4 Downtown Moves & Demonstrations

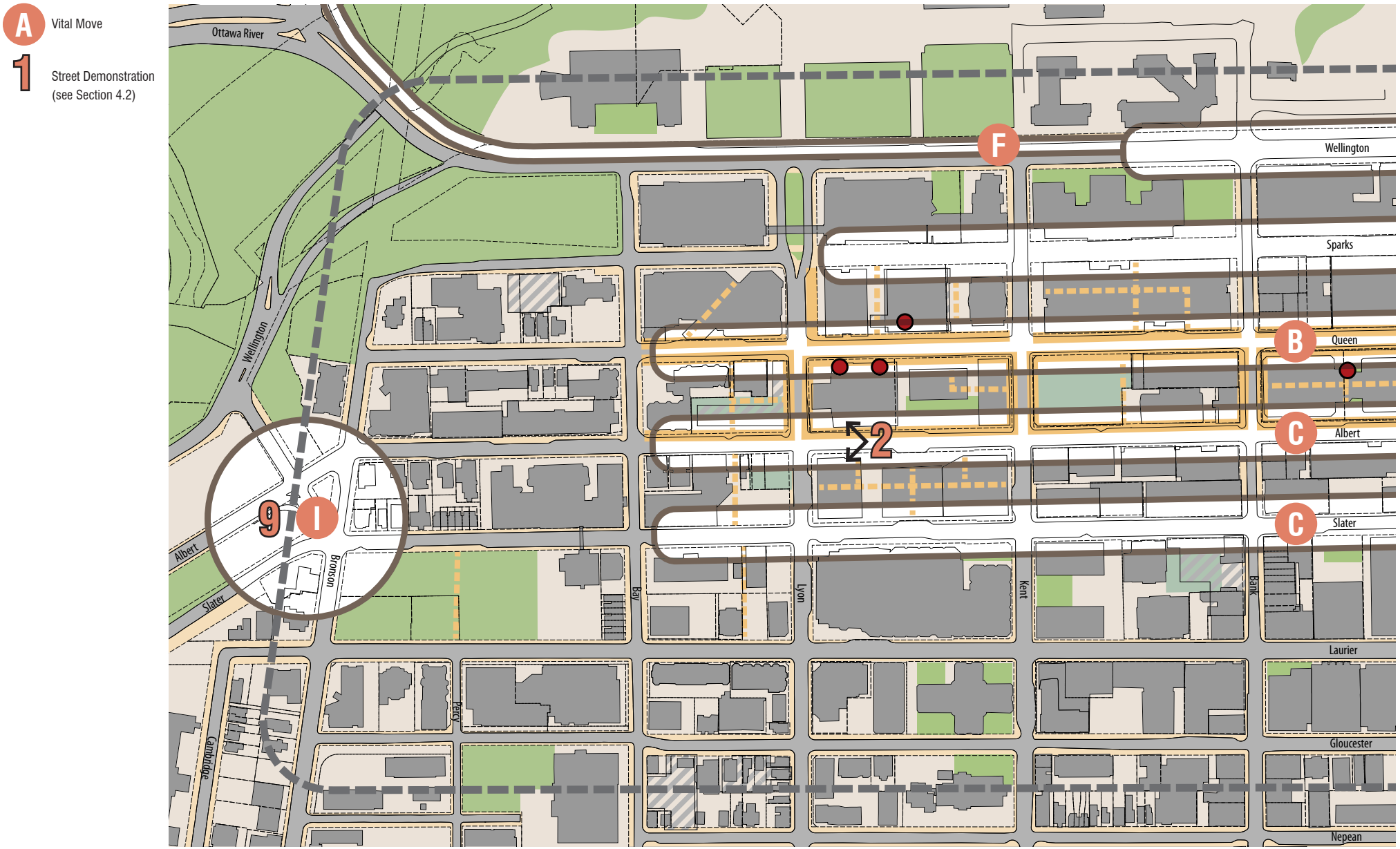
Building on the information and analysis presented in the previous sections, this section puts together all of the individual components required to improve and enhance the mobility of our downtown streets. Vital Moves are introduced and represent potential physical changes that will enable the Vision and Strategic Directions. The Street Demonstrations illustrate potential ways of integrating urban design and transportation planning elements, demonstrating the design of lands adjacent to the right-of-way and incorporating such provisions as pedestrian easements and/or building canopy overhangs.

4.1 Vital Moves

Through the stakeholder consultation undertaken for Downtown Moves and based on transportation and urban design analyses, a series of "Vital Moves" have been identified. These Vital Moves represent potential changes (i.e. physical projects) to downtown Ottawa streets in a manner that addresses the Vision and Strategic Directions established for Downtown Moves. A number of these Moves are visually displayed in corresponding Street Demonstrations in Section 4.2.

- **A** Secure Wider Sidewalks Near Transit Station Entrances
- **B** Transform Queen Street into a Transit Showcase Street
- **C** Revitalize Albert and Slater Streets

Figure 4-1: Vital Moves and Street Demonstrations for Downtown Ottawa



D Connect Downtown to Lowertown

E Renew Sparks Street

F Complete an Inter-Provincial Bike Loop

G Integrate Town and Crown Across Wellington Street

H Embellish Metcalfe Street

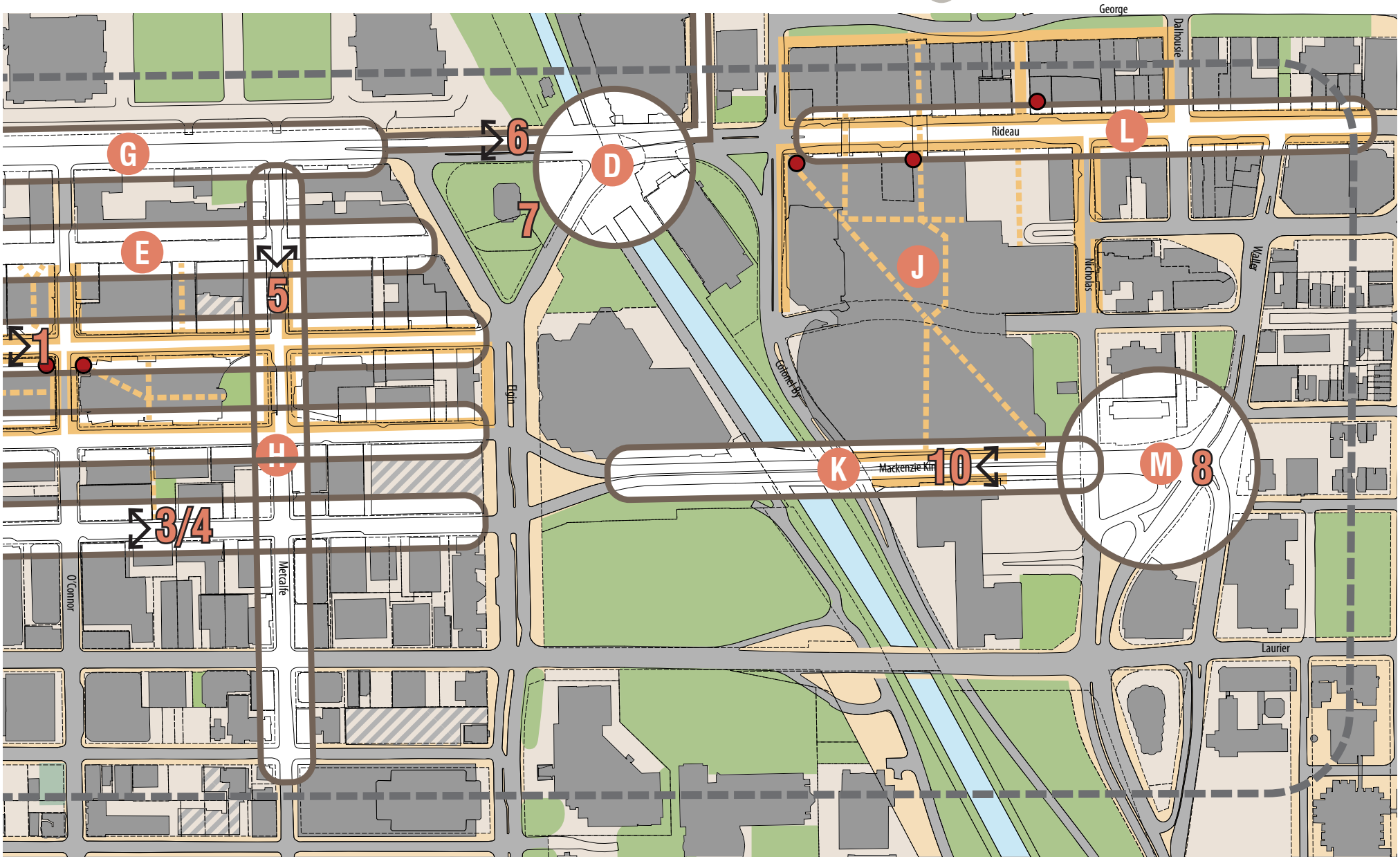
I Connect Downtown to Lebreton Flats

J Enable Mid-Block Connections Serving the Transit Stations

K Repurpose Mackenzie King Bridge

L Revitalize Rideau Street as a Main Street

M Improve the Mackenzie King/Nicholas/Waller Intersection



Move A

Secure Wider Sidewalks Near Transit Station Entrances

The essence of this Move is to accommodate pedestrian traffic in the vicinity of Confederation Line station entrances by providing an abundance of capacity and an inviting walking environment. Design objectives include:

- Providing a high pedestrian 'level-of-service' for sidewalks near Confederation Line station entrances that corresponds to forecast pedestrian movements;
- Enhancing the pedestrian environment with street planting and co-ordinated street furniture; and,
- Providing on-street parking and loading space in a flexible manner that most efficiently uses the available ROW.

Move A is illustrated in Demonstration 1 in Section 4.2, which shows widened sidewalks on Queen Street providing generous clear travel zones for pedestrians in the vicinity of the Confederation Line station entrance. The demonstration also shows co-ordinated street planting and furnishings, and the use of flex spaces for loading and parking.

Vancouver, BC

Move B

Transform Queen Street into a Transit Showcase Street

The essence of this Move is to transform Queen Street into downtown Ottawa's Showcase Street, respond to the demands that will be placed on the street by the Confederation Line station entrances located along it. As a Showcase Street, Queen Street will comfortably support high pedestrian volumes within a vastly improved street environment that greatly prioritizes the enjoyment and ease of movement of pedestrians. Design objectives include:

- Providing wide sidewalks with distinctive paving materials to support a high pedestrian 'level-of-service', and to establish an attractive and comfortable environment for pedestrians;
- Facilitating seamless transfers between the Confederation Line and bus service systems by locating bus stops on all four sides of the same block perimeter as Confederation Line station entrances where possible;
- Designing bus stops with generous curbside loading areas to provide high levels of comfort, safety, and weather protection for waiting transit customers;
- Beautifying the streetscape with a co-ordinated family of street plantings and furnishings to promote walking and leisure activities on-street;
- Incentivizing the development of active street-oriented uses such as retail stores and restaurant patios through the economic opportunity brought about by substantial improvements in sidewalk and streetscape condition;
- Developing an integrated wayfinding and signage system that assists with movement between Confederation Line stations and significant civic, cultural, and retail destinations;
- Providing ample bicycle parking;
- Providing on-street parking and loading space in a flexible manner that most efficiently uses the available ROW; and,
- Including street trees and state of the art approaches to sustainable planting and drainage.

Move B is depicted in Demonstration 1. The demonstration shows a sidewalk area providing generous pedestrian clear zones, a co-ordinated family of street furnishings, dense street tree coverage, and flex spaces for loading and parking. Flex spaces provide the opportunity for the sidewalk area to be further expanded by eliminating on-street parking through the placement of bollards. Awnings and outdoor restaurant seating help to animate the street environment.

Source: image included in following report: "Construction and Maintenance of the Ottawa Light Rail Transit System", Appendix 1, pg 17.

Move C

Revitalize Albert and Slater Streets

The essence of this Move is to revive Albert and Slater Streets as "complete streets" upon the commencement of the Confederation Line service, in contrast to their existing functions mainly as utilitarian corridors for bus and vehicle movement. Design objectives include:

- Increasing pedestrian and cycling capacity and function by converting the bus-only lanes when they are no longer required;
- Beautifying the streetscape by providing for tree planting on both sides of the streets, and applying sidewalk paving materials that add character;
- Establishing separated bicycle facilities to support the development of an east-west bikeway, that would either compliment or replace the Laurier Avenue bike lanes (depending on the result of the pilot project);
- Designing high-quality bus stop zones with bus platforms in locations where the streets continue to provide for bus transit service, to facilitate safe, convenient and high capacity passenger loading/unloading; and
- Accommodating vehicle loading and parking zones in "flex spaces" otherwise provide the opportunity for expanded pedestrian space.

Move C is depicted in Demonstrations 2 and 4, which show separated or shared bicycle facilities, wider sidewalks, upgraded streetscaping, and flex spaces for parking and loading along Albert and Slater Streets as one-way streets. Demonstrations 2 and 3 correspond with Complete Street Type D1, as introduced in Section 3.6

Should both streets be converted to two-way streets and reconstructed, they could be designed in accordance with Demonstration 4. This corresponds to Complete Street Type B1. One-directional bike lanes could be added to that demonstration, with lesser space allocated to the sidewalk zone, which corresponds to Complete Street Type B2.

Move D

Connect Downtown to Lowertown

The essence of this Move is to better connect Downtown Ottawa with Lowertown, the Byward Market, and the emerging arts and entertainment district, which includes Rideau Street, the Rideau Centre, and Arts Court. Design objectives include:

- Facilitating safer crossings for pedestrians across Elgin Street at Queen Street, by reducing vehicle lanes and shortening crosswalk distances, so limiting channelized right turn lanes;
- Creating a new "T-intersection" at the intersection of Wellington Street and the east leg of Elgin Street, with standard crosswalks and a reduction in the number of right turn lanes;
- Creating new public space around the War Memorial Triangle by reducing vehicle lanes and converting them to useable sidewalk space on the Elgin Street sidewalk side;
- Establishing pedestrian priority through such means as paving materials at crosswalks that contrasts with the roadway, raising crosswalks and intersections, establishing pedestrian signal priority, and, providing scramble intersections if pedestrian volume warrants them;
- Continuing to provide for on-street loading/parking areas along the west side of Elgin Street, north of Queen Street; and
- Providing separated bike lanes along Elgin Street in each direction, linking to cycling facilities on Wellington Street, Sussex Drive, and MacKenzie Avenue.

Move D is depicted in Demonstration 7, at the War Memorial Triangle.

Elgin St at Wellington St, Ottawa, ON

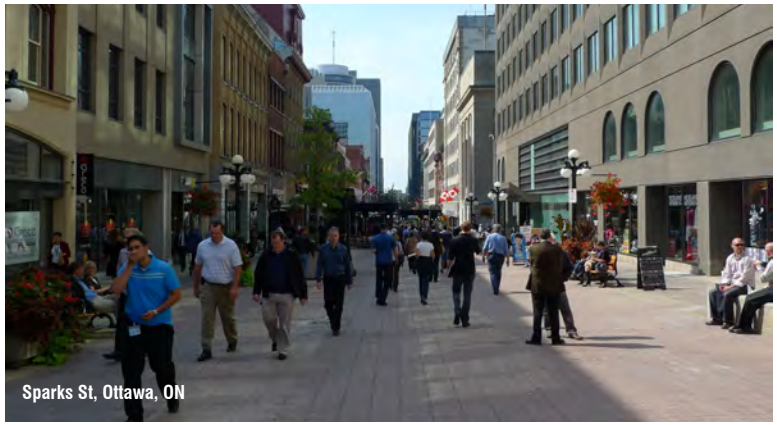
Move E

Renew Sparks Street

The essence of this Move is to change the functionality of the Sparks Street ROW to support efforts by the NCC and the Sparks Street BIA to revitalize and enliven the street as a mixed use commercial plaza space. Design objectives include:

- Accommodating cycling on Sparks Street as a space shared with pedestrians;
- Promoting additional street-oriented uses and facades to animate the street;
- Providing additional on-street food vending, retail and entertainment opportunities;
- Allowing limited vehicle access at specific times and seasons to facilitate access;
- Co-ordinating a street design theme with street furniture; and,
- Extending the design features, quality and character to Queen Street and the North-South streets that connect them so that the area is perceived as a district, integrated with the Confederation Line.

The functional design exercise that has been initiated by Spark Street BIA should consider ways to safely introduce cycling to the street, thereby bringing more visitors and patrons to support the retailing and place-making objectives.



Sparks St, Ottawa, ON

Move F

Complete an Inter-Provincial Bike Loop

The essence of this Move is to integrate existing bicycle facilities that cross the Ottawa River to promote inter-provincial bike travel for commuters, residents, and visitors to the Capital, as a relatively uninterrupted "loop". Design objectives include:

- Providing a high quality cycling facility on Wellington Street in both directions, linking Mackenzie Avenue to the Portage Bridge;
- Providing a high quality cycling facility on Mackenzie Avenue in both directions, linking the Alexandra Bridge to Wellington Street; and,
- Integrating the bike loop into the downtown cycling network.

Move F is depicted in Demonstration 6, which shows a potential solution through the addition of a bi-directional bicycle facility on the north side of Wellington Street. This could be coupled with a bi-directional cycling facility along the west side of Mackenzie Avenue. Together, these interventions would enable cyclists to travel in a continuous loop between the two inter-provincial bridges without having to enter onto a municipal roadway. The Wellington Street Move may entail the elimination of the left-turn lanes on the street in order to capture adequate ROW width. If a bi-directional facility is not favoured, separated cycling lanes along each side of the street could be pursued.

Portage Bridge, Ottawa, ON

Move G

Integrate Town and Crown Across Wellington Street

The essence of this Move is to enhance crosswalks and cycling connectivity, and to thematically link Downtown Ottawa to Confederation Boulevard and the Parliamentary Precinct. Design objectives include:

- Providing wider sidewalks and high quality streetscaping on streets that link Parliament Hill with downtown, on the blocks between Wellington and Queen Streets.
- Co-ordinating street furnishings, sidewalk/curb materials, street lighting, and tree planting on both sides of Wellington Street; and,
- Linking downtown cycling routes and facilities with those on Confederation Boulevard.

Lyon St, Ottawa, ON

Move H

Embellish Metcalfe Street

The essence of this Move is to invest in the embellishment of Metcalfe Street, recognizing its unique character as an artery running through Downtown Ottawa that connects Parliament Hill and the Museum of Nature. Design objectives include:

- Widening sidewalks to provide greater comfort and mobility for pedestrians;
- Establishing priority pedestrian crossing through the use of raised intersections and/or scramble intersections in the vicinity of Confederation Line stations;
- Extending the "tree-lined" quality of the street found in Centretown through the downtown; and,
- Providing a separated bicycle facility along the entire length of the street, in one direction or both (depending on the planned function of O'Connor Street in regards to cycling).

Move H is depicted in Demonstration 5, which shows wider sidewalks, street planting, and a separated bicycle facility on Metcalfe Street. This illustration corresponds with Complete Street Type D1.


Metcalfe St, Ottawa, ON (source: © 2012 Google)

Move I

Connect Downtown to Lebreton Flats

The essence of this Move is to establish a stronger connection between downtown and the Lebreton Flats area for all mode users. Design objectives include:

- Enhancing continuity for cyclists travelling to and from downtown by providing bicycle facilities on Albert and Slater Streets that extend west of Bronson Avenue;
- Enabling the connectivity of the Laurier Avenue bike lanes pilot project across Bronson Street, should the lanes be made permanent;
- Establishing a shift in street character with traffic calming measures on Albert and Slater Streets immediately east of Bronson Avenue;
- Assisting with wayfinding by establishing landmarks or gateways at the convergence of Albert, Slater and Bronson Streets; and,
- Providing signage to clearly indicate to all road users a change of road character where downtown Ottawa and Lebreton Flats converge.

Move I is depicted in Demonstration 9, which shows proposed cycling facilities connecting Albert and Slater streets to Lebreton Flats. It also introduces a new multi-use pathway connecting the existing Laurier Avenue bicycle lanes to Slater Street. This design works in harmony with the Demonstration for Albert and Slater streets, illustrating separated cycling lanes on the left-side of the streets.

Bronson and Slater Intersection, Ottawa, ON (source: © 2012 Google)

Move J

Enable Mid-Block Connections Serving the Transit Stations

The essence of this Move is to prioritize the ease of pedestrian movement to and from Confederation Line stations by augmenting municipal sidewalks with routes on private property. Design objectives include:

- Enhancing pedestrian mobility by providing off-street route choices through new buildings, preferably at street level;
- Focusing on locations in blocks immediately adjacent to transit stations, on either side of the street;
- Developing an integrated wayfinding and signage system to promote a co-ordinated network of through-block connections;
- Emphasizing the establishment of mid-block connections in the vicinity of the Downtown West Station; and,
- Providing additional mid-block connections through site redevelopment in the vicinity of Rideau Station.

Constitution Square, Ottawa, ON (source: © 2012 Google)

Move K

Repurpose Mackenzie King Bridge

The essence of this Move is to repurpose Mackenzie King Bridge as a more balanced street for all users after the commencement of Confederation Line service, with reduced emphasis on its function as a transit corridor. A repurposed Mackenzie King Bridge can function as an important civic promenade providing scenic vantage points and linking important civic and cultural institutions. Design objectives include:

- Enhancing and widening the existing bi-directional bicycle facility in support of an east-west bikeway and eliminating the central dividing barrier;
- Improving the pedestrian environment along the street edge by incorporating street planting that soften climatic conditions and high-quality sidewalks;
- Explore the opportunity for an open-air civic promenade between the National Arts Centre and the Ottawa Convention Centre/Rideau Centre;
- Allocating sufficient on-road space dedicated to transit vehicles, but prioritizing the needs of pedestrians and cyclists; and,
- Incentivizing the development of active street frontages through the development approval process in conjunction with the redevelopment of uses on the bridge.

Move K is depicted in Demonstrations 10 and 11, which show a revitalized Mackenzie King Bridge with an enhanced bidirectional bicycle facility, improved streetscaping and street planting, and lane allocations that reflect reduced levels of bus traffic. This design would work in harmony with the Demonstrations provided for Albert and Slater streets which promote the introduction of a separate cycling lane along the left hand side of the street in a one-way orientation.

Mackenzie King Bridge, Ottawa, ON

Move L

Revitalize Rideau Street as a Main Street

The essence of this Move is to reinforce the planned function of Rideau Street as a "Traditional Mainstreet" and a "Theme Street" within Ottawa's retail, arts & theatre district through streetscape improvements to prioritize pedestrian comfort and movement. Design objectives include:

- Implementing priority pedestrian crossings as identified in Pedestrian Vision Plan 1 (Pedestrian Infrastructure) through the use of widened crosswalks, contrasting concrete crosswalks, or traffic signal changes;
- Securing wide sidewalks in the vicinity of Confederation Line station entrances;
- Providing for through-block connections in the vicinity of the transit stations;
- Encouraging street-oriented uses that animate the pedestrian environment;
- Minimizing the amount of sidewalk space displaced by bus and taxi lay-bys, and evaluate the possibility of on-street parking during evenings and weekends; and,
- Improving streetscaping and planting to increase the comfort of the pedestrian environment.

These objectives can be considered in the ongoing studies involving the renewal of Rideau Street and possible modifications to the intersection of Rideau Street and Sussex Drive, and for streetscape improvement plans on Rideau Street between Sussex Drive and Dalhousie Street.

Rideau St, Ottawa, ON

Move M

Improve the Mackenzie King/Nicholas/Waller Intersection

The essence of this Move is to simplify the Mackenzie/Nicholas/Waller intersection for all users, but particularly for pedestrians and cyclists to facilitate access to Rideau Station from Sandy Hill, the University of Ottawa, and Arts Court. It will also contribute to cross-town cycling connections. Design objectives include:

- Connecting the Mackenzie King Bridge and Stewart Street bicycle facilities with a bike path behind the sidewalk along the east side of the Mackenzie King/Waller intersection and providing a connection to the planned East-West bikeway;
- Improving distinction between the bicycle signal phases and traffic signal phases;
- Re-aligning the crosswalk at the Transitway and Waller Street intersection to provide for more direct pedestrian crossing to the Séraphin-Marion pedestrian plaza; and
- Emphasizing pedestrian crossings with contrasting paving and pedestrian priority signals.

Move M is depicted in Demonstration 8, which shows the widening of sidewalks to improve the pedestrian environment and to narrow intersection crossings. It also introduces a comprehensive bicycle strategy, enhancing the connection between the Sandy Hill community and the University of Ottawa to downtown via Mackenzie King Bridge and to Lowertown. This design works in harmony with the Demonstrations for Mackenzie King Bridge showing the bi-directional bicycle facility.

Mackenzie King/Nicholas/Waller Intersection, Ottawa, ON (source: © 2012 Google)

4.2 Street Demonstrations

The following Street Demonstrations correspond with the Plan of Streets, incorporate all elements of the functional overlay maps, as introduced in Section 2 and illustrate features derived from the Street Design Toolkit, Section 3. Each demonstration is designed to respond to actual street constraints and meet future desirable conditions, including the Confederation Line Station entrance and access points. The designs also show how the future configuration of streets in downtown Ottawa can be implemented in linear terms, addressing matters such as Confederation Line accesses, parking garage entrances, loading areas, crosswalk treatments for pedestrian priority areas and a rhythm of streetscaping features that create not only functional, but also attractive streets. Each demonstration illustrates only one of the many possible scenarios for each area. They depict progressive and innovative street designs that highlight a variety of features from the Street Design Toolkit. Several of these demonstrations also correspond to the identified Vital Moves as described in the previous section.

Demonstration 1

Queen St (west of O'Connor St)

Demonstration 2

Albert St (at Lyon St)

Demonstration 3

Slater St (west of Metcalfe St)

Demonstration 4

Slater St (west of Metcalfe St) as Two-Way

Demonstration 5

Metcalfe St (at Sparks St)

Demonstration 6

Wellington St (at Elgin St)

Demonstration 7

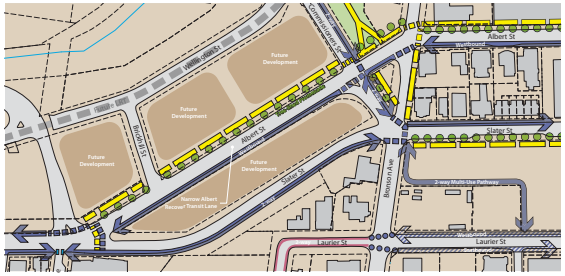
War Memorial Triangle

Demonstration 8

Mackenzie King/Nicholas/Waller Connection

Demonstration 9

Bronson/Albert/Slater Connection



Demonstration 10

Mackenzie King Bridge (looking east)

Demonstration 11

Mackenzie King Bridge (looking west)

Demonstration 1

Queen St (west of O'Connor St)

Pedestrian (P)

(Section 3.1)

P2.1 Sidewalk width that corresponds to anticipated pedestrian use.
Min 3.0 m wide

P2.3 Extend pedestrian zone paving to building edge.

P2.11 Mountable curbs create "flex space". Paving colour and/or texture indicates transition from sidewalk to "flex space".

P3.2 Line streets with diverse mix of resilient canopy trees.
Min 15 m^3 soil volume per tree

P4.1 A coordinated family of street furnishings.

P5.1 Signage and wayfinding with a strong identity.

P7.1 Modify ground floor building facades for street-oriented uses.

P7.3 Articulate building facades at ground floor.

P7.4 Active ground floor uses.

Cyclists (C)

(Section 3.2)

C1.4 Designated shared cycling lane.
Shared Lane: 4.0 to 4.5 m wide

C3.2 Short term bicycle parking area.

Transit (T)

(Section 3.3)

T1.1 Allow efficient movement of buses.

T2.2 Connect local bus stop and Confederation Line station entrance on the same side of the street.

T2.3 Highly Visible Confederation Line station entrance with clear and appealing pedestrian approaches.

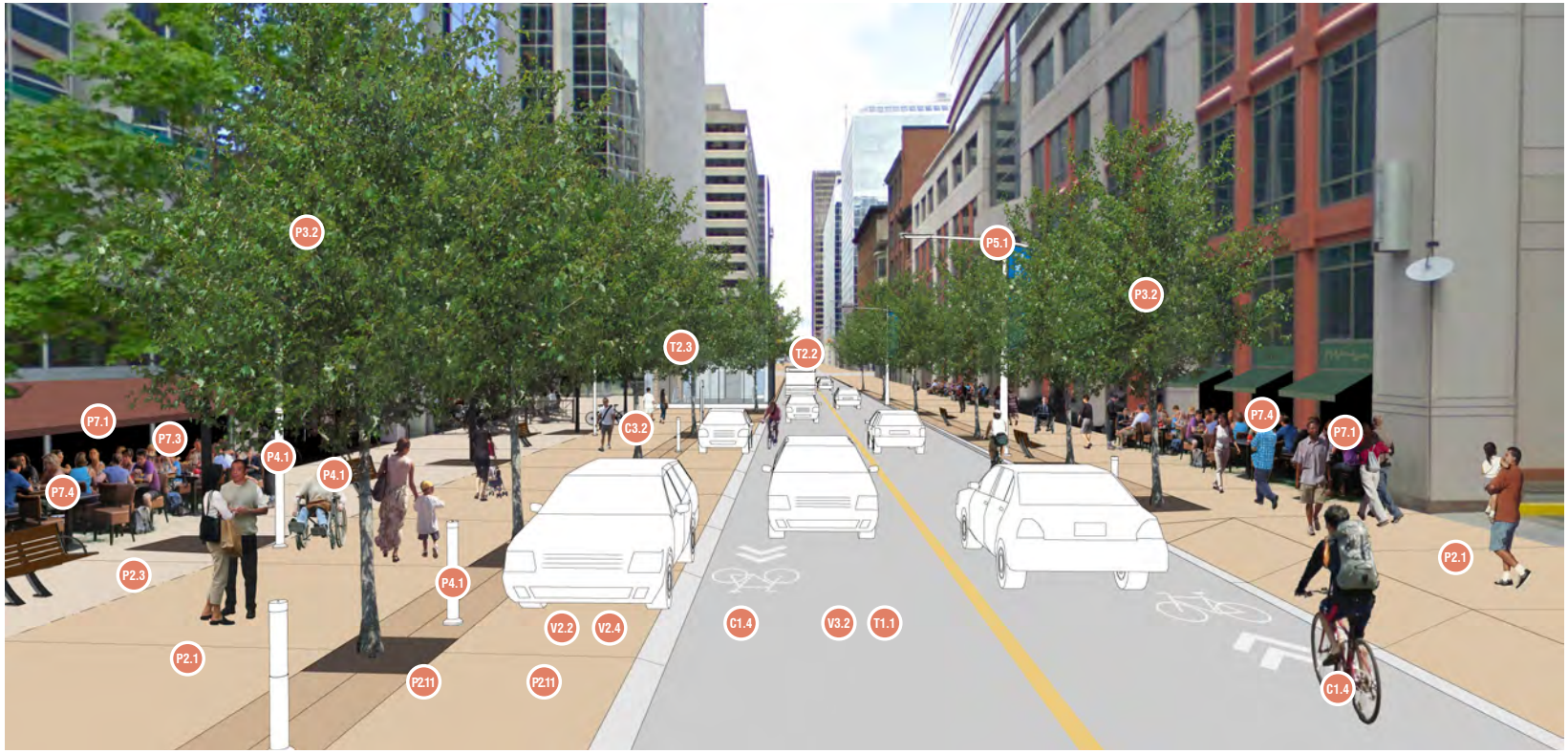
Vehicles (V)

(Section 3.4)

V2.2 Parking area on "flex space" at sidewalk level accessed by mountable curb.
Min 2.3 m wide

V2.4 Loading/taxi stand on "flex space" at sidewalk level accessed by mountable curb.
Min 2.4 m wide

V3.2 Vehicle lanes standardized and minimized.
Shared Lane: 4.25 to 4.5 m wide



Demonstration 1: Queen St (west of O'Connor St)

This demonstration highlights the wider sidewalks near the Confederation Line Downtown East station, showing the adjacent curb areas as flexible spaces that can be used as parking or enlarged sidewalks. Cycling is shared with vehicles that will be travelling at lower speeds, creating a safer environment for pedestrians.

* Markers in demonstration refer to corresponding sections in Section 3, Street Design Toolkit

Demonstration 2

Albert St (at Lyon St)

Pedestrian (P)

(Section 3.1)

P2.1 Sidewalk width that corresponds to anticipated pedestrian use.
Min 3.0 m wide

P2.3 Extend pedestrian zone paving to building edge.

P2.6 Crosswalk widths that are scaled to the clear width of sidewalks at the approaches.
Min 3.0 m wide

P2.8 Pedestrian priority at crosswalk indicated by distinctive material.

P2.10 Raised "table top" intersection.

P3.2 Line streets with diverse mix of resilient canopy trees.
Min 15 m^3 soil volume per tree

P4.1 A coordinated family of street furnishings.

P5.1 Signage and wayfinding with a strong identity.

P7.1 Modify ground floor building facades for street-oriented uses.

P7.2 Tall buildings have a podium.

P7.3 Articulate building facades at ground floor.

P7.4 Active ground floor uses.

P7.8 Corner building frames intersection.

Cyclists (C)

(Section 3.2)

C1.3 Unidirectional vertically separated cycling facility.
Min 1.8 m wide

C2.5 Markings indicate cycling route as it crosses intersection.

C3.2 Short term bicycle parking area.

Transit (T)

(Section 3.3)

T1.1 Allow efficient movement of buses.

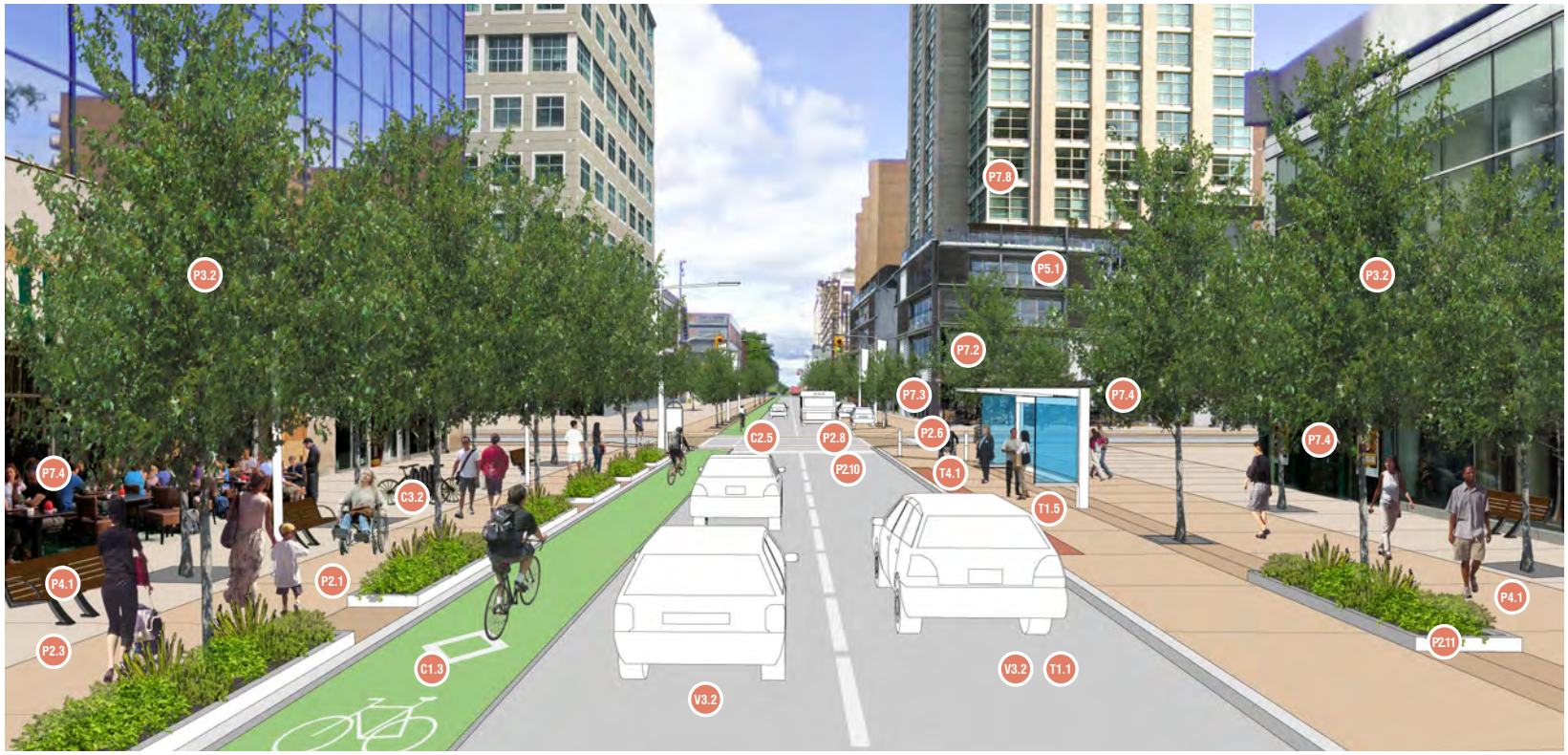
T1.5 Curbside loading areas.
1.5 to 3.0 m wide

T4.1 Use bus bulges to provide priority at bus transit stops.

Vehicles (V)

(Section 3.4)

V3.2 Vehicle lanes standardized and minimized.
Curb Lane: 3.5 m wide



Demonstration 2: Albert St (at Lyon St)

This demonstration illustrates an opportunity to introduce a separated bicycle facility on the left side of Albert Street in order to avoid conflicts with buses that circulate and stop to load and unload transit customers on the right side of the street. Sidewalks have been widened to allow for a safe pedestrian environment and animation of the street with patios and outdoor cafes.

* Markers in demonstration refer to corresponding sections in Section 3, Street Design Toolkit

Demonstration 3

Slater St (west of Metcalfe St)

Pedestrian (P)

(Section 3.1)

P2.1 Sidewalk width that corresponds to anticipated pedestrian use.
Min 3.0 m wide

P3.2 Line streets with diverse mix of resilient canopy trees.
Min 15 m^3 soil volume per tree

P3.7 Plant shrubs, perennials and grasses for complete, diverse and durable landscapes.

P3.8 Ground water recharge to improve soil and vegetation environment.

P4.1 A coordinated family of street furnishings.

P5.1 Signage and wayfinding with a strong identity.

P7.1 Modify ground floor building facades for street-oriented uses.

P7.4 Active ground floor uses.

Cyclists (C)

(Section 3.2)

C1.3 Unidirectional vertically separated cycling facility.
Min 1.8 m wide

C3.2 Short term bicycle parking area.

Transit (T)

(Section 3.3)

T1.1 Allow efficient movement of buses.

T1.5 Curbside loading areas.
1.5 to 3.0 m wide

T1.6 Incorporate surface texture changes at transit stops to assist the visually challenged.

T4.1 Use bus bulges to provide priority at bus transit stops.

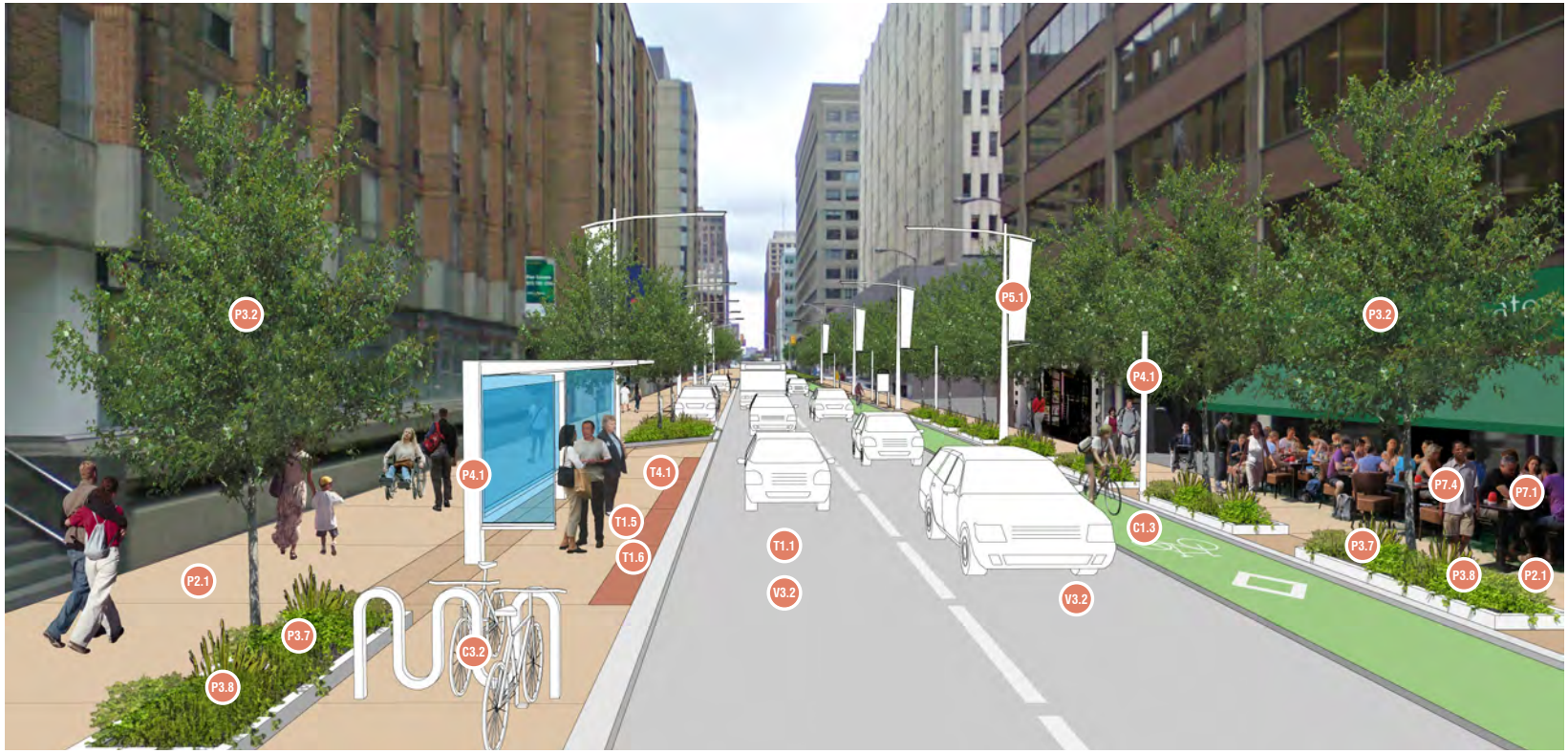
Vehicles (V)

(Section 3.4)

V2.2 Parking area on "flex space" at sidewalk level accessed by mountable curb.
Min 2.3 m wide

V2.4 Loading/taxi stand on "flex space" at sidewalk level accessed by mountable curb.
Min 2.4 m wide

V3.2 Vehicle lanes standardized and minimized.
Curb Lane: 3.5 m wide



Demonstration 3: Slater St (west of Metcalfe St)

This demonstration depicts the addition of a separated cycling facility to the north side of Slater Street and the provision of widened sidewalks through the removal of the bus-only travel lane. Transit customers are well accommodated in bus shelters and the building edge is animated with street-oriented retail.

* Markers in demonstration refer to corresponding sections in Section 3, Street Design Toolkit

Demonstration 4

Slater St (west of Metcalfe St) as Two-Way

Pedestrian (P)

(Section 3.1)

P2.1 Sidewalk width that corresponds to anticipated pedestrian use.
Min 3.0 m wide

P211 Mountable curbs create "flex space". Paving colour and/or texture indicates transition from sidewalk to "flex space".

P3.2 Line streets with diverse mix of resilient canopy trees.
Min 15 m^3 soil volume per tree

P3.7 Plant shrubs, perennials and grasses for complete, diverse and durable landscapes.

P3.8 Ground water recharge to improve soil and vegetation environment.

P4.1 A coordinated family of street furnishings.

P5.1 Signage and wayfinding with a strong identity.

P7.1 Modify ground floor building facades for street-oriented uses.

P7.4 Active ground floor uses.

Cyclists (C)

(Section 3.2)

C1.4 Cyclists share travel lanes with vehicular traffic.
Shared Lane: 3.5 m wide

Transit (T)

(Section 3.3)

T1.1 Allow efficient movement of buses.

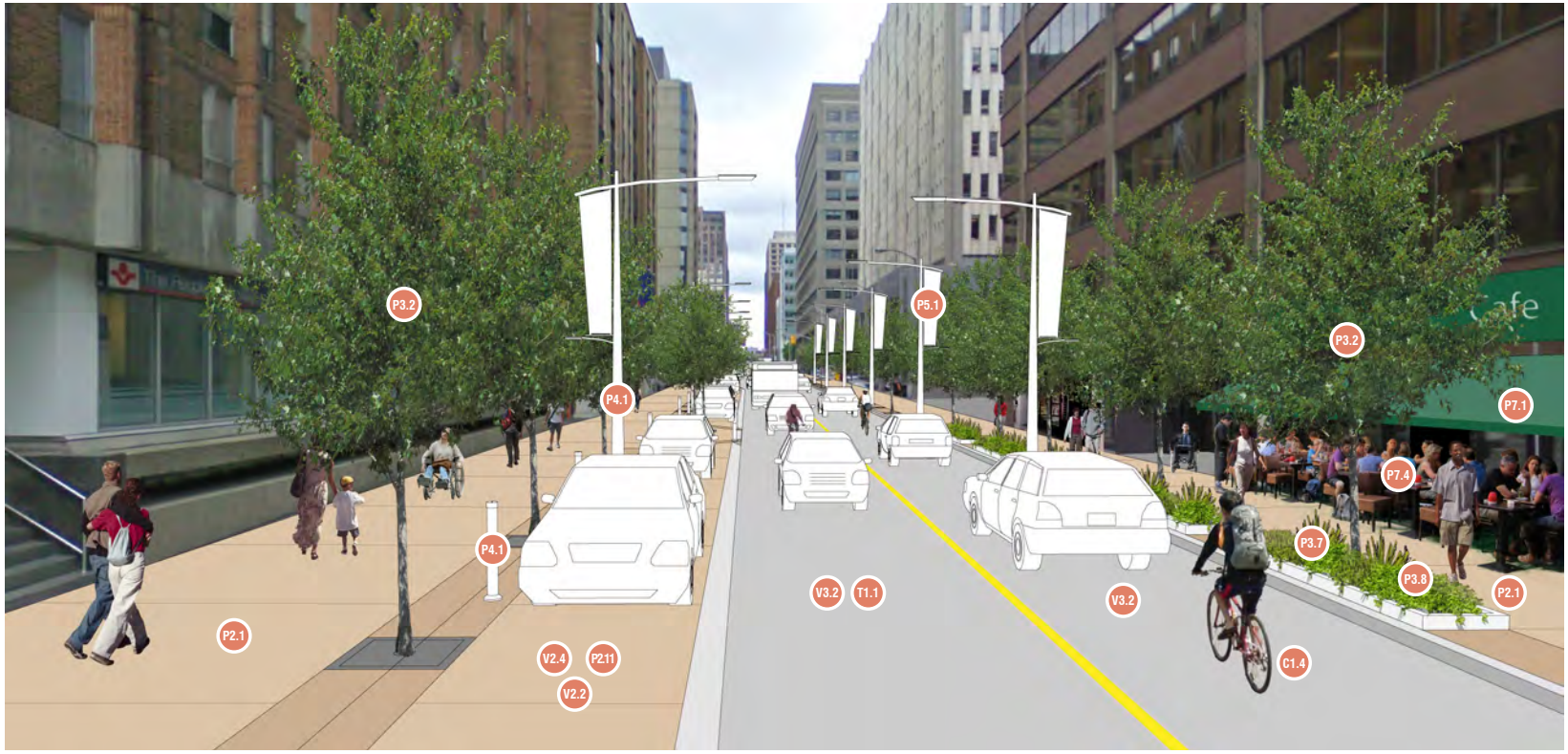
Vehicles (V)

(Section 3.4)

V2.2 Parking area on "flex space" at sidewalk level accessed by mountable curb.
Min 2.3 m wide

V2.4 Loading/taxi stand on "flex space" at sidewalk level accessed by mountable curb.
Min 2.4 m wide

V3.2 Vehicle lanes standardized and minimized.
Curb Lane: 3.5 m wide



Demonstration 4: Slater St (west of Metcalfe St) as Two-Way

This demonstration envisions Slater Street as a two-way street. Cyclists share lane space with vehicles and parking can be accommodated within flexible spaces. Widened sidewalks provide additional space for pedestrians and on-street planting, and the building edge is animated with street-oriented retail.

* Markers in demonstration refer to corresponding sections in Section 3, Street Design Toolkit

Demonstration 5

Metcalfe St (at Sparks St)

Pedestrian (**P**)

(Section 3.1)

P2.1 Sidewalk width that corresponds to anticipated pedestrian use.
Min 3.0 m wide

P2.8 Pedestrian priority at crosswalk indicated by distinctive material.

P2.10 Pedestrian priority intersection with raised "table top".

P3.2 Line streets with diverse mix of resilient canopy trees.
Min 15 m^3 soil volume per tree

P4.1 A coordinated family of street furnishings.

P7.4 Active ground floor uses.

P8.13 Include elements to activate the street edge.

Cyclists (**C**)

(Section 3.2)

C1.3 Unidirectional vertically separated cycling facility.
Min 1.8 m wide

Transit (**T**)

(Section 3.3)

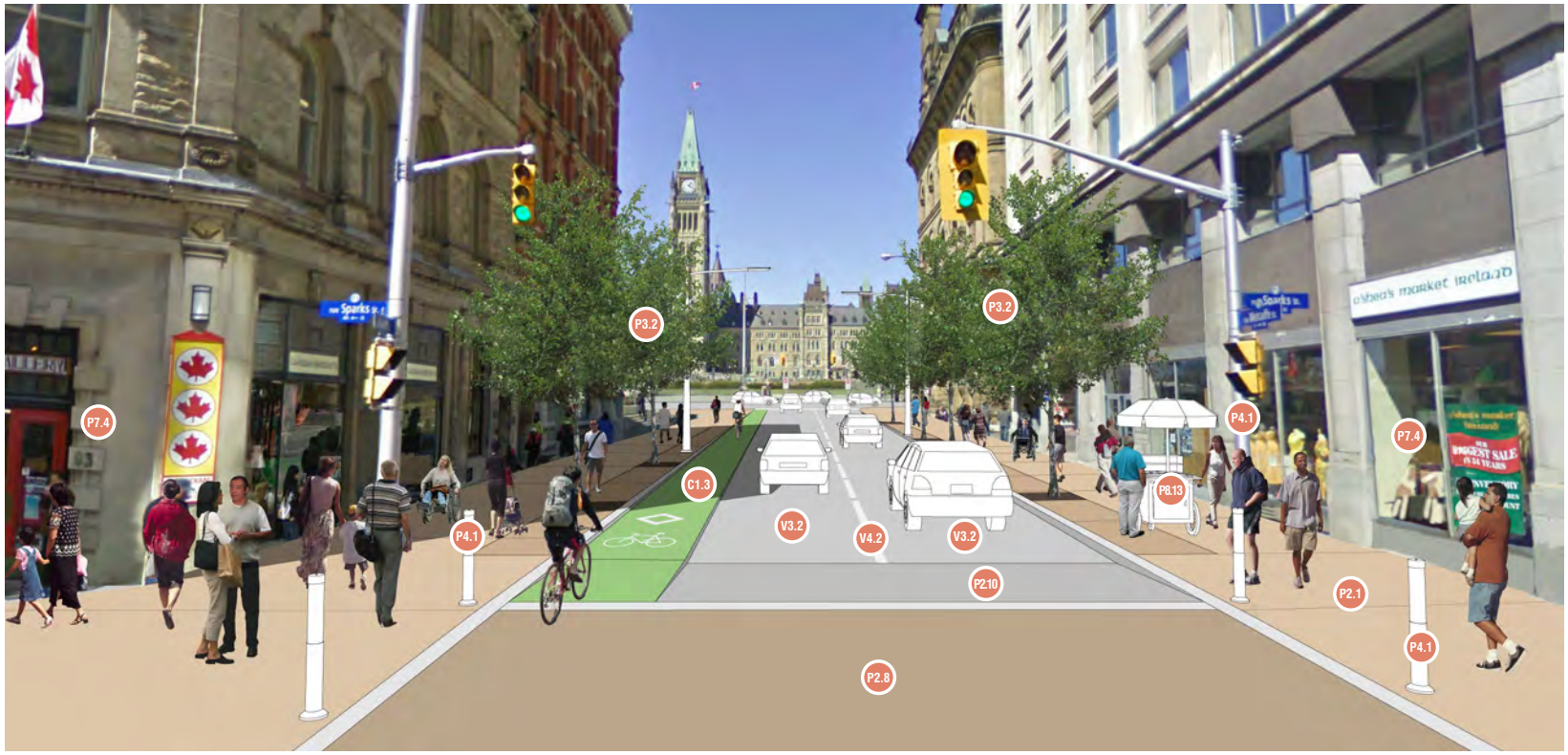
Note: Transit service not provided on Slater Street in this demonstration.

Vehicles (**V**)

(Section 3.4)

V3.2 Vehicle lanes standardized and minimized.
Curb Lane: 3.5 m wide

V4.2 Retaining one way street configuration to reduce delays and potential cyclist conflicts with turning.



Demonstration 5: Metcalfe St (at Sparks St)

This demonstration illustrates Metcalfe Street enhanced with widened sidewalks and planting on both sides of the street. Additionally, a separated cycling facility is provided on the west side of the street.

* Markers in demonstration refer to corresponding sections in Section 3, Street Design Toolkit

Demonstration 6

Wellington St (at Elgin St)

Pedestrian (P)

(Section 3.1)

P2.1 Sidewalk width that corresponds to anticipated pedestrian use.
- Min 3.0 m wide

P5.8 Integrate signage with Confederation Line signage and existing NCC system.

Cyclists (C)

(Section 3.2)

C1.3 Bidirectional vertically separated cycling facility.
- Min 3.0 m wide

C3.2 Short term bicycle parking area.

C4.1 Place bike sharing stations.

Transit (T)

(Section 3.3)

T1.1 Allow efficient movement of buses.

Vehicles (V)

(Section 3.4)

V3.2 Vehicle lanes standardized and minimized.
- Curb Lane: 3.5 m wide
- Median Lane: 3.25 m wide
- Turn Lane: 3.0 to 3.25 m wide

Demonstration 6: Wellington St (at Elgin St)

This demonstration depicts the reconfiguration of Wellington Street to accommodate a bidirectional separated cycling facility. This facility continues to the Portage Bridge, forming a vital link of an inter-provincial bike loop. One left turn lane at Wellington and Elgin Streets is removed.

* Markers in demonstration refer to corresponding sections in Section 3, Street Design Toolkit

Demonstration 7

War Memorial Triangle

Pedestrian (P)

(Section 3.1)

P2.1 Sidewalk width that corresponds to anticipated pedestrian use.
- Min 3.0 m wide

P2.8 Pedestrian priority at crosswalk indicated by distinctive material.

P3.2 Line streets with diverse mix of resilient canopy trees.
- Min 15 m^3 soil volume per tree

P10.2 Remove vehicular travel lanes or turn lanes to establish pedestrian priority at gateway sites.

Cyclists (C)

(Section 3.2)

C1.3 Bidirectional vertically separated cycling facility.
- Min 3.0 m wide

Unidirectional vertically separated cycling facility.
- Min 1.8 m wide

Transit (T)

(Section 3.3)

T1.1 Allow efficient movement of buses.

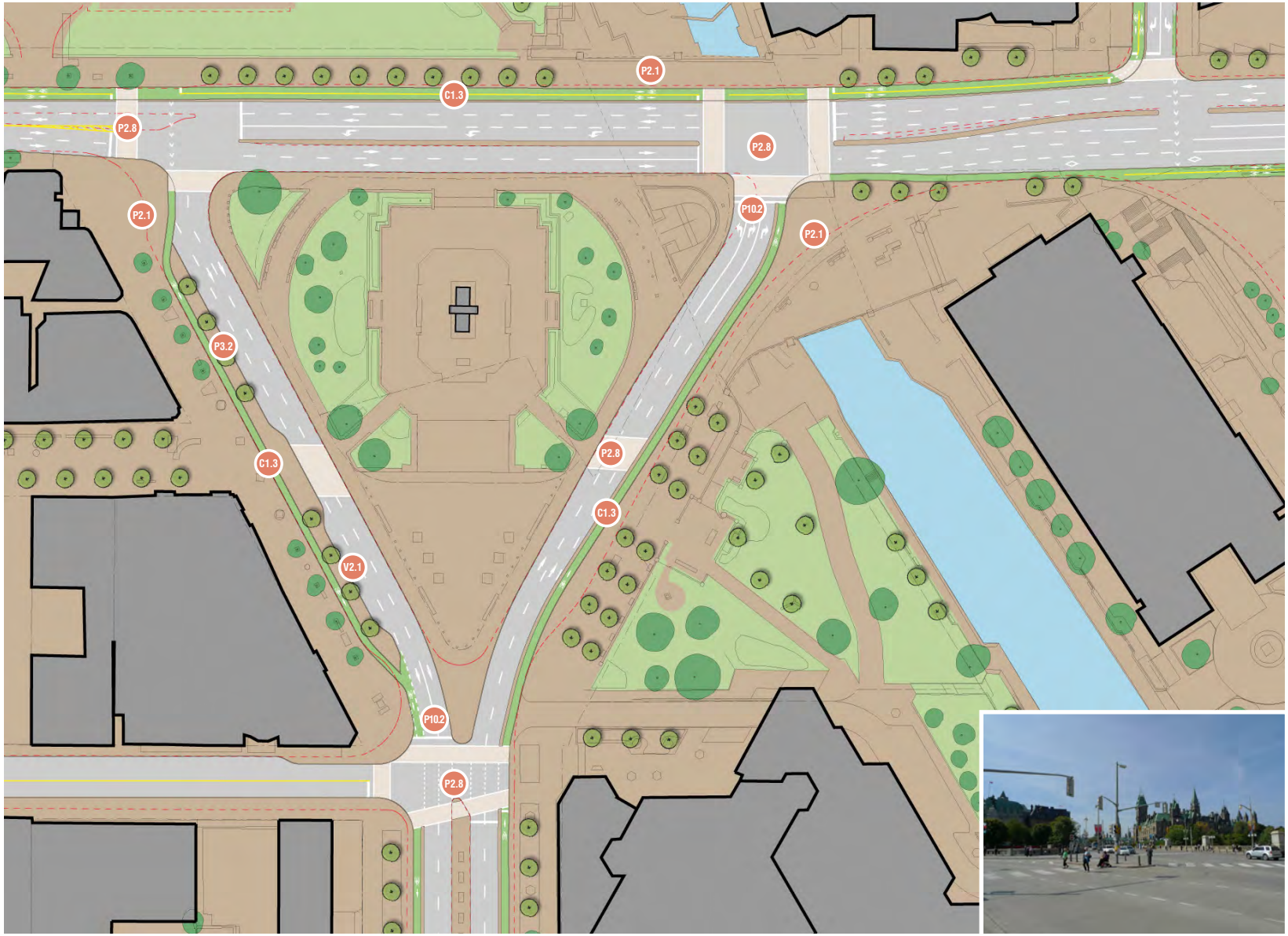
Vehicles (V)

(Section 3.4)

V2.1 Parking areas to serve short term needs of local businesses.

V3.2 Vehicle lanes standardized and minimized.
- Curb Lane: 3.5 m wide
- Median Lane: 3.25 m wide
- Turn Lane: 3.25 m wide

This demonstration depicts the elimination of vehicle travel lanes and the simplification of intersections around the War Memorial Triangle to establish gains in sidewalk space for pedestrians and cycling comfort in the form of separated bike lanes.



Demonstration 7: War Memorial Triangle

* Red dashed line indicates existing curb location

* Markers in demonstration refer to corresponding sections in Section 3, Street Design Toolkit

Demonstration 8

Mackenzie King/Nicholas/Waller Connection

Pedestrian (P)

(Section 3.1)

P2.1 Sidewalk width that corresponds to anticipated pedestrian use.
- Min 3.0 m wide

P2.8 Pedestrian priority at crosswalk indicated by distinctive material.

P3.2 Line streets with diverse mix of resilient canopy trees.
- Min 15 m^3 soil volume per tree

P3.7 Plant shrubs, perennials and grasses for complete, diverse and durable landscapes.

Cyclists (C)

(Section 3.2)

C1.3 Bidirectional vertically separated cycling facility.
- Min 3.0 m wide

Unidirectional vertically separated cycling facility.
- Min 1.8 m wide

C2.2 Provide bike boxes to make bicycles more visible.

C2.5 Markings indicate cycling route as it crosses intersection.

Transit (T)

(Section 3.3)

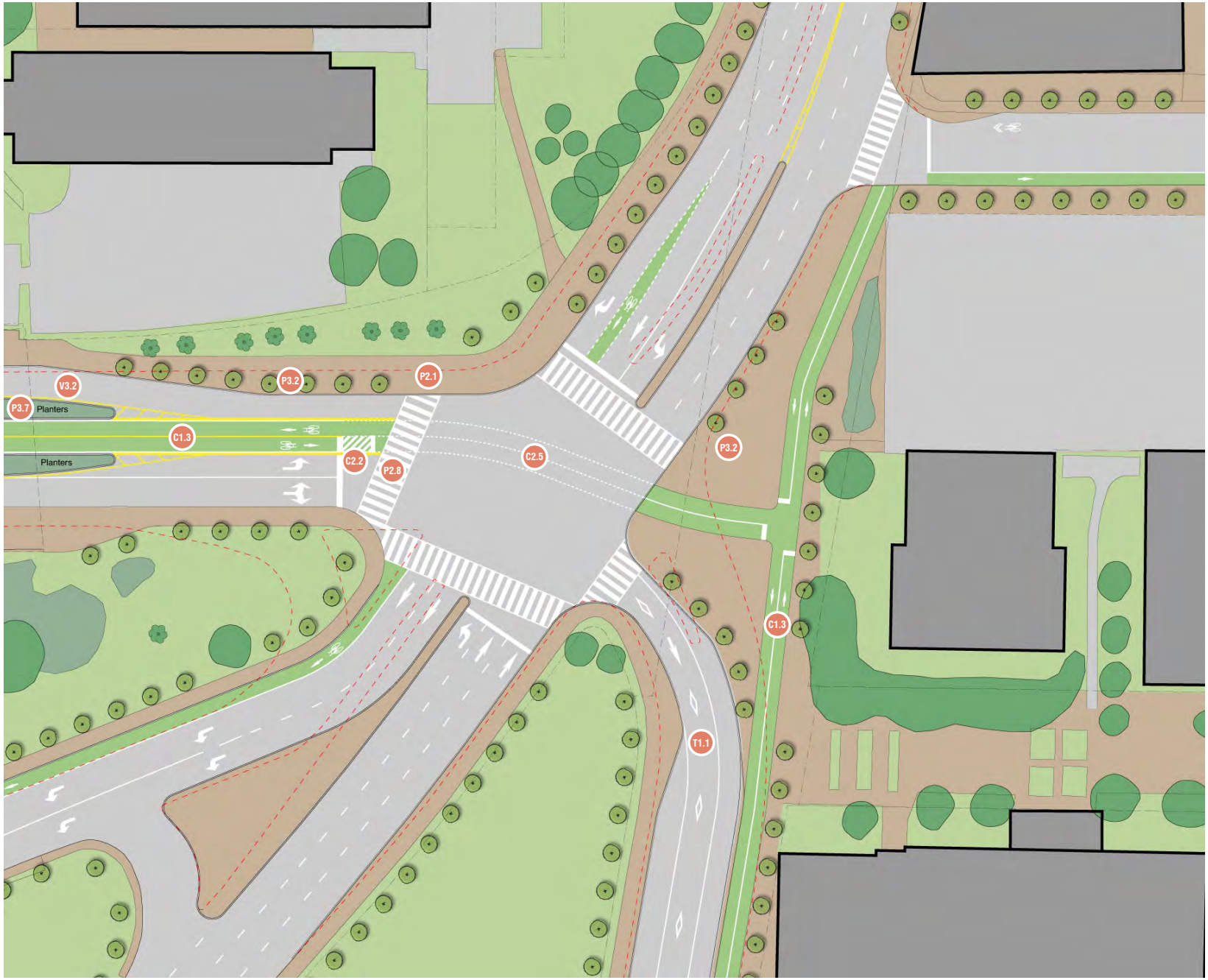
T1.1 Allow efficient movement of buses.

Vehicles (V)

(Section 3.4)

V3.2 Vehicle lanes standardized and minimized.
- Curb Lane: 3.5 m wide
- Median Lane: 3.25 m wide
- Turn Lane: 3.25 m wide

This illustration shows the widening of sidewalks along the intersection of Mackenzie King, Nicholas and Waller streets to improve the pedestrian environment and to narrow the intersection crossings. It also introduces new bicycle facilities along Waller and Nicholas streets to enhance the connection between the Sandy Hill community and the University of Ottawa to downtown via Mackenzie King Bridge and to Lowertown via Nicholas Street.



Demonstration 8: Mackenzie King/Nicholas/Waller Connection

* Red dashed line indicates existing curb location

* Markers in demonstration refer to corresponding sections in Section 3, Street Design Toolkit

Demonstration 9

Bronson/Albert/Slater Connection

Pedestrian (P)

(Section 3.1)

P2.1 Sidewalk width that corresponds to anticipated pedestrian use.
- Min 3.0 m wide

P2.8 Pedestrian priority at crosswalk indicated by distinctive material.

P3.2 Line streets with diverse mix of resilient canopy trees.
- Min 15 m^3 soil volume per tree

P10.1 Create gateways through landscaping, streetscaping, and built form elements.

Cyclists (C)

(Section 3.2)

C1.3 Bidirectional vertically separated cycling facility.
- Min 3.0 m wide

Unidirectional vertically separated cycling facility.
- Min 1.8 m wide

C2.5 Markings indicate cycling route as it crosses intersection.

C4.1 Place bike sharing stations.

Transit (T)

(Section 3.3)

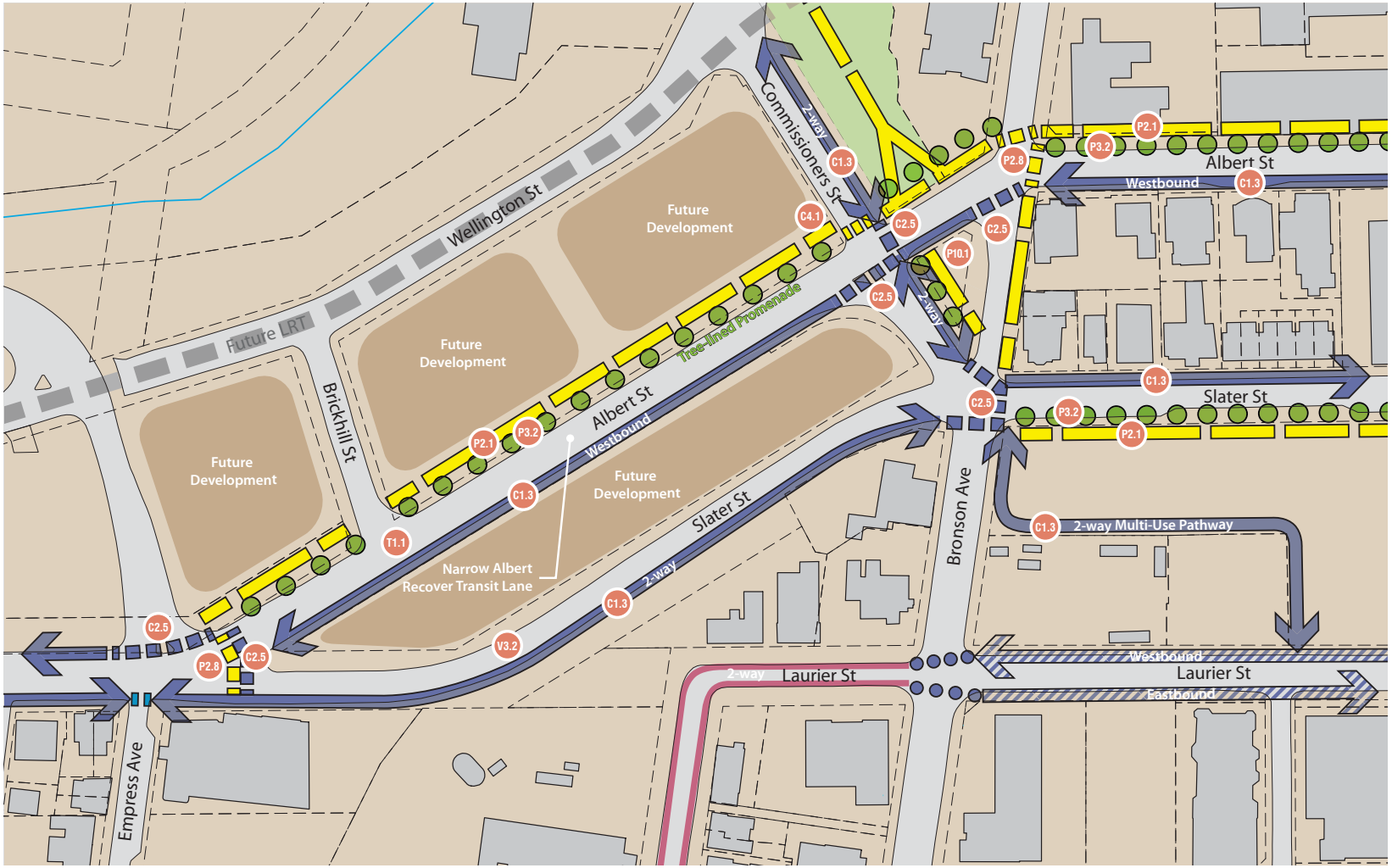
T1.1 Allow efficient movement of buses.

Vehicles (V)

(Section 3.4)

V3.2 Vehicle lanes standardized and minimized.
- Curb Lane: 3.5 m wide
- Median Lane: 3.25 m wide
- Turn Lane: 3.25 m wide

This illustration shows the introduction of separated cycling facilities on Albert and Slater streets improving the connection between downtown to Lebreton Flats. It also introduces a new multi-use pathway connecting the existing Laurier Avenue bicycle lanes to Slater Street.



Proposed Tree-Lined Pedestrian Promenade
Proposed Separated Cycling Facility
Proposed Cycling Crossing
Existing Shared Lane
Existing Separated Cycling Facility
Existing Cycling Crossing

Demonstration 9: Bronson/Albert/Slater Connection

* Markers in demonstration refer to corresponding sections in Section 3, Street Design Toolkit

Demonstration 10

Mackenzie King Bridge (looking east)

Pedestrian (P)

(Section 3.1)

P2.1 Sidewalk width that corresponds to anticipated pedestrian use.
Min 3.0 m wide

P3.6 Use unique combinations of landscape species.

P3.7 Plant shrubs, perennials and grasses for complete, diverse and durable landscapes.

P4.1 A coordinated family of street furnishings.

P5.1 Signage and wayfinding with a strong identity.

P7.1 Modify ground floor building facades for street-oriented uses.

P7.4 Active ground floor uses.

Cyclists (C)

(Section 3.2)

C1.3 Bidirectional vertically separated cycling facility.
Min 3.0 m wide

Transit (T)

(Section 3.3)

T1.1 Allow for efficient movement of buses to support future growth and increased transit mode share objectives.

T1.5 Curbside loading areas.
1.5 to 3.0 m wide

Vehicles (V)

(Section 3.4)

V1.3 Introduce physical traffic calming measures.

V3.2 Vehicle lanes standardized and minimized.
Curb Lane: 3.5 m wide

Demonstration 10: Mackenzie King Bridge

This demonstration illustrates the opportunity to enhance the comfort of the Mackenzie King Bridge for pedestrians and cyclists while maintaining suitable accommodation for bus service. A bidirectional cycling facility runs along the centre of the bridge and the reconfiguration of bus and vehicle lanes creates space for planting.

* Markers in demonstration refer to corresponding sections in Section 3, Street Design Toolkit

Demonstration 11

Mackenzie King Bridge (looking west)

Pedestrian (**P**)

(Section 3.1)

P2.1 Sidewalk width that corresponds to anticipated pedestrian use.
Min 3.0 m wide

P3.6 Use unique combinations of landscape species.

P3.7 Plant shrubs, perennials and grasses for complete, diverse and durable landscapes.

P4.1 A coordinated family of street furnishings.

Cyclists (**C**)

(Section 3.2)

C1.3 Bidirectional vertically separated cycling facility.
Min 3.0 m wide

Transit (**T**)

(Section 3.3)

T1.1 Allow for efficient movement of buses to support future growth and increased transit mode share objectives.

Vehicles (**V**)

(Section 3.4)

V3.2 Vehicle lanes standardized and minimized.
Curb Lane: 3.5 m wide

Demonstration 11: Mackenzie King Bridge

This demonstration illustrates the opportunity to enhance the comfort of the Mackenzie King Bridge for pedestrians and cyclists while maintaining suitable accommodation for bus service. A bidirectional cycling facility runs along the centre of the bridge and the reconfiguration of bus and vehicle lanes creates space for planting.

* Markers in demonstration refer to corresponding sections in Section 3, Street Design Toolkit