



- 5.1 Street Life-Cycle Planning & Costing
- 5.2 Master Plan for Renewal of Downtown Ottawa Streets
- 5.3 Delivering the Vital Moves as Priorities
- 5.4 Environmental Assessment of the Downtown Moves “Master Plan”
- 5.5 Implementation Actions

5 Implementation

This section outlines an implementation strategy that will guide the pursuit of the Downtown Moves Vision and Strategic Directions to be realized. The strategy expresses Downtown Moves as a number of potential projects and actions, including a few potential “big moves”. The general EA process and financial implications are also discussed.

5.1 Street Life-Cycle Planning & Costing

This Downtown Moves report proposes a new Vision and Strategic Directions to guide the long term, incremental renewal of the downtown streets in a manner that strikes an appropriate balance in the allocation of space within its narrow right-of-ways. Throughout the study process, it became increasingly clear that to meet the future needs of the growing downtown and the aggressive ridership targets for the Confederation Line, the status quo is not an option. Modifications to streets are essential to pursue a more pedestrian, cycling, and transit friendly street environment, to support and leverage the City's investment in LRT, and to best enable the continued economic development and community strengthening of downtown Ottawa.

The report proposes a new decision-making and design framework, a planning and design toolkit, and a new set of candidate "complete street" designs that are applicable to various contexts downtown. In addition, a series of "demonstrations" have been prepared that help fuel the imagination of how the complete street designs could be implemented through future investments in street renewal over the next 5, 10 and 20 year horizon.

However, it is important to note that few street segments in downtown Ottawa are scheduled for infrastructure renewal in the City's five-year capital plan. At this time, no street segments have been identified as requiring "integrated road, water, and sewer" rehabilitation. This is the program which has successfully led to the renewal of several of the City's important inner city streets, including designated Traditional Mainstreets and Theme Streets, where greatly enhanced streetscape improvements were provided as a portion of the overall integrated project. Hence, funding of any new street renewal capital projects and all other physical interventions on downtown Ottawa streets will require integration into the capital work and rehab and renewal planning and priorities, coupled with City Council support and financing solutions over a long-term period. On this basis, it is important to think of the renewal of downtown streets to pursue the Downtown Moves Vision as a series of inter-related "projects". Some projects will be "priority projects" that will need to be funded and implemented on their own or in coordination with the

construction of major works projects such as the Confederation Line or the de-commissioning of the Transitway. Others will be contributing projects that can be implemented incrementally over time, and some may not be within the time frame of the City's Official Plan (20 years).

The Vision established by Downtown Moves sets a new expectation for the quality of design of downtown streets as functional, comfortable, and efficiently designed public spaces. Given that all streets will be reconstructed during their life-cycle, it will be the major outcome of Downtown Moves that streets will be recreated with an appropriate level of service that is higher than the current baseline to meet future needs and growth projected for pedestrians, cyclists and transit users in particular.

Table 5-1 provides a comparison of the current typical "basic" level of service (based on a windshield survey) compared to a new "enhanced" streetscape standard that is proposed for downtown Ottawa streets which will fulfill the priorities, values and vision in Downtown Moves. Recent examples of "enhanced" quality streetscape can be seen in recent renewal along Preston, Bank, Somerset, and Wellington Street West streets.





Existing Level of Service of Downtown Ottawa Streetscapes (Basic Treatment)	Proposed Level of Service for Downtown Ottawa Streetscapes (Enhanced Treatment)
<ul style="list-style-type: none"> • Standard width concrete sidewalks • Paint on asphalt for crosswalks, parking bays • Post and ring bike racks (sparse) • Street trees (when present) widely spaced in paved boulevard • Limited quantities of street furniture normally associated with adjacent development • Street lighting and traffic plant on tall standard grey aluminum or concrete poles • Basic bus stop which may include a waste container • Minimum accessibility standards 	<ul style="list-style-type: none"> • Increase in the surface area of sidewalk zone and decrease in the surface area of roadway (asphalt) area • Distinctive surfaces for sidewalks, crosswalks, and parking bays, often using durable paving stone or patterned concrete • Post and ring bike racks (frequent) • Street trees with appropriate sub-grade planting and tree guard provisions • Protective bollards to define edges of public spaces • Street furniture including benches and waste/recycling containers • Distinctive street lighting, often including pedestrian-level and/or mid-height poles and including banner arms • Traffic plant on colour matching poles • Bus stops with amenities including shelters, benches, waste container, etc. • Accessibility facilities and amenities • Public art installations • Opportunities for special amenities such as: way finding signage, floral displays and planters, electrical outlets, Wi-Fi, music, and temporary kiosks when implemented in partnership with BIAs or others
<p>Examples: Existing Queen Street, O'Connor Street, Metcalfe Street, Albert and Slater Streets, and Elgin south of Lisgar Street</p>	<p>Examples: Preston Street, Bank Street, Wellington Street West, Somerset Street West, and Rideau Street east of Dalhousie</p>

Table 5-1: An Appropriate Level of Service for Downtown Ottawa Streetscapes

Potential downtown street renewal capital projects and their corresponding components will often fall into one of the classes shown on Table 5-2. This table illustrates the cost per linear metre of street reconstruction which includes the enhanced level of service that will support of the vision established for Downtown Moves.

These “ball park” cost figures enable the development of preliminary budgetary cost estimates of segment by segment design and construction costs for the potential renewal of streets in downtown Ottawa, and the additional investment that would be associated with reconstruction to an appropriate level-of-service. Actual projects and priorities for renewal can be established during the City’s long term asset planning processes. Contingencies and annual cost escalations should be added as appropriate.

Based on the *Case for Making Moves* (Section 1.8) and the *Strategic Directions* (Section 2.3) the “enhanced” level of service meets future needs while the “basic” will not. It is important to understand the amount of additional cost, or the “delta”, of this enhanced standard of street design over and above the basic treatment. The additional cost of the enhanced treatment is attributed primarily to the additional

infrastructure components provided in the road edge and sidewalk zone. The more “enhanced” components included in a streetscape plan are, the greater the cost and the greater the difference from typical standards.

Quality street lights and sidewalk surfaces are a large portion of additional cost is attributed to the delivery of enhanced streetscapes as opposed to basic tall mount street lights and a basic concrete sidewalk surface of a typical street. The design/construction cost of these enhanced elements, for a street cross-section with sidewalks in the range of 3.0 to 3.25m wide (such as Complete Street Type D5 in Section 3.6), is approximately \$2,100/m. This is the linear cost for both sidewalks, including “mega pavers”, sub-grade, curbs and all aspects of the street light system. By comparison, the cost of the basic treatment is approximately \$950/m. The delta or difference is approximately \$1,150/m. While the comparative cost difference is notable, the relative proportion of the overall street improvement project costs is less, and diminishes as the overall scope of the street renewal project increases to include more components (see Table 5-2). Based on the construction costs for recently completed “Traditional Mainstreets” in Ottawa, the additional cost of delivering enhanced quality of street lighting and sidewalks,

Street Renewal Project Class		Street Infrastructure Components Renewed With Enhanced Treatment	Approximate Design & Construction Cost per Linear Metre (Assuming Sidewalks Approximately 3m Wide in 18m Right-of-Way)
1	Coordinated Total (full-depth) Reconstruction	Municipal services & utilities, traffic signal plant, road surface and subgrade, curbs & drainage, street lighting, sidewalks, and streetscaping elements	\$14,000 to \$17,000
2	Street Surface Rearrangement and Streetscaping	Traffic signal plant, road surface and subgrade, curbs & drainage, street lighting, sidewalks and streetscaping	\$8,500 to \$10,500
3	Streetscaping-only	Road resurfacing, new curbs, street lighting, sidewalks and streetscaping	\$4,500 to \$5,500

Note: The cost data is based on actual construction tender bid analyses for recent inner City “Traditional Mainstreet” street reconstruction projects including Wellington Street Reconstruction Project (Western to Garland), Somerset Street West (Preston to Booth), Rideau Street (Dalhousie to Chapel), and Bank Street (Hwy 417 to Canal), factored to 2013 dollars. The costs assume the entire width of the right-of-way is renewed and that only minor amounts of utility reconstruction is required. The cost includes a 25% allowance for design and construction services.

Table 5-2: Downtown Street Renewal Classes and Costs

when expressed as a percentage of the overall project cost, is approximately:

- > 6.8 to 8.2% of Coordinated Total Reconstruction projects; and
- > 11 to 13.5% of Surface Rearrangement with Streetscaping with projects.

Additional streetscaping elements can be layered onto the decorative street lighting and sidewalk surface investment to complete the enhanced street design. These elements, and their approximate unit costs for design/construction, include:

- > Street Trees and Planting Media at \$6,000;
- > Benches at \$2,500;
- > Waste Receptacles at \$1,500;
- > Bollards at \$1,500; and
- > Post and Ring Bike Racks at \$1,000.

When provided in the street design at an appropriate frequency commensurate with the vision for downtown streets, these elements account for approximately \$1,700/m. When delivering an enhanced road edge with quality street lighting and sidewalk surfaces, together with additional streetscape elements, the total delta cost or difference for the enhanced treatment above the basic treatment is approximately \$2,850/m. This additional cost, when expressed as a percentage of the overall project cost, is approximately

- > 17% to 20% of Coordinated Total Reconstruction projects; and
- > 27% to 34% of Surface Rearrangement with Streetscaping projects.

In regards operating and maintenance costs, it is important to note that streets in downtown Ottawa are currently maintained to a high level of service within the City's hierarchy of area maintenance standards. The cost of maintaining streets

that are constructed to an appropriate downtown level are not anticipated to be appreciably higher than streets constructed to the previous basic level. Life-cycle costs can be further managed through the following activities:

- > For each renewal project, providing an Operating and Maintenance Manual that items the materials utilized;
- > When tendering a renewal project, require additional quantities of certain materials to be retained as a surplus for replacement;
- > Using materials that can be sourced when needed to be replaced (and when no surplus is retained);
- > Selecting durable materials that are appropriate to the harsh urban and climatic conditions faced in downtown Ottawa;
- > Designing streets to protect vulnerable items, such as aligning street lights, trees and bike racks along the curb zone with an offset that is consistent with snow management operations in particular.

In addition to municipal life-cycle planning considerations, there may be opportunities for cost sharing with the NCC, considering the NCC's established role in cost-sharing the construction, operation and maintenance of Confederation Boulevard which includes segments of Wellington Street, Elgin Street, and Mackenzie Avenue in downtown Ottawa. There are also opportunities for private sector construction financing or cost sharing of portions of streets that are adjacent to land development proposals, particularly projects with longer street frontages (perhaps one-quarter block length or larger). These opportunities should be explored during the municipal development approval process. Furthermore, there are opportunities for life-cycle cost partnering with the BIAs or other community partners operating in downtown Ottawa on such items as banners, seasonal lighting/planting, artistic installations, promotion, etc.



5.2 Master Plan for Renewal of Downtown Ottawa Streets

As established in Section 1.5, the Downtown Moves project has been conducted using the “Master Plan” approach in regards to Ontario’s Environmental Assessment Act (EAA). Furthermore, it is important to consider the cost implications of potential capital projects, considering the cost factors presented in Section 5.1. Accordingly, it is necessary to translate the Downtown Moves initiative into many individual “projects”, by using the following planning process:

1. Identify each street segment downtown as categorized discretely on the Plan of Streets (Figure 7).
2. Review the Vision Plans (mobility overlays) that apply to that segment, and the adjoining segments of the entire street.
3. Review the Complete Street Design Solutions (Section 3) that may best respond to the design aspirations for that segment within the context of the entire street.
4. Identify the segment as a potential discrete capital project, understanding that adjoining segments could be bundled together as individual projects.

The resulting list or master plan of potential projects is provided on Table 5-3. As the Complete Street Design Solutions all pertain to the typical 18.3m right-of-way of downtown streets, options for streets that are wider, or subject to ongoing street renewal projects, are detailed in the ‘notes’ column of the table.

It is important to note that this “master planning” exercise and the resulting Table 5-3 merely identify a design direction coupled with a short list of potential designs for any given street segment. The actual design to be pursued would be decided through a more specific project scoping and “functional design” process used in the City of Ottawa. This is a multi-disciplinary process that is informed by highly detailed, site-specific analyses and by appropriate stakeholder consultation.

Street Segment	From	To	Length	Street Type	Complete Street Designs to Consider	Notes
Albert	Elgin	Bay	1800m	Business	D1, D3, D4, E	To include dedicated bike facility in at least one direction. See Demonstration 2.
Albert	Bay	Bronson	240m	Downtown Neighbourhood	D1, D3, D4, E	To include dedicated bike facility in at least one direction. See Demonstration 2.
Albert	Bronson	Westerly	50m	Downtown Neighbourhood	D1, D3, D4, E	To include dedicated bike facility in at least one direction. See Demonstration 2.
Bank	Wellington	Southerly	540m	Main	A, B1, B2	
Bay	Wellington	Southerly	540m	Downtown Neighbourhood	D1, D3, D4, E	Only one travel vehicle lane required.
Besserer	Waller	Nicholas	150m	Business	B1	No parking needed.
Besserer	Easterly	Waller	100m	Downtown Neighbourhood	D3	Bike facility may not be needed.
Bronson	Sparks	Gloucester	390m	Downtown Neighbourhood	A	
Bronson	Gloucester	Southerly	30m	Main	N/A	To be addressed through Bronson Street Renewal Project.
Colonel By	Rideau	Southerly	860m	Ceremonial	N/A	
Dalhousie	Besserer	Northerly	120m	Main	A	
Daly	Waller	Colonel By	400m	Business	A	
Elgin	Wellington	Southerly	600m	Ceremonial	N/A	Consider incorporating parking on the west side of the street with the use of bulb-outs. See Demonstration 8.
Gloucester	Elgin	Lyon	930m	Business	D1, D3, D4	Bike facility not needed.
Gloucester	Lyon	Bronson	430m	Downtown Neighbourhood	D1, D3, D4	Bike facility not needed.
Kent	Wellington	Sparks	90m	Ceremonial	D1, D2, D3, D4	Bike facility not needed.
Kent	Sparks	Gloucester	420m	Business	D5	Bike facility not needed.
Kent	Gloucester	Southerly	40m	Downtown Neighbourhood	D5	Bike facility not needed.
Laurier	Elgin	Lyon	940m	Business	N/A	Pending completion of segregated bicycle facility pilot project.
Laurier	Lyon	Bronson	910m	Downtown Neighbourhood	N/A	Pending completion of segregated bicycle facility pilot project.
Laurier	Bronson	Westerly	80m	Downtown Neighbourhood	C	Parking not needed.

Table 5-3: Potential Designs for Downtown Moves Street Segments



Street Segment	From	To	Length	Street Type	Complete Street Designs to Consider	Notes
Laurier	Waller	Elgin	590m	Business	N/A	Consider separated bike facilities on both sides. No parking needed.
Laurier	Easterly	Waller	210m	Downtown Neighbourhood	B2	With separated bike lanes on both sides. No parking needed.
Lyon	Wellington	Sparks	90m	Ceremonial	N/A	Distinct ceremonial treatment.
Lyon	Sparks	Laurier	330m	Business	D2, D3, D4, D5, E	
Lyon	Laurier	Southerly	110m	Downtown Neighbourhood	D2, D3, D4, D5, E	
Mackenzie	Rideau	Northerly	45m	Ceremonial	E, F	See Demonstration 8.
Mackenzie King	Waller	Elgin	580m	Business	N/A	Bi-directional facility in the middle. No parking needed.
Metcalfe	Wellington	Sparks	90m	Ceremonial	D1, D2, D3, D4, D5, E	
Metcalfe	Sparks	Gloucester	430m	Business	D1, D2, D3, D4, D5, E	In D1 configuration, consider impact of bike lane on parking garage entrance between Queen and Albert Streets
Metcalfe	Gloucester	Southerly	30m	Downtown Neighbourhood	D1, D2, D3, D4, D5, E	
O'Connor	Wellington	Sparks	90m	Ceremonial	D1, D2, D3, D4, D5, E	
O'Connor	Sparks	Gloucester	430m	Business	D1, D2, D3, D4, D5, E	In D2, D3, or D4 configuration, anticipate interaction between bus stops and bike lane
O'Connor	Gloucester	Southerly	30m	Downtown Neighbourhood	D1, D2, D3, D4, D5, E	
Queen	Elgin	Lyon	925m	Showcase	A, B1, C	
Queen	Lyon	Bay	150m	Business	A, B1, C	
Queen	Bay	Bronson	230m	Downtown Neighbourhood	B1, C	
Queen Elizabeth	Mackenzie King	Southerly	560m	Ceremonial	N/A	
Rideau	Easterly	Sussex	520m	Main	N/A	Being addressed through the Rideau Street Renewal Project
Slater	Elgin	Lyon	940m	Business	D1, D3, D4, E	To include dedicated bike facility in at least one direction
Slater	Lyon	Bronson	400m	Downtown Neighbourhood	D1, D3, D4, E	To include dedicated bike facility in at least one direction
Slater	Bronson	Westerly	55m	Downtown Neighbourhood	D1, D3, D4, E	To include dedicated bike facility in at least one direction

Table 5-3: Potential Designs for Downtown Moves Street Segments

Street Segment	From	To	Length	Street Type	Complete Street Designs to Consider	Notes
Sparks	Elgin	Lyon	890m	Plaza	N/A	Consider the implementation of a shared space between pedestrians and cyclists
Sparks	Lyon	Bay	150m	Business	A	
Sparks	Bay	Bronson	220m	Downtown Neighbourhood	D1, D3, D4	Bike facility not needed
Stewart	Easterly	Waller	85m	Downtown Neighbourhood	E	In E, include only one vehicle lane
Sussex	Rideau	Northerly	45m	Ceremonial	N/A	Addressed through the Sussex Drive Reconstruction Project
Transitway	Laurier	Nicholas	180m	Plaza	N/A	To be converted into a plaza street after the commencement of the Confederation Line service
Transitway	Waller	Laurier	170m	Downtown Neighbourhood	B2	In B2 configuration, include bicycle lanes on both sides of the street. No parking required
Wellington	Sussex	Portage Bridge	1.6km	Ceremonial	N/A	Similar to type F, but with two-way vehicle lanes. See Demonstration 6 and Demonstration 8.
Wilbrod	Tabaret Hall Pathway	Transitway	70m	Plaza	N/A	
William	George	Rideau	95m	Plaza	N/A	

Notes: Length is determined by the limits of the Study Area, as discussed in section 1.3 of this report.

The 'Complete Street Designs to Consider' merely identifies design options for a given street segment. The actual design is to be pursued through a specific "functional design" process.

Table 5-3: Potential Designs for Downtown Moves Street Segments



5.3 Delivering the Vital Moves as Priorities

Within the many street segments document on Table 3, there are opportunities to advance important “Vital Moves” which have been identified as priorities during the civic dialogue promoted by Downtown Moves. These moves were introduced in Section 4.1, with many of them demonstrated in Section 4.2. Guidance in regards their delivery is provided on Table 5-4 and described below.

Within these vital moves, the following are isolated as the first priority moves. They are first priority due to their close association with the successful delivery and operation of the Confederation Line system, both in terms of contributing to the success of the Confederation Line service, and in regards to taking advantage of surplus street capability created by Ottawa’s investment in light rail.

1. Secure Wider Sidewalks Near Transit Station Entrances

It is forecast that more than 5,000 persons will exit or enter the rapid transit station entrances in the peak hour during each weekday morning and afternoon. On this basis, it is essential that sufficient amount and quality of sidewalk space be provided for pedestrians not only to circulate in the vicinity of the station, but also to fan out in a radial pattern to walk to or from their place of work, residence, or other origin/destination. Today, it is not uncommon for the sidewalk to pinch down to 2m or less. Accordingly, the City should, as a priority, identify opportunities to reduce vehicle lane capacity and/or on-street parking in order to widen sidewalks in the locations shown on Table 5-3.

2. Transform Queen Street into a Transit Showcase Street

The one street that has the greatest short term potential for renewal is Queen Street, which should be a priority. The opportunity is associated with the planned Confederation Line construction, given that two of the three downtown Confederation Line stations (Downtown West and Downtown East) will have station entrances on Queen Street. Demonstration 1 is an excellent starting point to inform the functional design process. Given that there is an opportunity to reconstruct portions of Queen Street during the Confederation Line project implementation, it is important that the street be reconstructed to the enhanced level.

3. Revitalize Rideau Street as a Main Street

Rideau Street presents another short term potential for priority renewal. This is because Rideau Street east of Dalhousie Street has already been redesigned to respond to a more pedestrian, cycling and transit focus, and the construction process has commenced. Also, renewal on the street will occur within the immediate vicinity of the Confederation Line Station construction. For the sector between Dalhousie and Sussex Drive, a functional design has also been completed, and there is a possibility that enhancements can be made in the five-year time frame as a relatively affordable streetscaping project. It is also possible that this section of Rideau Street be revitalized to an enhanced level commensurate with the Downtown Moves Vision upon reconstruction around the Confederation Line stations.

4. Revitalize Albert and Slater Streets

Albert and Slater Streets are recommended as further priorities for renewal. Following opening day of the Confederation Line project, Slater Street will be largely freed of the burden of bus usage as part of the regional Transitway BRT system, and may only serve the less frequent local bus service. Surplus space can be reallocated in a manner that pursues the Downtown Moves Vision. Although Albert Street may still be used as a westbound transit route, its pedestrian environment needs improvement to address transit customers and pedestrian needs. Whereas renewal as rearranged complete streets to an enhanced level in accordance with the Downtown Moves Demonstrations 2, 3 and 4 are suggested as long-term aspirations, it is possible that short term interventions could be advanced immediately. Such interventions might include the introduction of on-street cycling lanes, if appropriate, while retaining the existing curb lines, street drainage, and street lighting infrastructure. A functional design process could be initiated to test this possibility, and to engage stakeholders.

	Vital Move	Long-Term Move and Timing	Extents	Street Renewal Type	Potential Quick Win
A	Secure Wider Sidewalks Near Transit Station Entrances <i>*PRIORITY MOVE*</i>	Widen sidewalks to coincide with opening of Confederation Line	Within transit interface blocks, and block frontages within one crosswalk of the Confederation Line station entrances	Streetscaping	Achieve in part through Confederation Line project, and extend limits via new curbs and sidewalks through lane/parking reductions, and without moving existing street lighting
B	Transform Queen Street into a Transit Showcase Street <i>*PRIORITY MOVE*</i>	Reconstruct as a mobility Showcase Street, ideally to coincide with opening of Confederation Line	Elgin Street to Lyon Street (925m)	Street Surface Rearrangement	Benefit from construction cost savings if coordinated as part of Confederation Line construction
C	Revitalize Albert and Slater Streets <i>*PRIORITY MOVE*</i>	Repurpose as a complete street, following opening of Confederation Line	Elgin Street to Bronson Avenue (1,300m each)	Street Surface Rearrangement	Develop a temporary bike facilities, perhaps through paint markings and temporary curbs or bollards
D	Connect Downtown to Lowertown	“Pedestrianize” intersections, shorten crosswalks and add cycling facilities, as a longer term objective	Intersections of Queen Street at Elgin, and Elgin Street at Wellington, and links between	Street Surface Rearrangement	Sidewalk widenings and crosswalk emphasis, through lane reductions
E	Renew Sparks Street	Resurface/reprogram street surface to enable cycling and to promote street-oriented land uses, as a longer term objective	From Elgin Street to Lyon Street (925m)	Streetscaping	Change regulations to enable cycling on evenings and weekends, to operate as a shared “plaza” street.
F	Complete Inter-provincial Bike Loop	Complete the missing link in an interrupted cycling route between Ottawa and Gatineau, as a longer term objective	Wellington Street from Mackenzie Avenue to Portage Bridge, and Mackenzie Avenue from Murray Street to Wellington Street (2,000m total)	Street Surface Rearrangement	Eliminate central turn lane (fifth lane) and rearrange the street with bike lanes along each existing curb
G	Integrate Town and Crown Across Wellington Street	Wrap the streetscaping treatment along Confederation Boulevard one block down the connecting side streets, as a longer term objective	Northernmost blocks of Metcalfe, O’Connor, Kent and Lyon Streets	Streetscaping	Could be completed one street at a time
H	Embellish Metcalfe Street	Distinguish Metcalfe street in Downtown Ottawa as an important civic street linking Parliament Hill to the Museum of Nature	Wellington Street to Gloucester Street (and southerly)	Street Surface Rearrangement	Work with building owners to explore potential streetscape improvements during site redevelopments
I	Connect Downtown to Lebreton Flats	Improve connectivity for cyclists and pedestrians from Albert and Slater Streets across Bronson Avenue, in the escarpment district, timed to serve the needs of planned developments	Bronson Street, Albert Street, and Slater Street, where they intersect	Street Surface Rearrangement	Construction multi-use pathways on lands adjacent to the street right-of-ways



Table 5-4: Potential Vital Moves and Quick Wins

	Vital Move	Long-Term Move and Timing	Extents	Street Renewal Type	Potential Quick Win
J	Enable Through-block Connections Serving the Transit Stations	Provide planning policies that encourage building/land owners to provide mid-block crossings leading to Confederation Line stations, as opportunities arise	In the blocks accommodating Confederation Line stations, and in locations that can join to those routes	Private land modifications	Work with building owners through the development review process to explore their financial benefits, and seek temporary easements on private vacant lands
K	Repurpose Mackenzie King Bridge <i>*PRIORITY MOVE*</i>	Enhance the bridge surface to promote walking and cycling following opening of Confederation Line, and explore weather-protected walkway	Nicholas Street to Elgin Street (500m)	Streetscaping	The enhancements could be delivered as temporary measures (planters, paint markings, etc)
L	Revitalize Rideau Street as a Main Street <i>*PRIORITY MOVE*</i>	Complete the ongoing Rideau Street Renewal capital project to coincide with opening of Confederation Line	Dalhousie Street to Sussex Drive (325m)	Streetscaping	Extend the scope of the ongoing Rideau Street Renewal project, and/or coordinate as part of Confederation Line construction
M	Improve the Mackenzie/ Nicholas/ Waller Intersection	Improve connectivity for cyclists and pedestrians from Sandy Hill and the University of Ottawa to downtown Ottawa and Confederation Line Station. Opportunity for coordination with East-West Bikeway plans	Mackenzie King Bridge, Nicholas Street, and Waller Street, where they intersect. Also includes the north sidewalk along Mackenzie King Bridge, between Waller Street and the overpass over Nicholas Street	Street Surface Rearrangement	Re-use the existing transitway as potential shared use "Plaza" space, through temporary barriers and surface paint markings

Table 5-4: Potential Vital Moves and Quick Wins

5. Repurpose Mackenzie-King Bridge

Improvement to the pedestrian and cycling environment along the Mackenzie-King Bridge (see Demonstration 7) is another short term priority. It is possible that the existing cycling facility could be embellished and protected with temporary planters or perhaps median widening, taking advantage of cross-section width no longer needed exclusively for buses. Additionally, an opportunity to provide

a weather protected connection between the National Art Centre and the Ottawa Convention Centre can be explored through collaboration with these facilities and the NCC. Functional design process could be initiated, taking into account potential structural load limitations of the bridge structure.



5.4 Environmental Assessment of the Downtown Moves “Master Plan”

The Class EA process requires the City to identify and mitigate the impacts of large infrastructure projects on all aspects of the environment. Ontario’s EA requirements for municipal infrastructure projects are addressed through the provisions of the Municipal Engineers Association’s (MEA) Municipal Class Environmental Assessment (Class EA), for which there are four (4) classes. Municipal road projects can be described generally as follows:

- > Schedule A (normal or emergency operational and maintenance activities, with usually minimal environmental effects)
- > Schedule A+ (pre-approved projects, however public is to be advised prior to project implementation)
- > Schedule B (generally includes improvements and minor expansions to existing facilities, with some potential for adverse environmental impacts, and requiring the proponent to proceed through a thorough screening process including consultation with those affected)
- > Schedule C (generally includes the construction of new facilities and major expansions to existing facilities, for which the proponent is to proceed through the full environmental assessment planning process)

The applicable Class EA provisions are determined by careful review of the “Project Schedules” in the MEA document, specifically the schedule for municipal roads projects. Many of the potential downtown street renewal projects (the segments presented on Table 3) would meet the criteria for a project type #20, which includes:

“reconstruction or widening where the reconstructed road or other linear paved facilities (e.g. HOV lanes) will not be for the same purpose, use, capacity or at the same location as the facility being reconstructed (e.g. additional lanes, continuous centre lane).”

This would apply to any situation where the space acquired for gains to the pedestrian, cycling and transit environment resulted in a reduction in the number of vehicle lanes. For example, if a project involved the reduction of travel lanes and the introduction of on-street cycling facilities, it is likely that such a project will meet this definition due to the change in street “use” and/or the reduction in “capacity” for vehicles, notwithstanding the increase in capacity for cyclists. Each case would need to be assessed individually using sound professional judgement. For Type 20 projects with a construction value exceeding \$2.4M (including only the street surface elements, even if municipal services and utilities are being renewed simultaneously), the project would need to proceed as a Schedule C undertaking. If valued less than \$2.4M, the project would be a Schedule B undertaking. The cost factors in Table 2 assist in forecasting anticipated construction costs. Note that design and construction services costs are not to be included when assessing project values for Class EA purposes.

There may be some circumstances where streets could be renewed by merely adding streetscaping elements (i.e. a Type 3 project as indicated on Table 3), holding existing curbs and municipal infrastructure in-place. Such projects would meet the criteria for a project type #11 in the MEA document, as “streetscaping (e.g. decorative lighting, benches, landscaping) not part of another project”.

As a Master Plan, this document is intended to fulfill the requirements for Phases 1 and 2 of the Municipal Class EA process for road projects. This includes identification of the problem and opportunities, and the selection of the preferred solutions. Phase 1 is completed because the Downtown Moves document effectively identifies the problem/opportunity (to rebalance the distribution of space in downtown street ROWs).

Phase 2 is completed because the Downtown Moves document identifies, evaluates, and selects a preferred solution. The preferred solution established by the Master Plan is the long-term, incremental renewal of downtown Ottawa streets in a manner that addresses the Vision and Strategic Objectives. This plan is fa-

voured over the status quo, which has been determined to be a less-favoured option. The stakeholder consultation requirements of the Class EA planning and design process have also been fulfilled.

One of the specific requirements of Phase 2 of the Class EA process is to identify and evaluate the impacts of the Master Plan (and all projects) on the natural, social, and economic environment of downtown Ottawa. The existing environmental conditions are inventoried in the appendices to the Downtown Moves document. The “Mobility Criteria” provided in Section 3 of this report are used as the primary criteria in this evaluation. The evaluation results are provided on Table 5-5, at right. A “high” rating means that the master plan has a high level of satisfaction in regards meeting the criteria.

This evaluation concludes that the projects included in the Downtown Moves plan will have high ratings in regards to all of the mobility criteria, except two related to vehicle mobility. Pedestrian mobility is augmented through the provision of wider sidewalks supporting higher pedestrian levels of service, and the application of consistent street furnishings and planting. Cycling Mobility is enhanced through the incorporation of bicycle facilities in downtown street right-of-ways, and Transit Mobility is improved through the integration of bus transit service with access points to the Confederation Line system.

Of particular importance to the economic performance of downtown Ottawa is the criterion of ‘Optimized Access for Parking, Loading, Tour Buses, and Taxi Stands’, under Vehicle Mobility. This criterion recognizes the need for street-edge service spaces on downtown streets to support a variety of higher density land uses such as offices, retail uses, apartments, hotels, institutions, and tourist at-

Mobility Criteria (section 3.1)		Criteria Rating: High ● Medium ● Low ○			Status Quo	Master Plan Projects
<i>Pedestrian Mobility</i>	High Pedestrian Level-of-Service	○	●	○	○	●
	Comfortable Sidewalks and Crosswalks	○	●	○	○	●
	Sustainable Planting	●	○	○	●	●
	A Family of Light Standards, Furnishings and Amenities	○	●	○	○	●
	Clear Signage and Way-finding	○	●	○	○	●
	Pedestrian Connections Between and Through Buildings	●	○	○	●	●
	Buildings that Create a Visually Stimulating Public Realm	○	●	○	○	●
	A Network of Publicly Accessible Open Spaces	○	●	○	○	●
	Public Art to Add Interest to Pedestrian Environments	●	○	○	●	●
	Clearly Identifiable Gateways	●	○	○	●	●
	Integrated Accessibility for All	●	○	○	●	●
Pedestrian Easements for Enhanced Pedestrian Mobility	●	○	○	●	●	
<i>Cycling Mobility</i>	An Integrated Network for Bicycle Routes	○	●	○	○	●
	Safe, Prioritized Intersections	○	●	○	○	●
	Plentiful and Easy to Find Bicycle Parking and Amenities	○	●	○	○	●
	Bicycle Sharing Stations at key Locations	●	○	○	●	●
<i>Transit Mobility</i>	Efficient and Reliable Bus Transit	●	○	○	●	●
	Optimized Connectivity Between All Modes & Confederation Line Stations	○	●	○	○	●
	Improved Integration Between Bus Stops and Bicycle Lanes	○	●	○	○	●
<i>Vehicular Mobility</i>	Enhanced Bus Stop Zones and Amenities	●	○	○	●	●
	Reduced Traffic Speeds for Safety and Comfort of Other Modes	○	●	○	○	●
	Suitable Access for Parking, Loading, Tour Buses & Taxi Stands	●	○	○	●	●
	Adequate Capacity and Level of Service	●	○	○	●	●
	Balanced Network of One-way and Two-way Streets	●	○	○	●	●
Safe Interaction Between Vehicle Access Points & Sidewalks	○	●	○	○	●	



Table 5-5: Evaluation of Downtown Moves “Master Plan” Projects

tractions. As part of the evaluation entailed by Phase 2 of the Class EA process, it was necessary to determine the impact created by the renewal of downtown streets on street-edge servicing space. The methodology that was used assessed the total block length in the study area available for street-edge servicing, excluding streets where no curb edge space is anticipated (e.g. Wellington St., Rideau St., Bank St., Mackenzie King Bridge, Laurier Avenue Bridge), and took into account the space lost to street space intrusions such as driveways and fire hydrants.

The analysis concludes that there would not be a significant reduction in available street-edge service space if all streets in the study area were reconstructed in the manner anticipated by Downtown Moves. Moreover, the street arrangement promoted by Downtown Moves would create a permanent Street Edge Service Zone along at least one side of most streets, the utilization of which would not be compromised by peak hour traffic restrictions. This may in fact bring increased space for parking/loading/taxi/tour bus activities throughout the day.

The design of the Downtown Moves complete street has paid close attention to the need to keep downtown streets accessible to a range of vehicle types and sizes, including the mobility and accessibility of Emergency Service Vehicles (EMS), city buses, and maintenance vehicles, and delivery trucks. Mobility through intersections has been a particularly important consideration. The curb-to-curb “throat” width of the complete street designs at intersections ranges from 8.55m to 11.8m. Large vehicles including emergency service vehicles and trucks have a width normally not exceeding 2.6m. During a lane blockage or emergency situation, depending on the location of the blocking vehicle/obstacle, the available width could accommodate the simultaneous passage of two large vehicles and a passenger vehicle, even in the minimum width situation.

In terms of the two criteria related to Vehicle Mobility that did not receive a “high” rating (‘Adequate Capacity and Level of Service’ and ‘Balanced Network of One-way and Two-way Streets’), it is acknowledged that the Downtown Moves Master Plan projects would incrementally reduce the space allocated exclusively to

vehicles within municipal street right-of-ways, although to an acceptable level and within the context of the City’s Transportation Master Plan and Official Plan.

In addition to these fundamental criteria, the master plan has been evaluated as having regard for the Strategic Directions for Downtown Moves as well as the following additional criteria typically used in the completion of Class EA studies:

- > Consistency with Planning Policy
- > Consistency with Transportation Master Plan
- > Compatibility with Adjacent Land Use
- > Community Liveability
- > Economic Competitiveness
- > Tourism
- > Heritage Conservation
- > Visual Environment
- > Noise and Air Quality
- > Vegetation
- > Surface Water Quality
- > Urban Wildlife

On all accounts, the Master Plan and its potential individual projects satisfies the criteria. On the basis of the forgoing, following the acceptance of the Downtown Moves project as an approved Master Plan, projects with potentially higher order impacts (Schedule C Projects including all corresponding street renewal projects)

will be required to complete later phases of the Class EA (Phases 3 – Design Concepts and 4 – Study Report), including required consultation with stakeholders and submission of an Environmental Study Report (ESR) before final design and construction can begin. All other projects (Class A, A+, and B projects) are otherwise approved and only required to fulfill additional consultation or notification requirements (as the case may be) prior to construction.



5.5 Implementation Actions

In addition to fulfilling provisions for the first two phases of the Class EA process, Downtown Moves has identified a wide range of actions that, when implemented as a comprehensive strategy, will enable the long-term, incremental realization of the Vision for downtown Ottawa streets. These actions are grouped as follows:

- > Policy and Administrative
- > Standards and Guidelines
- > Operation and Maintenance
- > Programs and Outreach
- > Monitoring

A corresponding Downtown Moves Action Plan is provided in table form on Table 5-6. This plan provides guidance in regards the complexity and priority of the action, activities required to initiate and complete the action, and a targeted time frame. It also acknowledges the importance that community associations, business improvement associations and other stakeholders have in contributing to the implementation of this study.

Downtown Moves Action Plan

No.	Recommended Action	Key Activities	Champion				Resources & Complexity Class	Priority	Targeted Timeframe		
			City	Community or Business	Private Sector	Other			0 - 2 years	3 - 5 years	5 years +
	Establish minimum sidewalk width for streets in the Central Area of 3m (including 1.1m furnishing zone, 1.3 m clear zone, and 0.6m building frontage zone)	Include requirements for minimum sidewalk width in Official Plan, TMP and OPP	✓				●	●	✓		
	Add a strong policy statement to the Official Plan based on the Vision and Strategic Directions of the Downtown Moves Report, communicating the City's intention to renew downtown streets to favour the mobility needs and comfort of pedestrians, cyclists, and transit customers, as first priorities.	Amend the Official Plan accordingly, as part of the City's 5-year review	✓				◐	●	✓		
	Modify the current sidewalk easement policy to provide an easement hierarchy and to ensure that the private spaces made available for pedestrian use meet mobility and urban design objectives	Amend the Official Plan, Annex 1 (Road Classification and Rights-of-Way) accordingly, as part of the City's 5-year review	✓				◐	●	✓		
	Incorporate the recommendations for improvements to the on-street cycling network as provided in the Downtown Moves Cycling Vision Plan	Amend the City of Ottawa Cycling Plan in conjunction with its ongoing review, and invest in pilot projects to initiate the implementation of new bicycle facilities	✓				◐	●	✓		
	Establish an updated network of transit priority corridors in downtown Ottawa that reflects planned bus services after the Confederation Line implementation	Update the designation of 'Transit Priority Corridors' in the Official Plan's Rapid Transit Network schedule of the Official Plan, as part of the City's 5-year review	✓			✓	○	●	✓		
	When scoping infrastructure renewal projects involving streets in downtown Ottawa, gain input from City branches and divisions responsible for transportation planning, traffic operations/engineering, community planning and urban design, and development approvals	Include this protocol within the asset management function	✓				○	○		✓	
	When conducting planning and design projects for infrastructure involving downtown streets, establish collaborative working groups involving both technical/staff, community planning/design staff and community stakeholders	Include this protocol in project terms of references	✓	✓			○	●	✓		



Table 5-6: Downtown Moves Action Plan

No.	Recommended Action	Key Activities	Champion				Resources & Complexity Class	Priority	Targeted Timeframe		
			City	Community or Business	Private Sector	Other	High Medium Low	0 - 2 years	3 - 5 years	5 years +	
	Conduct a functional planning/design process for downtown street renewal projects prior to initiating detailed design assignments	When scoping projects, determine the need or not for this “two-stage” planning and design process. Conduct the functional planning/design either as a component of the EA process when required, or as part of an area planning exercise where applicable	✓				●	●	✓		
	Create a decision-making mechanism at the Manager level, involving transportation planning, traffic engineering/operations, and community planning and urban design, to be used when street planning/design processes require a decision on functional design solutions	Explore the possibility of a “street design decision-making” body, consisting of managers within the administration	✓				●	●	✓		
	Gain input from the City’s Urban Design Review Panel on significant downtown street infrastructure projects	Confirm this requirement in the Panel’s mandate, and provide an opportunity for the project to be presented at the functional design and the detailed design stages	✓				●	○	✓		
	During development review processes include, as a condition of approval, that the adjacent street sidewalk zone be analysed based on future pedestrian levels of service and that it be reconstructed	Include specific conditions in the Site Plan Agreement and ensure the City receives accurate estimate of costs for the reconstruction of adjacent street sidewalk	✓				○	●	✓		
	Implement a co-ordinated downtown system of mid-block connections in order to facilitate travel to and from Confederation Line stations	Through the development approval process, work with developers to include designs for mid-block connections	✓				●	●			✓

B) STANDARDS AND GUIDELINES

	Develop a set of urban streetscape standards addressing matters such as street tree planting, street light types and offsets, surfaces, and all street furnishings	Implement streetscape standards through development review or capital works projects	✓				●	●	✓		
	Establish a detailed building façade improvement strategy and guidelines for the Central Area, focusing on creating pedestrian priority streetscapes	Undertake a detailed façade improvement study	✓				●	●	✓		
	Along the bus/Confederation Line interface blocks, establish design standards for sidewalks to provide sufficient width and capacity for the high volumes of pedestrians expected	When Confederation Line station locations are determined, evaluate the pedestrian capacity requirements of pedestrian routes linking bus stops to the stations in conjunction with OC Transpo	✓			✓	●	●	✓		
	Identify priority bus transit stops and pursue a appropriate space along the street edge to enable the installation of amenities for patrons, including shelters	OC Transpo to progress with its post-Confederation Line bus transit plan, identify bus stops, develop design standards for bus stop design, and pursue street edge space	✓			✓	●	●	✓		
	Develop an integrated family of street lights and street furnishings that have regard for the Downtown Move street typology	Review the City’s Street Lighting Policy, and establish a new street furnishing program focused on downtown	✓				●	●	✓		

Table 5-6: Downtown Moves Action Plan

No.	Recommended Action	Key Activities	Champion				Resources & Complexity Class	Priority	Targeted Timeframe		
			City	Community or Business	Private Sector	Other			0 - 2 years	3 - 5 years	5 years +

D) OPERATION AND MAINTENANCE

	Acknowledge that streets with more complex and finer above-grade infrastructure will require more duty of care in maintenance	Provide appropriate operating and maintenance budgets	✓			✓	○	●	✓		
	Develop a standardized set of street infrastructure components (street lights, furnishing, paver stones, etc) in downtown Ottawa, where practical, to reduce inventory costs	Identify components that may be appropriate for standardization	✓			✓	○	●	✓		
	Review the existing Tour Bus on-street parking, loading and pick-up/drop-off zones in downtown Ottawa and develop a cohesive strategy to address Tour Bus parking considerations	Create a working group composed of representatives from the City of Ottawa's Parking Operations, Maintenance & Development department, the NCC and BIAs	✓			✓	○	◐		✓	
	When streets are renewed, prepare an "operating and maintenance manual" that itemizes the project's design details and materials	Include this requirement in the terms of reference for the consulting design assignment	✓			✓	○	●	✓		

E) PROGRAMS AND OUTREACH

	Expand the pedestrian count program to include mid-block pedestrian counts and at all crossings	Identify priority streets where counts most informative. Provide counts to inform all street infrastructure planning/design projects	✓				○	○	✓		
	Develop and implement pedestrian-priority pilot projects that will enable high pedestrian level-of-service	Establish a pilot project working group to identify opportunities, develop, implement and monitor projects	✓			✓	◐	●	✓		
	Develop and deliver a wayfinding strategy focussed on pedestrian and cyclist navigation to the Confederation Line stations and destinations of civic and capital importance	Collaborate with the NCC, BIAs, and the Confederation Line operators in the program design	✓		✓		○	◐		✓	
	Establish a street food vendor program that promotes street activity and active transportation	Review the City's recently approved program to ensure consistency with the Downtown Moves Vision		✓			○	○	✓		
	Promote the expansion of public art in the Central Area	Review the current public art program, and contemplate appropriateness of extending the requirement to private sector projects	✓		✓		◐	○	✓		
	Establish a street beautification program for all downtown streets that engages the NCC, business and community associations, and individual owners	Establish a working group to determine the criteria and funding for this program	✓		✓		○	◐		✓	
	Expand the Bixi bike sharing program with new locations oriented to users of the Confederation Line	Collaborate with the NCC to identify viable new locations near Confederation Line access points	✓			✓	○	◐		✓	



Table 5-6: Downtown Moves Action Plan

No.	Recommended Action	Key Activities	Champion				Resources & Complexity Class	Priority	Targeted Timeframe		
			City	Community or Business	Private Sector	Other			0 - 2 years	3 - 5 years	5 years +
	Provide training and capacity building to City staff, community associations, BIAs and other stakeholders to promote the objectives of Downtown Moves	Develop a training program and liaise with all potential stakeholders	✓	✓	✓	✓	○	●	✓		
F) MONITORING											
	Ensure that amenities at downtown transit stations and bus stops adequately serve the requirements of transit customers	Monitor the level of downtown bus service after the commencement of Confederation Line service, and survey users	✓			✓	○	○			✓
	Ensure that the rationalized on-street parking supply is provided for the needs of downtown businesses and residents	Update the Central Area parking study after the commencement of Confederation Line service	✓				○	○			✓
	Review the Downtown Moves plan every five years, at the time of Official Plan Review	Include the Downtown Moves plan review as work item	✓				◐	◐			✓

Table 5-6: Downtown Moves Action Plan

