Street West and Isabella Street is forecasted to be resurfaced in 2016, based on Council's approval of the Capital Program, and presents a prime opportunity to implement the bikeway in coordination with resurfacing works. A detailed and accurate schedule will be developed during the preliminary and detailed design stages of the project.

## **DISCUSSION**

Based on Council's direction for a north-south Cross-Town Bikeway, this report presents the results of the O'Connor Street Bikeway Study and the recommended plan for the O'Connor Street Bikeway between Wellington Street and Fifth Avenue. The recommended plan achieves the study objectives listed below:

- Provides a high level of cycling safety and comfort for all ages and abilities.
- Establishes a north-bound and south-bound link as part of the larger existing and planned cycling network.
- A short-term, cost effective solution (i.e. limited to work between the curbs and not a full rebuild of the street).
- Supportive of the long-term goal of a complete street.

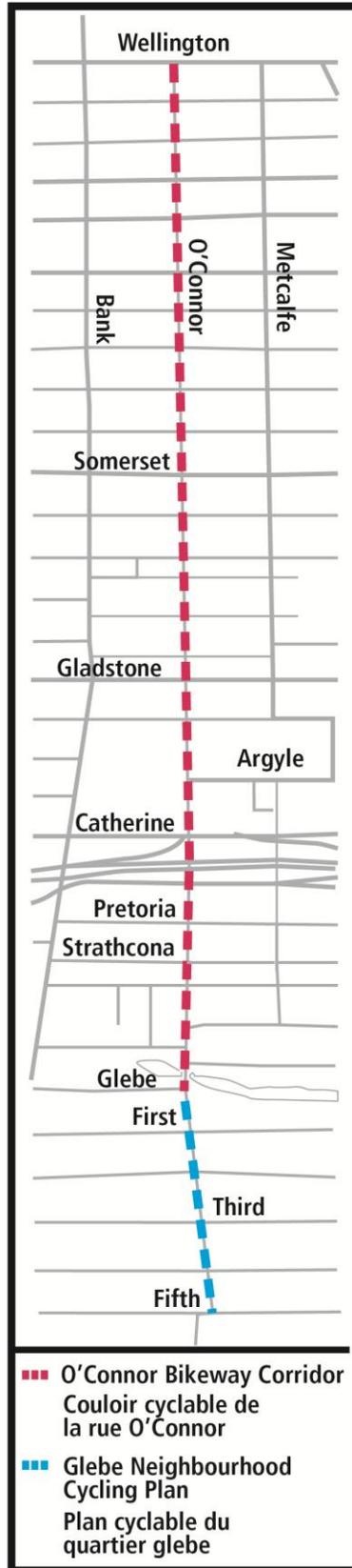
The recommended plan will also result in:

- Increased separation between pedestrians and motor vehicle traffic.
- An increase in travel time for drivers along the corridor during the afternoon rush hour.

- Some loss of on-street parking and curbside vehicle access (the study proposes mitigation measures to minimize impacts, but not all parking loss can be reinstated).

The O'Connor Street Bikeway as described in this report was the subject of two studies as shown in Figure 1:

- The O'Connor Street Bikeway Study (OSBS), which proceeded through various stages as summarized below between May 2014 and June 2015, and which covers O'Connor Street between Wellington Street and Glebe Avenue. The OSBS was conducted as a functional planning study recognizing that a full Environmental Assessment was not required as the proposed works fall under the Municipal Class Environmental Assessment (MCEA) Pre-Approved Schedule A / A+ (No Limit) for redesignation of existing general purpose lanes.
- The Glebe Neighbourhood Cycling Plan (GNCP), which was initiated in March 2014, is ongoing, and which covers O'Connor Street between Glebe Avenue and Fifth Avenue. This neighborhood level Plan also includes several other cycling routes in the Glebe neighbourhood which are not within the scope of this report.



## **Figure 1 – The O'Connor Bikeway**

O'Connor Street was divided between the two studies to reflect the differing context of the street north and south of Isabella Street (high traffic volume arterial versus low traffic volume local street, and one-way versus two-way traffic). However, it was also recognized that a transition zone between the two contexts would likely be required. For this reason, the study area for the larger northern section was extended into the Glebe neighbourhood as far as the northernmost GNCP cycling route (Glebe Avenue), with the understanding that the recommended treatment for within the Glebe neighbourhood (beyond the transition zone) should be coordinated between the two studies. The project teams from both studies worked closely to ensure a consistent approach and recommendations.

The focus of this report is on the OSBS, which is the more substantial of the two studies in terms of scope, consultation, and budget, as well as representing the majority of the corridor. Supplementary information specific to the GNCP is provided in this report where appropriate.

### **Policy and guidelines review**

The study began with a review of all relevant planning and regulatory documents, along with data and studies concerning existing policies, studies, land use, transportation, municipal services, and utilities within the study area. This information was used to assist in scoping the issues, confirming the understanding of the existing conditions and providing a base upon which to assess and evaluate alternative designs. In addition, relevant guidelines and standards were reviewed in order to produce a set of geometric design criteria for reference in preparing alternative designs.

It was determined at the outset of the study that the bikeway must provide for both north-bound and south-bound cycling, and that given budget constraints, the plan should generally work within the existing curbs, minimizing the need for capital-intensive changes to the street.

A potential north-bound Metcalfe Street option was noted, recognizing that although it is not preferable to split the bikeway between two streets, it might be necessary for segments of Metcalfe Street and connecting streets between O'Connor and Metcalfe Streets to be used to provide the north-bound cycling facility. However, the study recommends that the proposed north-south bikeway be accommodated entirely on O'Connor Street with no deviation of any part of the route to Metcalfe Street.

## **Cross-section and route analysis**

In order to develop alternative cross-sections for consideration, a number of test sites reflecting the varying nature of the road along the corridor were identified. Based on the policy and guidelines review, a set of alternative roadway cross-sections was prepared for each test site.

The policy guidance provided in the OCP and TMP, along with the technical guidance of the Cycling Facility Selection Decision Support Tool, provided the direction that the bikeway should be a physically separated facility between Wellington and Isabella Streets, and a bike lane or shared lane (mixed traffic) south of Isabella Street.

The geometric design criteria were applied to the curb-to-curb width at each test site to produce a long list of potential cross-sections. The cross-sections represented a range of variations of the following variables:

- Cycling facility:
  - Uni-directional
  - Bi-directional (west side and east side)
- On-street parking
  - Permanent (24 hours and 7 days a week) versus time-restricted
- Lane widths
  - Vehicle lanes
  - Cycling lanes
- Buffer widths and treatments

Based on the study team's review, as well as the input of agency and public stakeholders, the long list of cross-sections was screened down to two alternative concepts which best met the study objectives. This screening process was also informed by: proofing the various cross-sections at critical intersections (such as at Catherine and Isabella Streets); a third party peer review by a Dutch design firm; insights from other jurisdictions such as Montreal, Vancouver, Toronto, and Hamilton; and consistency with Provincial and national best practices. The alternative concepts selected were:

- North of Isabella Street
  - Alternative Concept A: Uni-directional bike lanes on both sides
  - Alternative Concept B: A bi-directional bikeway on the east side
- South of Isabella Street
  - Alternative Concept A: Uni-directional bike lanes on both sides
  - Alternative Concept B: Shared use lanes

### **Criteria-based evaluation and preferred general concept**

The alternative concepts were presented to stakeholders for feedback in November 2014 and subjected to a qualitative criteria-based evaluation process.

The evaluation methodology rated the concepts on a wide range of criteria, including: policy objectives; commercial/institutional and residential on-street parking and loading; visual environment and greening; cycling access to adjacent land uses; pedestrian safety and comfort; accessibility and mobility; cycling safety, comfort and connectivity; continuity to cycling network north/south of Highway 417; cyclist separation; cycling facility consistency and familiarity; cycling facility ease of signalization; motor vehicle travel performance and safety; public transit; passenger pick-up and Para Transpo service; emergency services; commercial vehicles; traffic diversion; maintainability including winter maintenance; and capital cost. For the section north of Isabella Street, the evaluation also considered different combinations of Concepts A and B, recognizing that the form of the bikeway could vary along the corridor.

Based on stakeholder input and the criteria-based evaluation, Concept B (bi-directional bikeway on the east side) north of Isabella Street and Concept A (uni-directional bike lanes on both sides) south of Isabella Street were recommended as the preferred general concept for the bikeway. For a summary of the evaluation, refer to Document 1 – O’Connor Street Bikeway Functional Planning Study – Evaluation of Alternative Concepts.

### **Draft Proposal**

The preferred concepts – represented as cross-sections at the five test sites – were translated into a draft plan for the bikeway along the full length of the corridor. This plan view showed how the proposed bikeway would fit into the existing street, as well as the

necessary associated changes to existing vehicle lanes, on-street parking, intersection treatments, designated zones, and pavement markings. The draft proposal included:

- Between Wellington Street and Pretoria Avenue where O'Connor Street is a one-way street, a separated bi-directional bikeway on the east side of the roadway with a buffer treatment consisting of pre-cast concrete curbs, paint and flexible bollards.
- Between Pretoria and Strathcona Avenues where O'Connor Street is a one-way street, a uni-directional bike lane on the west side and a contraflow bike lane on the east side with a buffer treatment similar to above.
- Between Strathcona and Glebe Avenues where O'Connor Street is a two-way street, a painted bike lane on both sides.

A consistent treatment (painted bike lanes on both sides) was proposed in the draft proposal for O'Connor Street between Glebe and Fifth Avenues as part of the GNCP.

The draft proposal was presented to stakeholders and the public for feedback in April 2015.

### **Recommended Plan**

The draft proposal was revised and refined based on public and stakeholder consultations, and is included as Document 2 – O'Connor Street Bikeway Recommended Plan (Wellington Street to Glebe Avenue). The recommended plan is similar to the draft proposal, except for the portion south of Strathcona to Glebe Avenues. The recommended plan is summarized as follows:

- Between Wellington Street and Pretoria Avenue where O'Connor Street is a one-way street, a separated bi-directional bikeway on the east side of the roadway with a buffer treatment consisting of pre-cast concrete curbs, paint and flexible bollards, as illustrated in Figure 2. In most blocks, the bikeway replaces the existing motor vehicle / parking lane on the east side.
- Between Pretoria and Strathcona Avenues where O'Connor Street is a one-way street, a uni-directional bike lane on the west side and a contraflow bike lane on the east side with a buffer treatment similar to above.

- Between Strathcona and Glebe Avenues where O'Connor Street is a two-way street, shared use lanes, as illustrated in Figure 3, with the potential for additional traffic calming measures.

A consistent treatment (shared use lanes) is recommended for O'Connor Street between Glebe and Fifth Avenues as part of the GNCP as shown in Document 3 – O'Connor Street Bikeway Recommended Plan (Glebe Avenue to Fifth Avenue).



**Figure 2: Example cross-section of O'Connor Street Bikeway looking north at MacLaren Street (cross-section varies by block; refer to functional plan) – Segregated Bi-directional Bikeway**



**Figure 3: Example cross-section of O'Connor Street Bikeway looking north at Patterson Avenue (cross-section varies by block; refer to functional plan) – Shared-Use Lanes**

The only significant change from the draft proposal was to revise the recommendation for bike lanes south of Strathcona Avenue to shared-use lanes, and to delete the associated proposed changes to on-street parking (removals and additions). The primary reason for this change was in acknowledgement of input received through the public consultation process about other competing needs for space in the right-of-way for on-street parking and curbside access, coupled with the low-speed, low-traffic-volume residential nature of this two-way street. A detailed explanation of this change and the rationale for the revision is included in Document 4 – Memo: O'Connor Street Bikeway Study and Glebe Neighbourhood Cycling Plan – Rationale for Recommendations for O'Connor Street between Strathcona and Fifth Avenues. This does not preclude the possibility that bike lanes be considered for addition to this section of O'Connor Street in the future.

## Highway 417 Overpass

As detailed in the Document 5 – O’Connor Street Bikeway Project: Transportation Impacts, a third south-bound lane on O’Connor Street between Catherine and Isabella Streets will be required if a new pedestrian crosswalk is added to the east side of the Isabella Street intersection as recommended. This is a result of the need for signal timing changes to accommodate the crosswalk which will affect vehicle queuing on the Highway 417 off-ramp to Catherine Street, particularly during the morning peak.

This new crosswalk will operate on its own signal phase. It will be actuated through the use of a push button. When a pedestrian pushes the button and the walk signal appears, all other traffic, in both the south-bound direction on O’Connor Street and the east-bound direction on Isabella Street, will face a red signal. It is expected that this pedestrian movement will last between 20 and 29 seconds.

In order to ensure that queuing for the Highway 417 off-ramp does not back up onto the highway, the implementation of the new pedestrian crosswalk and the widening to add a third south-bound lane will be included as part of initial implementation of the bikeway. In the event of excessive queuing on either the east-bound or west-bound highway off-ramps to Metcalfe Street, mitigation will include signal timing changes to prioritize off-ramp traffic which will increase queuing and delays on local streets (e.g. O’Connor, Metcalfe, Isabella, and Catherine Streets).

The Ministry of Transportation of Ontario has final approval authority within proximity of the Highway 417 overpass. They have been consulted on the study and will continue to be involved as the project proceeds into detailed design.

## Project Outcomes

The outcomes of the implementation of the recommended plan are summarized below.

**Connecting Communities** – The recommended plan will satisfy the OCP and TMP direction to provide a Cross-Town Bikeway between Wellington Street and Fifth Avenue, providing a continuous long-distance cycling connection north-south between the Confederation Boulevard, the Central Business District, Centretown and the Glebe neighbourhoods. It will connect to other cycling routes, link the Central Business District to residential neighbourhoods, and provide a safe crossing of Highway 417 (which represents a significant barrier between communities).

**Renewing O’Connor Street** – Establishing a bikeway along O’Connor Street will change the nature and public perception of the street, particularly north of Strathcona

Avenue. With increased cycling mobility and access along the corridor, the potential for new development and complementary land uses will be enhanced.

**Pedestrians** – The addition of the bikeway will result in several indirect benefits for pedestrians including: improved comfort and safety for sidewalk users by increasing the separation from motor vehicle traffic and reducing pedestrians' exposure to the splash zone of passing vehicles (along the east side between Wellington Street and Strathcona Avenue); a new pedestrian crosswalk on the east leg of the O'Connor Street / Isabella Street intersection so that pedestrians can cross on their own signal phase separate from the three south-bound left turn lanes, and also travel between the Glebe and Centretown without having to switch from east side to west side; and reduced incidence of sidewalk cycling with the provision of a high quality cycling facility. The recommended plan does not propose any significant changes to the existing curbs, with the exception of a short segment of O'Connor Street between Catherine and Isabella Streets; as a result, there is no reduction to or encroachment on existing pedestrian sidewalks.

**Accessibility** – The recommended plan maintains a vertical separation between the pedestrian sidewalk and the bikeway / roadway, which ensures the separation of pedestrians and cyclists and clearly delineates the space for persons with visual impairments. Between Wellington Street West and Pretoria Avenue, the positioning of the bikeway along the east curb preserves access along the west curb for on-street parking, which allows for passenger-side pick-up and drop-off from the parking lane, whether by Para Transpo, personal vehicles, or others. South of Strathcona Avenue, cyclists will ride in shared-use lanes so there are no accessibility impacts.

**Cycling** – In addition to providing the cycling network function of a Spine Route and Cross-Town Bikeway, the recommended plan will provide a safe and comfortable cycling route for all ages and abilities. It will provide exclusive space for cyclists within the roadway north of Isabella Street, and permit north-bound cycling along the full length of O'Connor Street. Intersection treatments will receive particular attention in detailed design to ensure the safe movement and interaction of all types of users. South of Strathcona Avenue, the cycling environment will be enhanced with the addition of pavement markings and signs for shared-use lanes, and the potential for additional traffic calming measures will be explored to ensure low vehicle speeds.

**Public Transit** – The recommended plan accommodates existing bus routes in the Glebe neighbourhood and crossing O'Connor Street, and accounts for potential future bus routes in the downtown core. The bikeway will also support the City's new Confederation Line by facilitating travel by bike to and from Parliament Station.

**Motor Vehicles** – O'Connor Street will continue to play its arterial road and truck route function north of Isabella Street and be a community street south of there. In the northern section, the existing road space will be better-utilized over the full course of the day, and it is anticipated that the reduced cross section will have a traffic calming impact during off-peak hours, i.e. no significant change in average travel speeds, but reduction of speeds at the higher end. During the weekday afternoon peak hour, typically lasting from 4:15 p.m. to 5:15 p.m., longer travel times are expected. The current five-to-six-minute travel time for vehicles traveling from Wellington Street to the Queensway is expected to increase by 2½ minutes (plus or minus 1½ minutes) during the weekday afternoon peak hour. Additional delays and longer queue lengths are expected at the intersections of Laurier Avenue, Somerset Street West and Isabella Street.

At Isabella Street, the addition of the new pedestrian crosswalk on the east side will require an exclusive bicycle and pedestrian signal phase which will last between 20 to 29 seconds – exact time to be confirmed during detailed design stage when the roadway width is confirmed. The separate bike-pedestrian phase will result in less green time being allocated to vehicle traffic and therefore greater delays, queuing and spillback onto the Queensway than would occur if no crosswalk were provided. Queuing and spillback projections are based on a traffic model for average traffic conditions and actual queuing and spillback will vary based on the daily variation of traffic volumes and may be higher during short time periods during the p.m. peak period. Also, following implementation and before traffic patterns adjust, longer queues and spillbacks are possible. Motorists may use other local east / west streets to by-pass congestion on O'Connor Street.

These conditions are expected to improve over time with decreases in traffic volumes as motorists change the time of their trips, choose alternate routes, or change their mode of travel. The analysis of projected traffic operations is included in Document 5 – O'Connor Street Bikeway Project: Transportation Impacts.

**On-street Parking North of Isabella Street** – The existing on-street parking along the east side of O'Connor Street will be displaced by the new bikeway, while parking along the west side will either remain as off-peak parking or be made available at all times (all day every day as opposed to the existing time-restricted availability). Some of the parking is re-located to Lisgar and Nepean Streets, but not all spaces can be reinstated. Overall, there will be less than a 1 per cent change in total on-street and off-street parking within the corridor including one block east and west of O'Connor Street, and less than an 8 per cent change in the total number of on-street spaces located on O'Connor Street. All time periods will see an increase in the number of spots available,

except for evenings and weekends which will see a decrease of approximately 23 per cent, which coincides with the period of highest observed parking demand. Summarized below are the planned changes to the number of parking spaces for each time period:

- Between 7 a.m. and 9 a.m., there will be 73 more spots than existing (an increase from 66 to 139);
- Between 9 a.m. to 3:30 p.m., there will be seven more spots than existing (an increase from 132 to 139);
- Between 3:30 p.m. to 5:30 p.m., there will be 97 more spots than existing (an increase from 9 to 106); and
- During evenings and on weekends, there will be 42 fewer spots than existing (a decrease from 181 to 139).

The distribution of parking spots (increases or decreases relative to existing) vary from block to block; for example a time period that shows a net gain in the number of parking spots may include one or more blocks where there is a net loss of parking for that block, and vice versa. As part of finalizing the plan for Stage 2, there may be adjustments which could result in changes to the parking numbers for north of Laurier Avenue. Impacts to existing accessible on-street parking (“no parking” zones) vary by time of day and location, and are detailed in Document 6 – O’Connor Street Corridor: No Parking and Accessibility Requirements.

**On-street Parking between Isabella Street and Strathcona Avenue** – between Isabella Street and Pretoria Avenue, on-street parking will be shifted from the east side to the west side (increasing from three to eight spots), while between Pretoria and Strathcona Avenues it will be shifted away from the curb to accommodate the new bike lane (decreasing from six to five spots). The overall change will be an increase of four spots.

**On-street Parking between Strathcona and Fifth Avenues** – No changes to existing on-street parking are recommended in this section.

**Property Access and Loading** – By locating the bikeway on the east side of O’Connor Street north of Pretoria Avenue, curbside access on the west side is preserved for on-street parking, vehicle pick-up / drop-off and loading. The recommended plan includes maintaining, relocating or removing the following zones as indicated in Document 2 – O’Connor Street Bikeway Recommended Plan (Wellington Street to Glebe Avenue): Police Zone, Taxi Zones, Loading Zones, Hotel Zones, Tour Bus

Loading Zones, Street Food Spaces, and Diplomatic Loading Zone. The approach to addressing two of the existing zones located within Stage 2 of the project – the Police and Hotel zones – is contingent on the future re-design of Albert Street, which will change significantly following LRT implementation and the removal of the Transitway.

Additional analysis will be required in Stage 2 to fully address these two zones, which may result in adjustments to the design, parking and traffic analysis for the second stage of the project:

- **Police Zone** on the west side between Queen and Albert Streets – This zone is primarily used for short periods (approximately 30 minutes at a time) by Royal Canadian Mounted Police (RCMP) to service embassies at 50 O'Connor Street. Although it is preferable to maintain the Police Zone in its current location, it is not feasible to encroach into the sidewalk to provide a new lay-by. It may be feasible to relocate the Police Zone to Albert Street; however this would need to be coordinated with future plans for the reconfigured Albert Street (post-LRT), and requires further consultation with RCMP and Ottawa Police as part of design of Stage 2 of the bikeway. If the Police Zone cannot be accommodated on Albert Street, it could be relocated to Bank Street or maintained in its current location in the curb lane of O'Connor Street.
- **Hotel Zone** on the east side between Albert and Slater Streets – This zone is used by the Sheraton Hotel for bus loading/unloading and short-term parking. The zone is proposed be relocated to the hotel's Albert Street frontage; however this too would need to be coordinated with future plans for the reconfigured Albert Street. If the Hotel Zone cannot be accommodated on Albert Street, it would be maintained in its current location and reconfigured (shortened and narrowed) as required to accommodate the new bikeway.

**Winter Maintenance** – If the bikeway is to be useable during all seasons, winter maintenance would be required. As part of detailed design, the bikeway will be designed in such a way as to allow for future winter maintenance; however the recommendation to provide winter maintenance of the bikeway is not being made as part of this report. O'Connor Street is currently not included in the City's proposed Winter Cycling Network, but if the City adopts a Winter Cycling Network then the O'Connor Street Bikeway could be considered for inclusion. The potential need for winter maintenance for drainage or other purposes will be confirmed as part of detailed design. If it is decided that the bikeway will be winter maintained, this would require the appropriate allocation of operating funding to the Public Works Department which would

be requested for the year following completion of construction. The initial estimated annual cost for winter maintenance of the bikeway is approximately \$17,000, divided into \$13,000 per year for Stage 1 and \$4,000 per year for Stage 2.

#### Third party peer review

The City retained Mobycon, a Dutch sustainable mobility consulting firm, to act in a peer review role on the study. Mobycon brought to the study the perspective of planning and design practitioners with extensive experience in cities around the world that have successfully achieved high cycling mode shares. While recognizing that the local Ottawa context is unique and that a cut and paste approach is therefore not appropriate, Mobycon provided insights at different stages of the study rooted in the philosophy that cyclists are vulnerable road users and should be treated separately from fast-moving motor vehicle traffic.

#### Glebe Neighbourhood Cycling Plan – Draft Proposal for O’Connor Street

A separate study to develop recommended cycling improvements within the Glebe neighbourhood was initiated by the City in March 2014. This neighborhood level Plan also includes several other cycling routes which are not within the scope of this report. The local routes within the network identified in the Glebe Neighbourhood Cycling Plan (GNCP) were divided into several segments – recognizing that the portion of the network on O’Connor Street north of Fifth Avenue is proposed to provide a two-way cycling route as part of the Cross-Town Bikeway leading to / from downtown.

An existing conditions assessment, development of conceptual design alternatives, evaluation of design alternatives, functional design and cost estimates were carried out for each of the segments including O’Connor Street. Multiple cross-section alternatives were developed for consideration within the existing curbs. To assist with reviewing the trade-offs between each option, a qualitative and comparative evaluation was undertaken with the following factors being considered:

- Safety of all users;
- Cycling comfort;
- Traffic impacts;
- Impact on property, street front or pedestrian environment;
- Relative costs;

- Parking impact; and
- Continuity of route.

The conceptual design options were evaluated based on these criteria and preferred options emerged. Prior to fully developing a functional design, Technical Advisory Committee meetings, Public Advisory Committee (PAC) meetings and a public open house (POH) in June 2014 were held to solicit feedback on the preferred concepts.

The concept development and evaluation for O'Connor Street focused upon providing a comfortable two-way cycling facility as part of the Cross-Town Bikeway to/from downtown. Three options were developed and evaluated for O'Connor Street north of Fifth Avenue:

- Option 1 consisted of on-street painted bicycle lanes in both the north-bound and south-bound direction. This alternative would require the removal of the on-street parking along the east side of O'Connor Street.
- Option 2 consisted of a north-bound on-street painted bicycle lane and a south-bound narrow shared lane.
- Option 3 consisted of wide shared lanes in both the north-bound and south-bound directions. This option would effectively maintain the existing operations with additional measures to increase the visibility of cyclists.

A qualitative and comparative evaluation of each option was carried out and identified Option 3 (shared lanes) as the preferred short-term solution with consideration to Option 1 (bike lanes) as a long-term scenario. The selection of these options was generally accepted by the community based on the feedback received from the POH, PAC and Glebe Community Association with some concern expressed regarding the removal of on-street parking. Concern was also expressed about the existing bulb-outs (roadway narrowing used as a speed reduction measure) and the loss of the traffic calming effects by these measures if bike lanes were to be implemented.

An additional undertaking was then carried out as part of the GNCP to develop a design for bulb-outs to be more cycling friendly. Designs were developed for both cycling-over and cycling-through with alternatives for bulb-outs at both mid-block and unsignalised intersections.

Once it became apparent that a solution was achievable to modify the existing bulb-outs on O'Connor Street to make them more 'cycling friendly' and the evaluation of design

concepts being developed for O'Connor Street north of Glebe Avenue were leading towards on-street bike lanes as the preferred option, Option 1 was carried forward to functional design and this draft plan was presented at the O'Connor Street Bikeway Study open house on April 9, 2015 to solicit public feedback.

As described above for the Glebe neighbourhood portion of the O'Connor Street Bikeway, the draft proposal was subsequently revised and refined based on public and stakeholder consultations. The final recommended plan returns to the initial preferred option of shared lanes from Glebe Avenue to Fifth Avenue.

### Implementation

Implementation of the entire bikeway is recommended to proceed in two stages:

- Stage 1 – Between Laurier Avenue and Fifth Avenue; and
- Stage 2 (following the completion of Stage 1) – Between Wellington Street and Laurier Avenue.

The main reasons for this staging are:

- The recommended treatment for the bikeway at the Albert Street intersection requires changes to the traffic signals which are not feasible until after Light Rail Transit (LRT) implementation because of existing Transitway operations along Albert Street. Given this constraint, Laurier Avenue is an appropriate location to break up the two stages because it provides a connection for cyclists between O'Connor Street and the existing east-west bikeway (Laurier Avenue Segregated Bike Lanes).
- As part of its Road Resurfacing Program, based on budgetary approvals, O'Connor Street between Somerset Street West and Isabella Street is forecasted to be resurfaced in 2016; implementation of the bikeway is to be coordinated with this resurfacing to minimize overall costs and street disruption due to construction.
- Implementation of Stage 2 is recommended to start after 2017 in order to avoid street disruption during the Canada 150<sup>th</sup> Anniversary celebrations.

### Project Cost Estimate

A Class 'C' cost estimate for the entire project has been prepared in accordance with the Infrastructure Services Department's July 2013 Project Delivery Review cost

estimating procedure. The total estimated cost for design and implementation of the recommended plan is approximately \$4M, divided into \$2.8M for Stage 1 and \$1.2M for Stage 2. The estimate is within the TMP/OCP affordability envelope, and will be refined and confirmed as part of detailed design.

## **RURAL IMPLICATIONS**

There are no significant rural implications.

## **CONSULTATION**

The O'Connor Street Bikeway Study included an extensive consultation program to inform, engage and get feedback from stakeholders and the public in developing the plan for the O'Connor Street Bikeway.

An Agency Consultation Group (ACG) comprised of representatives of various City of Ottawa Departments, the National Capital Commission, and Ontario Ministry of Transportation met three times in June 2014, November 2014, and March 2015. Separate meetings with select ACG representatives also took place over the course of the study.

A Public Consultation Group (PCG) made up of representatives of community associations, local community groups, special interest groups, and adjacent property owners met three times in June 2014, November 2014 and March 2015. The Accessibility Advisory Committee and Environmental Stewardship Committee were included on the PCG.

Members of the ACG and PCG were invited to participate in a Bicycle Tour of the study area to review existing conditions and discuss solutions. The tour was held on July 3, 2014 and included 10 participants.

A Public Planning Workshop was held on the evening of June 26, 2014 to inform the public of the study's purpose and objectives, and to provide a forum for the sharing of thoughts and ideas relating to the O'Connor Street Bikeway through a design exercise and group discussion. The workshop was advertised via: direct mailing to all properties along O'Connor and Metcalfe Streets within the study area and within one block east and west; newspaper ads; notifications to the ACG, PCG and ward councillors; a notice on the project website; and temporary on-street signs. A total of 84 participants took part in the two-hour workshop. A highlights sheet was created and distributed to provide a concise summary of the study for the public.

An online questionnaire was posted on the project website in June and July 2014 and was advertised at the planning workshop, via email, handouts, and in the July 2014 Cycling in the City e-newsletter. There were 98 responses to the online questionnaire.

A public open house was held on the evening of April 9, 2015 to inform the public about existing conditions and challenges, to review the draft proposal for the bikeway, and to solicit comments. The event included a formal presentation, question and answer period, and open house session. The open house was advertised via: direct mailing to all properties along O'Connor Street within the study area and within one block east and west; door-to-door canvassing for contact information followed up with direct emails and phone calls to properties along O'Connor Street; newspaper ads; notifications to the ACG, PCG and ward councillors; a notice on the project website; temporary on-street signs; and a CBC radio interview. More than 90 people attended the open house. An updated highlights sheet was created and distributed to provide a concise summary of the study's draft proposal for the public.

An online comment form was posted on the project website in April 2015 and was advertised at the open house, via email and handouts. Fifty-three submissions were made using the online form.

Approximately 16 individual stakeholder meetings were held with various groups and property owners (including residential and office building owners and managers, hotel operators, small business owners, Para Transpo, and the Ontario Ministry of Transportation) to provide information about the study and receive feedback.

A Project Website ([www.Ottawa.ca/OConnorBikeway](http://www.Ottawa.ca/OConnorBikeway) / [www.Ottawa.ca/VoieCyclableOConnor](http://www.Ottawa.ca/VoieCyclableOConnor)) was established at the start of the study and was updated with information about the study between June 2014 and April 2015. It included a Notice of Commencement (May 2014), project status updates, and a notice of open house (April 2015) which included the draft plans for the bikeway.

A Project Email Address ([OConnorBikeway@ottawa.ca](mailto:OConnorBikeway@ottawa.ca) / [VoieCyclableOConnor@ottawa.ca](mailto:VoieCyclableOConnor@ottawa.ca)) was created and advertised on various public materials to provide a simple and direct channel for the public to request information or provide comments on the study.

Separate consultations on the Glebe Neighbourhood Cycling Plan portion of the O'Connor Street Bikeway took place as described in the discussion section of this report.

Media coverage included several newspaper and online articles about the study between June 2014 and May 2015 (CBC News, Metro, Centretown News, Centretown Buzz) as well as radio coverage (CBC Radio 1, 1310News).

Overall, the public were supportive of the draft proposal but some had concerns south of Strathcona Avenue, primarily from the perspective of impacts to on-street parking and curbside access. Also, some cyclists questioned the need for designated bike lanes for this section of O'Connor Street. When the draft proposal was modified, the study team received input in support of designated bike lanes within the Glebe neighbourhood and objections to the revisions to the draft proposal.

### **COMMENTS BY THE WARD COUNCILLORS**

Councillor McKenney provided the following comments:

"I am very pleased to see that a segregated bidirectional bikeway will be installed along O'Connor Street through the north-south extent of Somerset Ward. Given that O'Connor is one of the least hospitable places to ride a bike, a safe, segregated facility will provide the biggest improvement. I look forward to finding opportunities to tie in new cycling connections from local streets to O'Connor as part of the detailed design and in future projects.

While it is unfortunate that some on-street parking will be lost in evenings and weekends, the establishment of a permanent parking lane will provide 24-hour parking and will make it safer to cross O'Connor Street by reducing the crossing distance. It will be much more comfortable to walk along O'Connor Street with the bikeway on the east side and the parking lane on the west side to act as a buffer between the sidewalk and the fast-moving traffic.

I agree with the recommendation to implement Phase 2 (Wellington to Laurier) in conjunction with the introduction of LRT.

I disagree with the report recommendation not to include winter maintenance. Given that the O'Connor Bikeway is intended to be a spine cycling route north of the 417, it is necessary to maintain it in all seasons. Unlike other cycling routes on two-way streets such as Churchill Ave, if the two-way cycle track is not maintained in the winter, north-bound cyclists do not have an on-road alternative and may ride on sidewalks or the wrong way on the road."

Councillor Chernushenko provided the following comments:

“I support this functional plan, recognizing the huge challenge the City faces when trying to make alterations to existing roadways that improve cycling safety and attractiveness without triggering substantial new impacts and problems for other right of way users. Although the ideal outcome would have been a designated lane for the entire length of O’Connor Street, the recommendation for shared lanes in part of the Glebe section was done for good reason, and not merely out of “inconvenience” to certain residents and institutions. This being said, I recommend that further thought be given to extending the designated lane as far south as First Avenue, and to adding some additional traffic calming and safety measures, such as a reduced speed limit, “ride over” treatments for some bulbouts and speed humps at several locations where speed can be an issue.”

### **ADVISORY COMMITTEE COMMENTS**

The comments provided by the Accessibility Advisory Committee (AAC) are provided in Document 7 – Accessibility Advisory Committee Comments on O’Connor Street Bikeway Study. The AAC’s concern about the loss of accessible on-street parking in the Glebe neighbourhood is largely addressed by the revised plan which includes shared-use lanes (existing parking is maintained). In terms of increased travel distance to destinations on the west side of the street, this may sometimes be the case however east-west side streets along O’Connor’s Street short blocks generally allow on-street parking, which allows access without the need to cross O’Connor Street. Para-Transpo usage statistics were provided as requested, and questions regarding wheelchair travel distance, “disabled parking” spots and buffer treatments were answered.

The Environmental Stewardship Advisory Committee was made aware of the study and was included in the Public Consultation Group.

### **LEGAL IMPLICATIONS**

There are no legal impediments to implementing the recommendation in this report.

### **RISK MANAGEMENT IMPLICATIONS**

There are risk implications. These risks have been identified and explained in the report and are being managed by the appropriate staff.

### **ASSET MANAGEMENT IMPLICATIONS**

Comprehensive Asset Management is an integrated business approach involving planning, finance, engineering, maintenance and operations geared towards effectively

managing existing and new infrastructure to maximize benefits, reduce risk and provide safe and reliable levels of service to community users. This is accomplished in a socially, culturally, environmentally and economically conscious manner.

The recommendations and actions documented in this report are consistent with the City's Comprehensive Asset Management Program ([City of Ottawa Comprehensive Asset Management Program](#)) objectives. The implementation of the Comprehensive Asset Management Program results in timely decisions that minimize lifecycle costs and ensure the long-term affordability of assets. To fulfill its obligation to deliver quality services to the community, the City must ensure that assets supporting City services are managed in a way that balances service levels, risk and affordability.

The recommended approach of linking opportunities, in this case, the resurfacing of O'Connor Street between Somerset Street West and Isabella Street to implement the bikeway, supports the delivery of services with the outward focus on community benefit and an inward focus on efficiency and affordability.

## **FINANCIAL IMPLICATIONS**

The total estimated cost for design and implementation of the recommended plan is \$4M. Of which, \$0.2M is available within 907530 O-OTM O'Connor Street Cycling Facility Study and \$3.8M is pending Council consideration through the Strategic Initiatives exercise.

## **ACCESSIBILITY IMPACTS**

The recommended plan will result in the following accessibility impacts north of Strathcona Avenue:

- The pedestrian sidewalk will be physically separated from the bikeway, with the cycling facility at a lower grade than the pedestrian space. This provides a clear distinction between pedestrians and cyclists, and is also expected to significantly reduce the incidence of sidewalk cycling which is currently a common occurrence on O'Connor Street north of Catherine Street.
- Where necessary, existing east-side Loading and Taxi Zones are re-located to adjacent side streets to ensure users' needs continue to be met with minimal inconvenience.
- The plan preserves vehicle access to the west-side curb to facilitate Para Transpo passenger door pick-up/drop-off.

- The majority of on-street parking spaces are on the west side (opposite side of the street as the bikeway).
- The plan proposes a physical barrier (pre-cast curbs) along the buffer between the bikeway and the motor vehicle lanes to ensure safety. There will be regular gaps in the barrier to provide for driveway access, drainage, and other purposes.
- The bikeway will provide a more safe and comfortable facility for cyclists of all ages, including seniors who tend to prefer physically separated routes.

South of Strathcona Avenue, there will be minimal accessibility impacts due to shared-use lanes and traffic calming measures. The potential accessibility impacts of modifying existing bulb-outs to better accommodate cyclists have been analyzed and addressed.

The City's Corporate Accessibility Unit and Accessibility Advisory Committee (AAC) were included in the study's Agency and Public Consultation Groups respectively. A representative of the AAC attended the April 2015 open house, and the AAC was provided with a summary memo for the project in April 2015.

The study complied with the AODA and Integrated Accessibility Standards requirement to consult with the AAC and the public when making changes to parking that affect existing accessible parking. The plan will result in a reduction in existing accessible on-street parking as detailed in Document 6 – O'Connor Street Corridor – No Parking and Accessibility Requirements.

The project is a retrofit, so changes to the existing pedestrian environment will be minimal. Any changes will comply with the City's Accessibility Design Standards, including requirements for intersection curb ramps and tactile indicators. The detailed design of the bikeway will address accessibility issues and ensure compliance with the AODA, the Corporate Accessibility Policy, and the Accessibility Design Standards.

## **ENVIRONMENTAL IMPLICATIONS**

As detailed in Section 1.6 of the Ottawa Cycling Plan, the introduction of new cycling facilities like the O'Connor Street Bikeway can improve air quality, reduce greenhouse gas emissions, and have significant public health benefits.

An increase in cycling rates can help improve local air quality by helping reduce carbon emissions and air pollution due to driving. Residents who choose to forgo car ownership

altogether, or reduce the number of cars at home, will reduce the total household vehicle-kilometres travelled (VKT), and therefore greenhouse gas (GHG) emissions.

In terms of public health benefits, the return on investment for cycling infrastructure is substantial from a health costs perspective. Building infrastructure to support cycling as a viable form of active transportation helps to create a city that promotes and protects health. Street designs that support cycling, and thus help improve population health, most notably through purpose-built cycle facilities, lead to a reduction in injuries and collisions (Ottawa Cycling Plan 2013, p.6).

### **TERM OF COUNCIL PRIORITIES**

The implementation of the O'Connor Street Bikeway will support the Term of Council Priorities for:

- Transportation and Mobility by meeting the current and future transportation needs of residents and visitors by encouraging cycling through infrastructure improvements and enhanced urban design;
- Environmental Stewardship by promoting long-term sustainability and reducing our environmental footprint by maintaining and improving the quality of our air; and
- Healthy and Caring Communities by helping all residents enjoy a high quality of life and contributing to community well-being through healthy, safe, secure, accessible and inclusive places.

### **SUPPORTING DOCUMENTATION**

Document 1 O'Connor Street Bikeway Functional Planning Study – Evaluation of Alternative Concepts

Document 2 O'Connor Street Bikeway Recommended Plan (Wellington Street to Glebe Avenue)

Document 3 O'Connor Street Bikeway Recommended Plan (Glebe Avenue to Fifth Avenue)

Document 4 Memo: O'Connor Street Bikeway Study and Glebe Neighbourhood Cycling Plan – Rationale for Recommendations for O'Connor Street between Strathcona and Fifth Avenues

Document 5 O'Connor Street Bikeway Project: Transportation Impacts

Document 6 O'Connor Street Corridor: No Parking and Accessibility Requirements

Document 7 Accessibility Advisory Committee Comments on O'Connor Street Bikeway Study

**DISPOSITION**

Following Council approval of the report recommendations, staff from the Infrastructure Services Department will commence detailed design of Stage 1 of the O'Connor Street Bikeway. Construction will proceed pending Council approval of the Strategic Initiatives envelope of the Capital Budget.