



City of
Peterborough

To: **Members of the Committee of the Whole**

From: **W.H. Jackson, Director of Utility Services**

Meeting Date: **November 7, 2016**

Subject: **Report USDIR16-012**
Approval of Recommended Streetscape and Public Realm for
Bethune Street from Townsend Street to Dublin Street

Purpose

To present a recommended streetscape and public realm for Bethune Street from Townsend Street to Dublin Street including budget considerations and construction phasing.

Recommendations

That Council approve the recommendations outlined in Report USDIR16-012 dated November 7, 2016, of the Director of Utility Services, as follows:

- a) That the presentation by AECOM on the matter of the Streetscape and Public Realm for Bethune Street be received;
- b) That Council endorse the recommended Streetscape and Public Realm for Bethune Street from Townsend Street to Dublin Street as depicted in Section 3 of Report USDIR16-012;
- c) That Council request staff to include in future budgets the funds shown in Table 3 of Report USDIR16-012 for the years 2018 to 2024 inclusive for the implementation of the Recommended Plan referenced in Recommendation b);
- d) That Staff be requested to report further to Council on the matter of undergrounding the existing overhead electrical distribution system on Bethune

Street from Townsend Street to Dublin Street and on Charlotte Street from Aylmer Street to Park Street; and

- e) That the Bethune Street Project Land-Use and Urban Design Study be received, and the recommendations be adopted, including:
 - i) incorporating the recommendations of the Study in the current Official Plan Update; and
 - ii) Upon the completion and adoption of amendments arising from the Official Plan Update, that Staff initiate the Zoning By-law Amendment process to implement the recommendations of the Bethune Street Project Land-Use and Urban Design Study.

Budget and Financial Implications

Table 1 details funding available at this time for the Bethune Street/Jackson Creek Flood Diversion Project.

Table 2 provides updated costs that include additional work beyond the original scope of the project.

Table 3 provides time lines for the additional funding requirements.

Table 1 – Bethune Street/Jackson Creek Flood Diversion Funds Available

No.	Item	Funds
1	Federal Government Contribution (SCF)	\$ 7,970,500
2	Provincial Government (Government of Ontario) Contribution (SCF)	\$ 7,970,500
3	City of Peterborough Approved Budget for BS/JCFD	\$ 7,970,500
4	City of Peterborough non-eligible items*	\$ 2,215,800
5	Total Sources of Funding before Charlotte Street Improvements	\$26,127,300
6	City of Peterborough Charlotte Street Improvements	\$ 960,000
7	Total Sources of Funding including Charlotte Street	\$27,087,300

*Land purchases, pedestrian and cycling enhancements

Table 2 - Bethune Street/Jackson Creek Flood Diversion Project Costs 2016-2024

No.	Item	Budget
1	Updated Estimated Cost of SCF Award	\$ 28,000,000
2	Clear-up Old Rail Bed	\$ 1,500,000
3	Additional Streetscape Funding	\$ 6,600,000
4	George Street Bridge Rehabilitation	\$ 420,000
5	Charlotte Street Improvements	\$ 3,690,000
6	Total Project Costs	\$ 40,210,000
7	Total Project Surplus (Deficit)/Additional Funds Required	(\$ 13,122,700)

Table 3: Recommended Implementation Plan for Additional Funds (2018-2024)

Item	2018	2019	2020	2021	2022	2023	2024	Totals
Additional Costs for Bethune St. and Townsend Street - (Roadworks, Storm and Sanitary sewers)	\$600,000	\$312,700						\$912,700
Additional Streetscape Funding		\$1,950,000	\$1,700,000	\$1,580,000	\$600,000	\$510,000	\$260,000	\$6,600,000
Clear-Up Old Rail Bed	\$1,500,000							\$1,500,000
George Street Bridge Rehabilitation		\$420,000						\$420,000
Charlotte Street Improvements				\$900,000	\$900,000	\$950,000	\$940,000	\$3,690,000
Total	\$2,100,000	\$2,682,700	\$1,700,000	\$2,480,000	\$1,500,000	\$1,460,000	\$1,200,000	\$13,122,700

Background

In July, 2004, the City of Peterborough was hit by a severe rainfall event that caused significant flood damage. In just over 24 hours, up to 240 mm of rain fell on the City with 150 mm of rain being recorded in only 2 hours. Flood damage was reportedly in excess of \$100 million in direct physical damages to private and public property.

Shortly after the flood, the City retained UMA Engineering Ltd. to investigate the causes and determine remedial measures to improve the operation of the drainage system and reduce the risk of damage from future flooding. UMA's analysis identified the following causes for the flood damage:

- Unprecedented heavy rainfall;
- Insufficient storm sewer capacity;
- Poorly defined overland flow routes; and
- Unwanted water getting into the sanitary sewer system.

The UMA Study (Flood Reduction Master Plan) completed on April 5, 2005 identified a "toolbox" of potential solutions. The study provided an overall action plan to determine which solutions to apply to which systems and in which parts of the City.

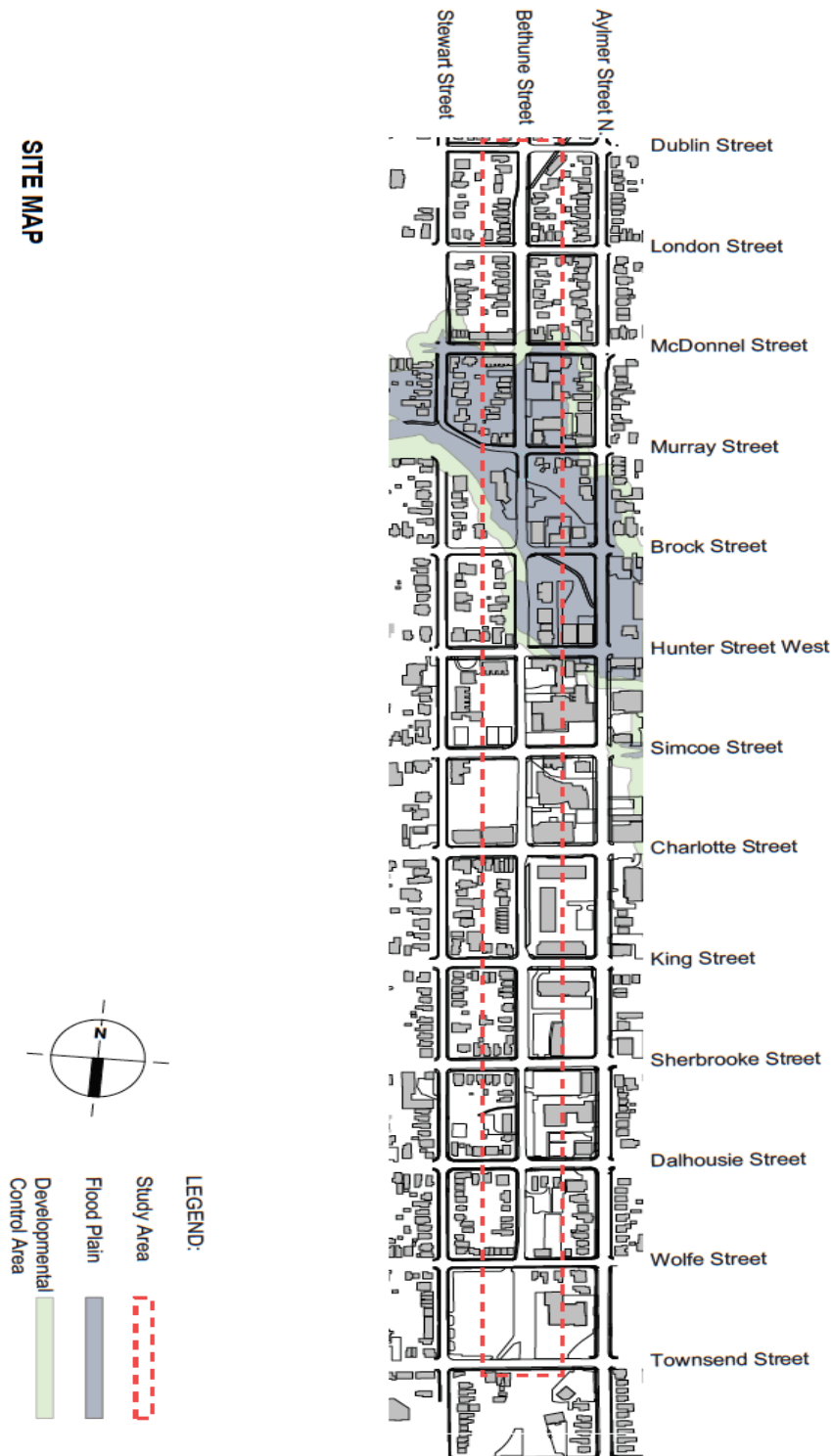
City Council at its meeting on June 14, 2010 in considering Report USEC10-009 established a priority for capital flood reduction works across the City. The Jackson Creek Diversion Sewer was listed as the second priority project. On October 22, 2012, City Council endorsed an Environmental Assessment Study of the Jackson Creek Flood Diversion and Townsend Street/Bethune Reconstruction Project. This Class EA study was published for final review on December 19, 2014 and the Ministry of Environment and Climate Change approval was granted on February 2, 2015. No appeals for a higher order of study were received.

In December, 2014 the City was successful in an application for funding from the Small Communities Fund with major funding contributions from both the Federal and Provincial governments.

Finally, City Council at its meeting on September 21, 2015 awarded RFP P-14-15 for the Detailed Design and Contract Administration for the Jackson Creek Flood Diversion Sewer, Sanitary Sewer Upgrade and Townsend Street/Bethune Street Reconstruction to AECOM.

The Study Area for the Bethune Street Reconstruction Project is shown in Figure 1.

1. Figure 1: Study Area for the Bethune Street Streetscape



1. Overview

The overall project consists of three main components:

- Jackson Creek Flood Diversion;
- Increase in Sanitary Sewer Capacity on Bethune Street; and
- Bethune Street Reconstruction and Streetscaping.

More detail on each of the components is provided below.

1.1 Jackson Creek Flood Diversion Project

The Municipal Class Environmental Assessment (EA) study for this program was completed in December of 2014. It recommended that a large buried storm sewer connecting Jackson Creek to the Otonabee River be constructed in order to divert high flows in Jackson Creek, thereby mitigating potential flood damage around the downtown core of the City. Placement of a large new storm sewer under Bethune Street will divert huge amounts of water alleviating the burden on the area's aging linear infrastructure allowing the corridor's existing homes, businesses and historic assets to be protected from the scale of flooding that was experienced in recent years.

The new 1,600 metre long box culvert sewer will connect Jackson Creek north of Brock Street to Townsend Street following the Bethune Street right-of-way to Townsend Street and then to the Otonabee River. Flow constraints from Jackson Creek running under George Street will be removed.

1.2 Bethune Street Increase in Sanitary Sewer Capacity

Sanitary trunk sewer upgrades along Bethune Street from Dalhousie Street to Dublin Street are required to support growth in the north end of the City. This part of the project also includes provision of storm sewer upgrades along Charlotte Street from Aylmer Street to Park Street to increase pipe capacity.

1.3 Bethune Street Reconstruction and Streetscaping

In conjunction with the Jackson Creek Diversion and the Bethune Street trunk sanitary sewer expansion, the City will take the opportunity to upgrade the streetscape along Bethune Street to create a more liveable urban environment. Reconstruction will occur from Dublin Street to Townsend Street with provision of cycling and pedestrian facilities as well as intersection controls (including safety features such as reduced speed limits, barriers and traffic calming measures). A north-south walkway/cycling corridor will be established to serve the City of Peterborough's Central Area connecting three major city trails which will converge on Bethune Street.

The purpose of this report is to inform Council of the activities leading up to and to provide the recommended streetscape plan for Bethune Street. Accordingly, the remaining sections of this report will be oriented exclusively toward the streetscape of

Bethune Street. Details for the various steps in the process are provided in the numerous appendices to this report

2. Streetscape Planning Process

The streetscape planning process involved many steps. Existing conditions had to be ascertained firstly with a subsequent analysis of Opportunities, Issues and Constraints. A streetscape planning process was developed to ensure maximum stakeholder input and dissemination of information. Various streetscape alternatives were then developed and evaluated resulting in the Recommended Plan.

2.1 Existing Conditions

An important starting point in planning for the streetscape design of the Bethune Street project is understanding the layers of economic, social and physical components that define the area's character and opportunities in order to subsequently recommend sustainable improvements. Existing conditions were analyzed in terms of demographics, character areas, land use patterns, density, traffic circulation, parking facilities, building forms and heritage assets, lighting, architectural facades and gateways.

Almost 4,500 people live in the Bethune Street/Aylmer Street Corridor. A high percentage of low income households populate this area with the median age of residents within the area being 25-48 years.

Bethune Street and its side streets represent a fairly compact and a tightly-knit fabric of homes and small businesses. The area is characterized by a high water table. Bethune Street provides a link to the City trail network in the downtown area although the existing infrastructure does not promote either cycling or walking as many sections of the roadway have only one or no sidewalks.

Appendix A provides more detail on the existing conditions.

2.2 Analysis of Opportunities, Issues and Constraints

It is important to understand the issues of any project including the opportunities that may exist and the constraints that need to be dealt with.

Appendix B provides the detail related to the opportunities, issues and constraints related to the Bethune Street Streetscape Project.

2.3 Streetscape Planning Process

A very major and significant aspect of the Bethune Street Project was the development and undertaking of a planning process that would ensure the best possible range of streetscape alternatives were selected, the evaluation of these alternatives was robust and that maximum public participation was achieved for all phases of the study.

Appendix C details how the project Vision and Guiding Principles were developed. Also in Appendix C are listed the numerous public engagement activities that were completed as well as the recommended evaluation criteria.

Overall, a Recommended Streetscape Planning Process was developed to guide the project forward from conception to alternative development and evaluation resulting in a Recommended Plan. In addition, proposed changes to the existing land-use and development regulations will help to further define the various activity nodes and themed walks. These land-use/development regulation proposed changes will be the subject of a future report to Council.

This process is outlined in Appendix C.

2.4 Development of Alternative Streetscape Strategies

Building upon the ideas and strategies advanced through stakeholder meetings and understanding the opportunities and constraints, three conceptual streetscape plans were developed for consideration.

Appendix D provides the detail on the three conceptual plans developed.

2.5 Land-Use and Urban Design Study

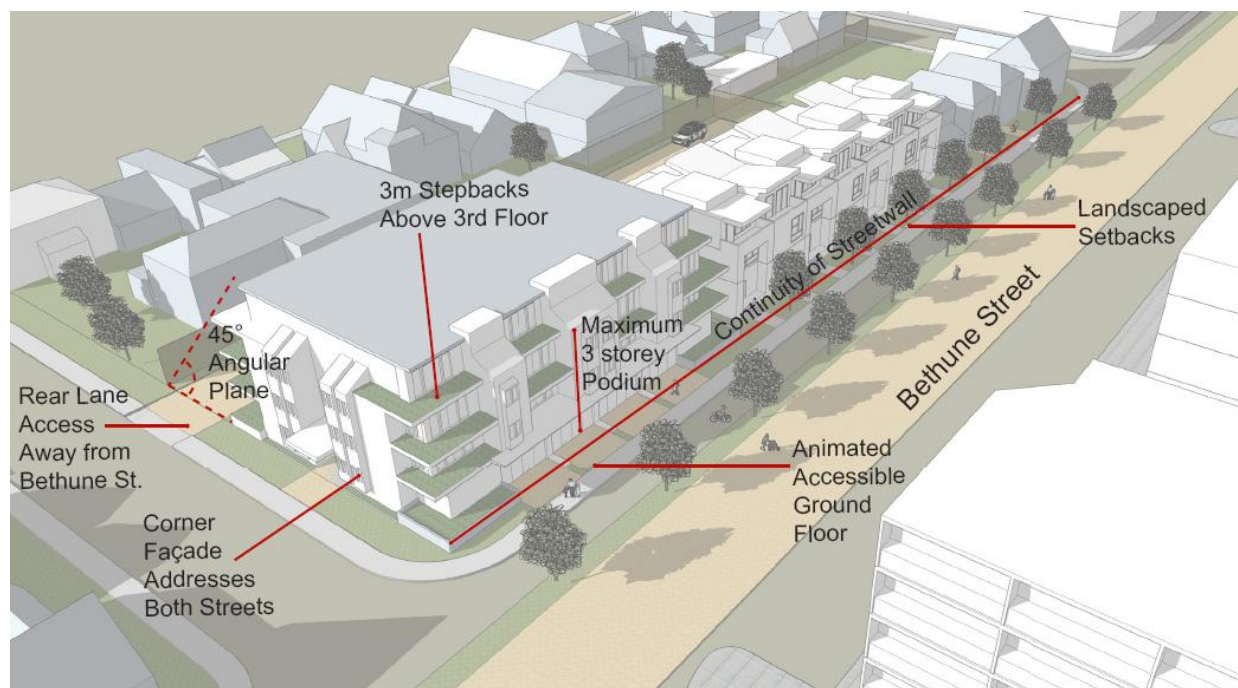
To appropriately design the street, it was important to establish the vision for land-use and built form on properties that abut the corridor. Currently in the Official Plan, Bethune Street forms the western boundary of the Commercial Core Area and the Urban Growth Centre. Pursuant to “Places to Grow” Provincial legislation, the City must have policy and direction in its Official Plan that would allow Zoning Bylaw amendments to encourage the redevelopment of properties so that residential density targets can be achieved.

As a result, the Bethune Street Project included a Land-Use Urban Design Study in step with the process toward finalizing the design of the street. The Study recommends land-uses for the different character areas down the corridor and prescribes the building massing, heights, setbacks, and typologies. It recommends urban design standards for buildings at corners and for prominent sites, the design of commercial ground floors, preferred locations for driveway entrances, vehicle parking loading areas and much more. A sample of the Potential Block Redevelopment along Bethune Street is shown in Diagram 1.

The Land-Use and Urban Design Study calls for context-sensitive intensification. As the area intensifies, the planning and design framework will provide appropriate transitions between new and existing built form, in consideration of the long term evolution of the area. It also states that preservation and adaptive re-use of built heritage should be a priority.

The implementation of the recommendations in the Land-Use and Urban Design Study can be achieved through the current Official Plan update. Both the Central Area Master Plan (Strategy 1) and the current Official Plan (Section 2.3.2 (g)) indicate that the development, redevelopment and rehabilitation of the Central Area should be encouraged by pre-zoning land to permit the full range and density of uses contemplated.

Diagram 1: Sample of Potential Block Redevelopment along Bethune Street



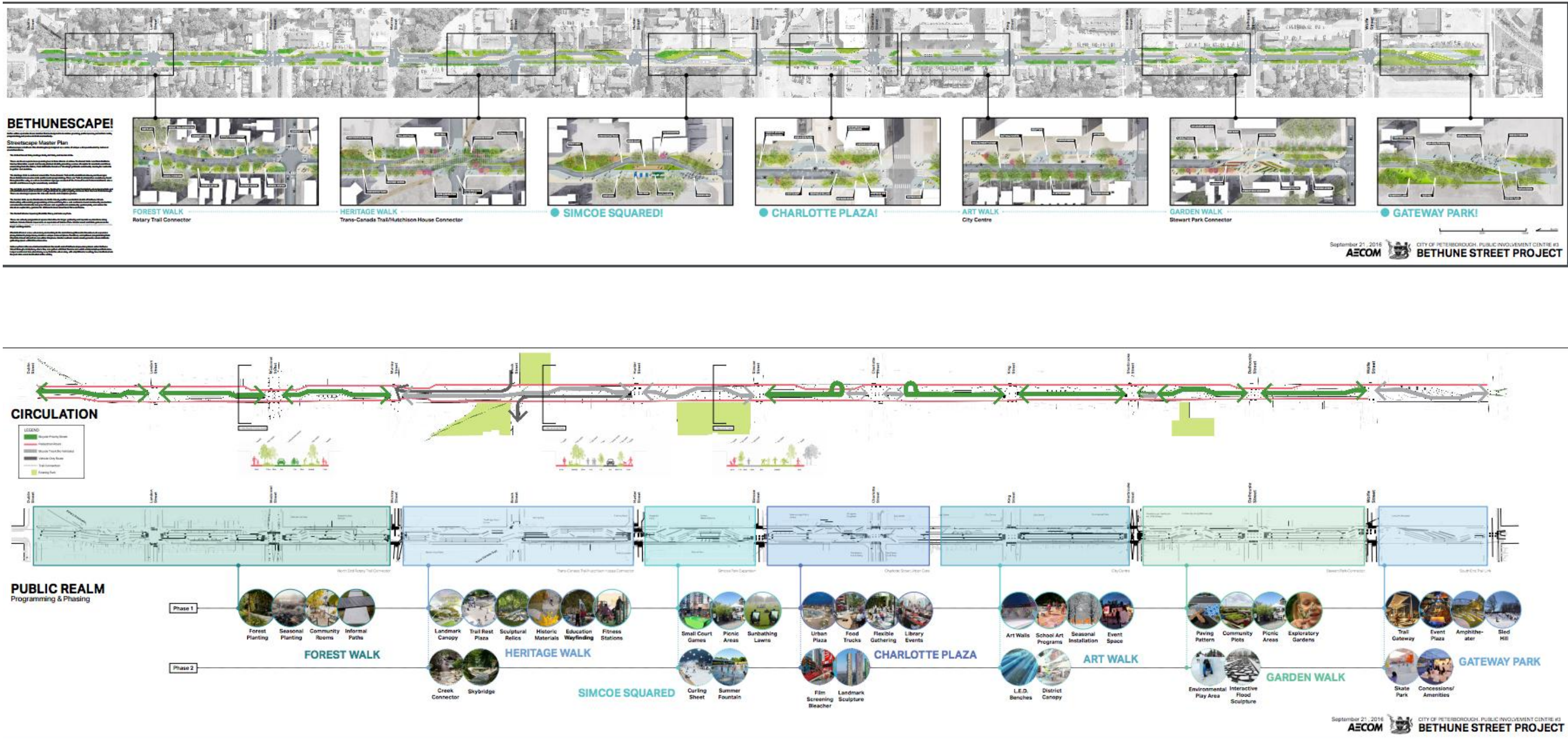
After the Official Plan update is complete and adopted by Council, the process to amend the Zoning By-law for properties down the Bethune Street corridor in accordance with the recommendations in the Bethune Street Project Land-Use and Urban Design Study will be undertaken.

3. Recommended Streetscape Plan for Bethune Street

Figure 2 is a visual presentation of the Bethune Street Streetscape Master Plan (the Bethunescape). The Bethunescape Plan shows a bicycle-priority street, wider sidewalk for trail users at the Trans-Canada trail connector at Brock Street and Bethune Street, gathering spaces, program elements, the three activity nodes of Simcoe Squared, Charlotte Plaza and Gateway Park as well as four themed walks (Forest Walk, Heritage Walk, Art Walk and Garden Walk). These three activity nodes and four themed walks will need to be completed in a phased approach as per the depiction that appears in Figure 2. Master plans and renderings for each of these design concepts are presented in the accompanying Figure 2. Also depicted in Figure 2 are the Circulation and Public Realm aspects.

To accommodate these changes, major modifications to traffic flow and circulation will occur. An existing street of vehicle-only routes will be replaced by a mixture of vehicle, bicycle and pedestrian access.

Figure 2 – The Bethune Street Streetscape Master Plan



In the Bethune Street Streetscape Master Plan, the dominant pattern of traffic circulation through the site was derived from the Shared Street Concept. The street will become a bicycle-priority street. This is a two-way six-metre street with mixed bicycle and vehicular traffic with easier pedestrian crossing of the street. Site furniture, planting and tactile strategies prevent cars from entering public realm zones. Through the entire length of Bethune Street, there is a 2.5 metre walking trail along the eastern street frontage and a standard 1.8 metre walking trail along the western frontage. There is a 0.3 metre gutter at either edge of the street.

Each of the seven segments that comprise Bethunescape are described in detail below.

A. Dublin Street to Murray Street

- Bicycle-priority segment;
- **Forest Walk** – in this heavily residential stretch of Bethune Street, the public realm is focused on passive and human-scale programming. Heavy seasonal planting creates a lush and tranquil experience interspersed with small community gathering spaces or “clearings”; and,
- Moderate traffic diversion through a median installed at the McDonnell Street intersection which also provides a refuge for pedestrians and cyclists crossing McDonnell Street.

B. Murray Street to Hunter Street

- Bicycle track with one-way vehicular traffic;
- Forced turn on Brock Street;
- Cul-de-sac on Brock Street west of Bethune Street for two-way access to Hutchison House;
- **Heritage Walk** – This two-block stretch is centred on the Trans-Canada Trail connection and Hutchison House. The historic nature of the site context lends itself to a heritage-centric public realm. A landmark Green Cloud canopy announces the crossing of the Trans-Canada Trail with a new rest plaza for trail users. The canopy can be planted and will change throughout the seasons. Historic sculptures or “relics” and educational way finding signage radiate outward from this plaza, pointing users to the neighbouring historic resources. A stretch and fitness area is also attached to the rest plaza; and,
- Possible future inclusion of Youth Unlimited property for the Jackson Creek connection.

C. Hunter Street to Simcoe Street

- Bicycle track closed to vehicles; and,
- **Simcoe Squared** – This block becomes an extension of Simcoe Park. The new pocket park, called Simcoe Squared, is contained completely within the 20-metre right-of-way. It connects to the court activity of

Simcoe Park with its own small-court games: bocce, shuffleboard and ping-pong. There are also sunbathing and picnic lawns as well as seat walls for viewing into the Simcoe Park courts. In the winter, the small-court area is able to be frozen as a curling sheet.

D. Simcoe Street to Charlotte Street

- Bicycle-priority street;
- **Charlotte Plaza** – This segment of Bethune Street is centred on the new urban core at Charlotte Street. Two cul-de-sacs (eastbound and westbound on Bethune Street) terminate at this intersection with only pedestrians, bikes and emergency vehicles able to cross Charlotte Street. This condition creates a large stretch of continuous public realm. The cul-de-sacs take the form of a large mixed-use plaza with intricate paving patterns, ringed with tree groves and outdoor rooms. Attached to the Peterborough Library and main artery to downtown Peterborough, Charlotte Street Plaza becomes a vibrant flexible space for people to gather;
- Possible connection to future Charlotte Street Urban Park; and,
- Maintains commercial loading to existing businesses.

E. Charlotte Street to Sherbrooke Street

- Bicycle-priority street;
- **Artwalk** – Art and sculpture enliven the windy and high-rise scaled City Centre stretch of Bethune Street. Mural walls buffer the wind and provide a canvas for the local art community as well as school art programs. Through mark-making, the community is able to take pride and ownership of their built environment. Larger expanses of space are opportunities for sidewalk art and temporary sculptural installations. Seating integrated with large planters offer respite and tree groves bring the site to the human-scale. At night, City Centre becomes activated through lighted benches and events such as gallery nights; and,
- Median refuge installed at Sherbrooke Street to ensure safe crossing without the need for a traffic signal.

F. Sherbrooke Street to Wolfe Street

- Bicycle-priority street;
- **Garden Walk** – Bethune Street reverts to a residential character in this two-block stretch. The public realm in this segment is a direct reflection of adjacent Stewart Park, featuring productive community garden plots. Across the street, along the eastern frontage, are educational and exploratory gardens for the larger proportion of children residing within these blocks; and,

- Half-diverter installed on the south leg of Bethune Street at the Sherbrooke Street intersection to eliminate shortcut traffic.

G. Wolfe Street to Townsend Street

- Bicycle track closed to vehicles;
- **Gateway Park** – The south end of Bethune Street will feature a new trail link gateway park. Currently an undeveloped site, public support for a park on this part of Bethune Street was strong and consistent through all three PICs. The new space will include a gateway plaza and amphitheater. This will provide opportunity for informal gathering and performance as well as events linked to the adjacent Long & McQuaid music store. Raising topography can provide views down the new Bethune Street and provide a sled hill for winter activity.

Within the Bethunescape Plan, three nodes – Simcoe Squared, Charlotte Plaza and Gateway Park – are actively “programmed” spaces that permit larger gatherings of activity and people. Key locations are “tapped into” along the Bethune Street corridor for this programming. All of these are depicted in the diagrams in Figure 2. As can be seen in the case of Simcoe Squared, for example, smaller court and table games can be played right on the street where picnic lawns and seat walls provide a complimentary addition to the existing tennis courts.

Charlotte Plaza, on the other hand, is a new urban core that connects to the main thoroughfare into the downtown core. An expansive plaza rimmed by large trees, this design creates a unique sense of place. Peterborough Public Library, along with the spill-over programming from Charlotte Street Urban Park can make use of this area. In addition, smaller outdoor rooms that are located nearby provide a more intimate gathering space within the urban core.

Finally, Gateway Park is the new trail connection in the south end of the Bethune Street streetscape. Here, cyclists enter the Bethune Street corridor through a trail plaza where they can gather with others and where they can all watch an impromptu performance by artists. With amphitheater seating, larger events can take place there, away from the urban core. New landforms also turn the park into a sled destination during the winter season.

The four walks – Forest Walk, Heritage Walk, Art Walk and Garden Walk – are linear experiences spanning two to three blocks at a time. For instance, Forest Walk runs from Dublin Street to Murray Street. It is a quiet and heavily-planted stretch that provides a sense of respite for residents and those connecting onto Bethune Street from the Rotary Trail. Within the forest are “clearings” – intimate community rooms for residents to gather and socialize.

Heritage Walk is centred on the Trans-Canada Trail and Hutchison House and leverages these historical resources in its public realm programming. There are “relics” – interpretive sculptures found throughout the walk as well as educational signage to

reinforce the historical heritage of the Bethune Street corridor with its railway station past. Located off the Trans-Canada Trail, Heritage Walk is also connected by a stretch and fitness area that encourages sound body and mind.

Art Walk spans the two blocks of City Centre. A dynamic and colourful stretch where local artists and school children can paint on mural walls, participants can engage in gallery nights and make their mark on the cultural and social atmosphere of Peterborough. There are also larger spaces for sidewalk and murals and sculpture pieces.

The Garden Walk spans Sherbrooke Street to Wolfe Street, another residential stretch off of Bethune Street. Connecting with existing programming at Stewart Park, it is a walk centred on community production and education. Residents can grow flowers and vegetables in community garden plots. Across the street are exploratory gardens for children to learn about local flora and fauna.

The reconstruction initiatives that are an important component of the Bethunescape should be viewed with a longer-term perspective, as a base layer or “canvas” in which all of the recommended elements will not be built at the beginning of the process but will happen subsequently dependant upon available capital funding.

Access to Hutchison House will not be changed by the project as the proposed design would permit buses to travel north along Bethune Street and subsequently turn left onto Brock Street. Passengers will continue to be let off in front of the property.

Travellers moving east on Brock Street can turn around in a small proposed cul-de-sac. A lay-by area will be put in place for buses that travel north on Bethune Street. A gateway and connection to the Trans-Canada Trail, Fleming Park and to Hutchison House is also planned in the vicinity of the right-of-way. Through wayfinding provisions, the gateway connection will guide trail users to stop in the plaza and visit the Hutchison House as well as other attractions in the area. The “streetscape canvas” construction will begin at Townsend Street and George Street at the downstream end of the diversion sewer subsequently moving upstream to the area of the inlet.

4. Project Implementation and Phasing

For purposes of construction staging and budgeting, it is proposed to develop the project in three stages called “The Canvas”, “Interim Phase – Placemaking” and “Final Phase – Landscaping”.

Figures 3, 4 and 5 depict the three stages and provide information about each stage. .

Commencement of construction for the flood reduction and sanitary sewer elements are proposed for the first half of 2018. Construction is scheduled for completion in late 2019 with streetscape elements to be included or following depending on budget availability.

Figure 3 - Initial Phase - The Canvas

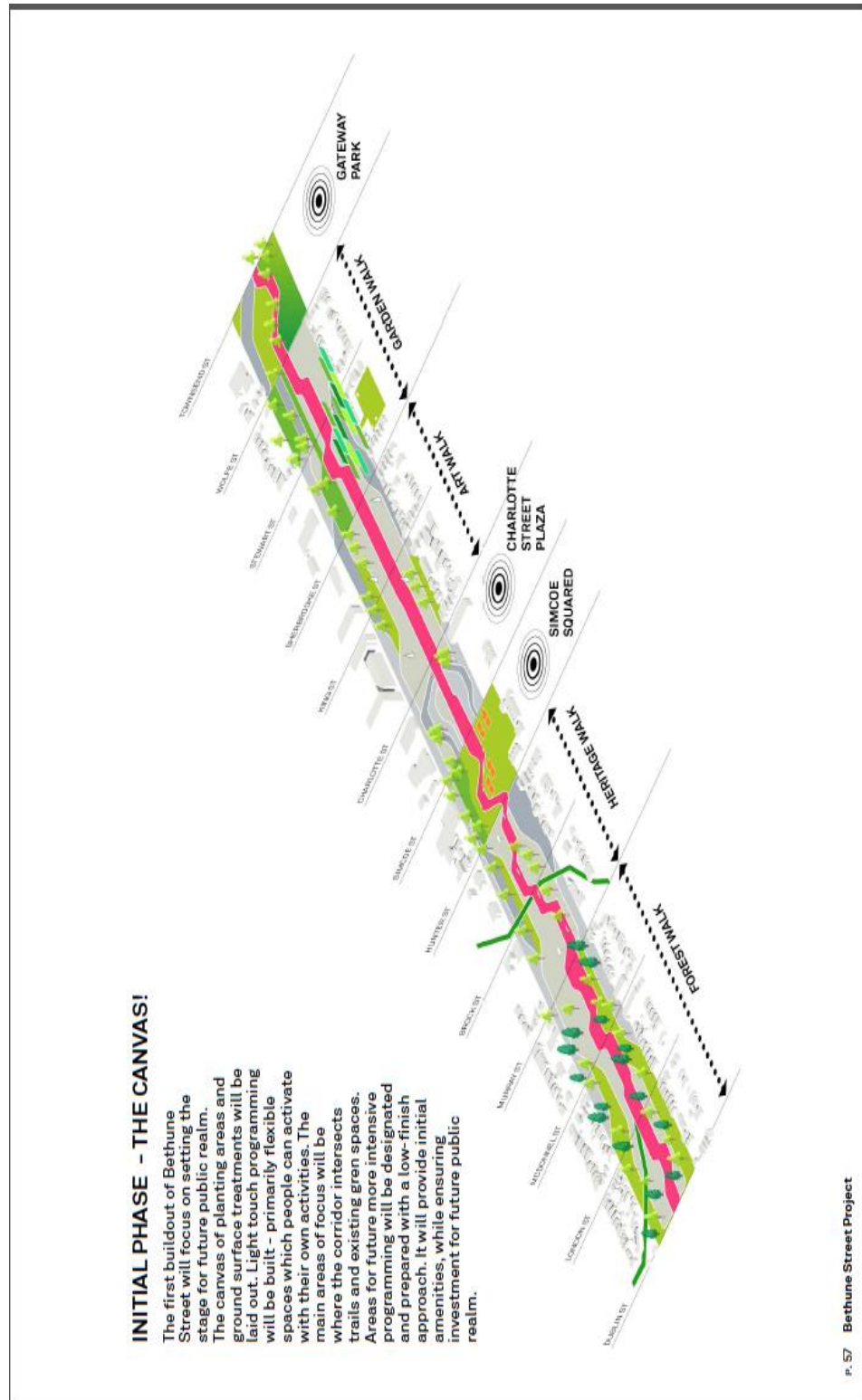


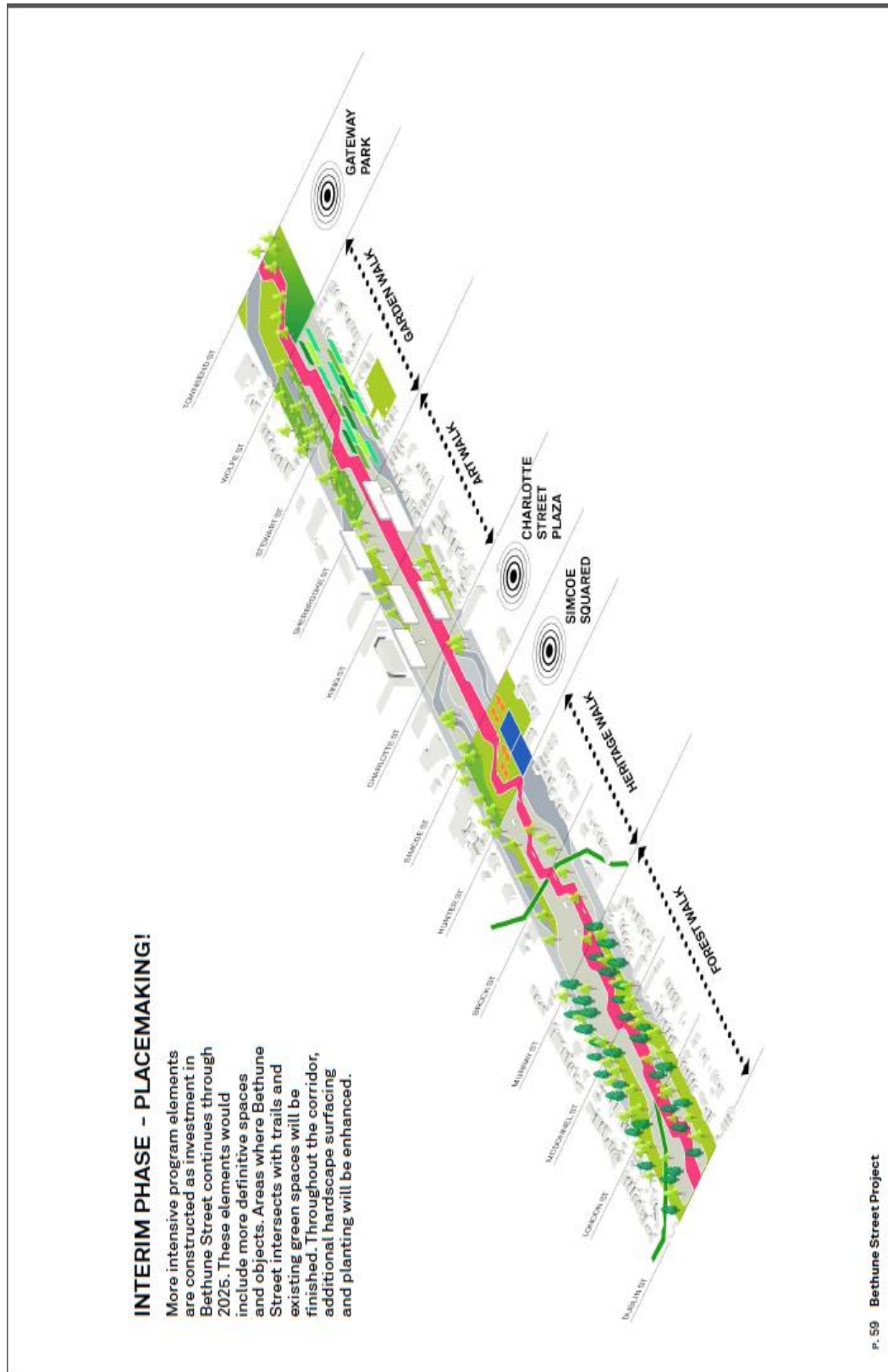
Figure 4 – Interim Phase - Place making

Figure 5 – Final Phase - Landscaping

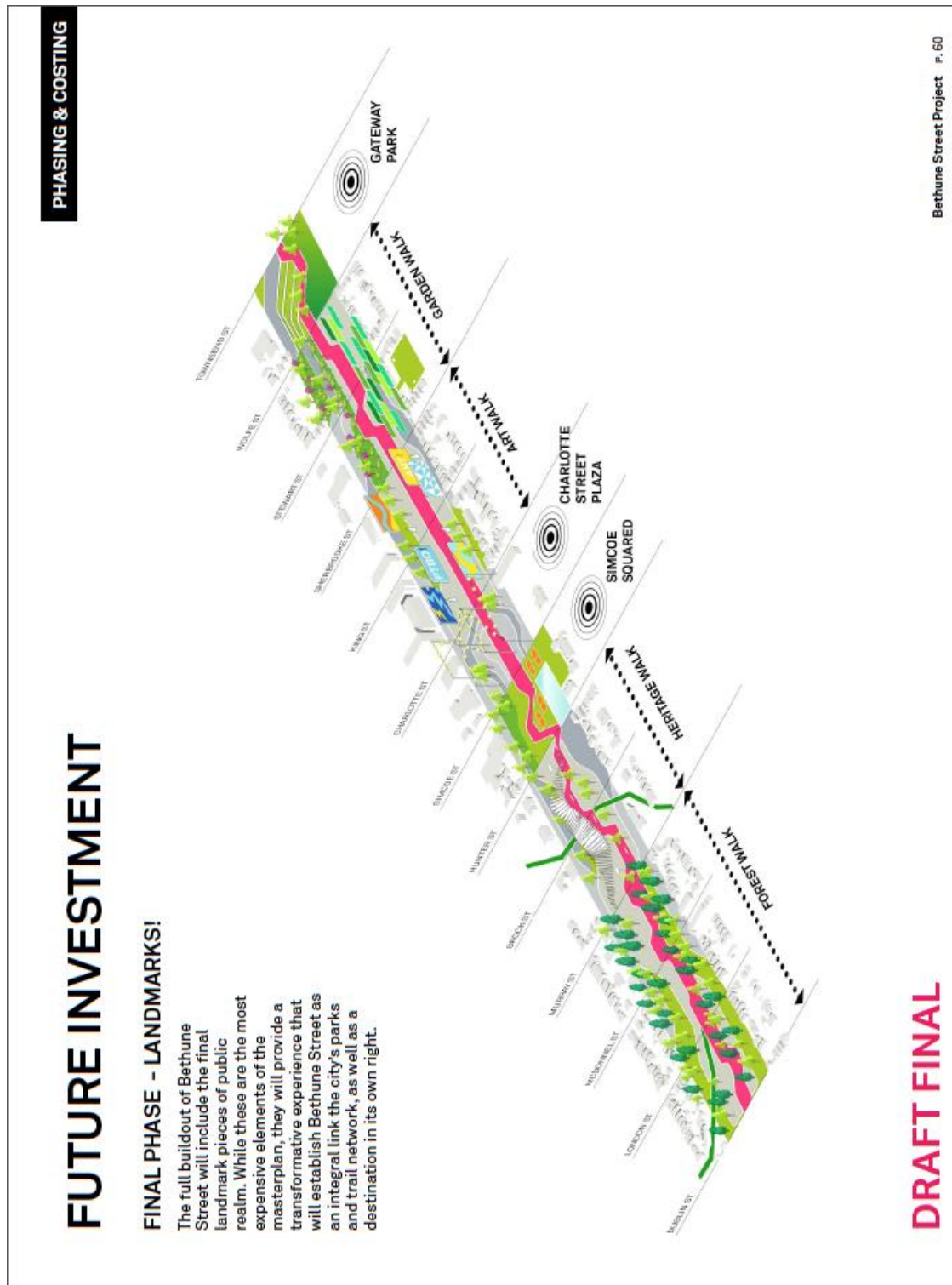


Table 4 - Bethunescape Street Program Space Development

Program Areas	Total Area		Program Space and Unit Cost (\$ / m2)				Other Features			Recommended Budget for Implementation						
	m2	Percentage Green Space	Area Green Space (m2)	Green Space Cost	Area Paving (m2)	High Finish Paving Cost	Item	Allowance	Total Cost Green Space, High Finish Paving, Allowances	2019	2020	2021	2022	2023	2024	Totals
Bethune Street				\$160		\$600										
Dublin - London	857	67%	577	\$92,340	280	\$167,950	site furniture	\$30,000	\$290,000	\$70,000	\$80,000	\$80,000		\$60,000		\$290,000
London - McDonnel	890	66%	591	\$94,560	300	\$179,500	site furniture	\$30,000	\$300,000	\$80,000	\$80,000	\$80,000		\$60,000		\$300,000
McDonnel - Murray	1034	57%	593	\$94,900	440	\$264,500	site furniture	\$30,000	\$390,000	\$90,000	\$90,000	\$90,000	\$90,000	\$30,000		\$390,000
Murray - Brock	597	53%	318	\$50,900	280	\$167,500	green cloud	\$200,000	\$420,000	\$220,000		\$200,000				\$420,000
Brock - Hunter	602	66%	397	\$63,520	205	\$123,000	green cloud	\$200,000	\$380,000	\$180,000		\$200,000				\$380,000
Hunter - Simcoe	1122	41%	460	\$73,600	665	\$397,200	park features	\$750,000	\$1,220,000	\$300,000	\$400,000	\$150,000	\$150,000	\$150,000	\$70,000	\$1,220,000
Simcoe - Charlotte	947	25%	241	\$38,560	705	\$423,600	event lighting	\$80,000	\$540,000	\$200,000	\$200,000	\$140,000				\$540,000
Charlotte - King	1155	29%	336	\$53,760	820	\$491,400	art walls/planter benches	\$150,000	\$700,000	\$200,000	\$250,000	\$200,000	\$50,000			\$700,000
King - Sherbrooke	909	25%	225	\$36,000	685	\$410,400	art walls/planter benches	\$150,000	\$600,000	\$100,000	\$150,000	\$150,000	\$150,000	50000		\$600,000
Sherbrooke - Dalhousie	490	62%	302	\$48,320	190	\$112,800	Stewart Street Park node	\$125,000	\$290,000	\$125,000	\$125,000	\$40,000				\$290,000
Dalhousie - Wolfe	625	73%	459	\$73,440	170	\$99,600	site furniture	\$30,000	\$200,000	\$75,000	\$75,000	\$50,000				\$200,000
Wolfe - Townsend	1680	70%	1178	\$188,480	500	\$301,200	park features	\$800,000	\$1,270,000	\$350,000	\$250,000	\$200,000	\$160,000	\$160,000	\$150,000	\$1,270,000
Totals	6437		5677	\$908,350	760	\$3,138,540	\$0	\$2,575,000	\$6,600,000	\$1,990,000	\$1,700,000	\$1,580,000	\$600,000	\$510,000	\$220,000	\$6,600,000

Notes:
Included in the Program Space Costing: topsoil, shrub, perennial and ornamental plantings, sod, furniture, surface treatments, such as, gravel, limestone, unit pavers, granite, decorative concrete, landscape features
Exclusions from Program Space Costing: street trees, street lights, roadway and curbs, pathways, cycle tracks, sidewalks.

5. Bethune Street Project Costs

5.1 Initial Budget

In December 2014, the City submitted an application for funding for the Bethune Street/Jackson Creek Diversion Project from the Small Communities Fund (SCF) and was advised on June 22, 2015 that it had been selected for financing. With a total project budget submission of \$27,087,300, the Federal and Provincial governments will each provide 33% of the project's eligible cost (\$7,970,150 each) representing a total SCF of \$15,940,300. The City will finance \$11,147,000 which represents the remaining one-third of the eligible costs and all ineligible costs (\$2,215,800) including land purchases, pedestrian and cycling facility enhancements.

5.2 Additional Budget Requirements

During the course of the design study for the Bethune Project, a number of additional budget requirements have arisen as described below.

5.2.1 Additional Streetscape Funding

Throughout this report, the streetscape (Bethunescape) proposed for Bethune Street has been highlighted. This streetscape plan will be very significant in helping to define Bethune Street and, it is believed, drive future development and investment in the Bethune Street corridor. Table 4 presents a timeline for the implementation of the various streetscape elements.

5.2.2 Clean-up of Old Rail Bed

At one time, a railway operated on Bethune Street. Remnants of this rail bed still exist today. It has been estimated that complete clean-up of this old rail bed will cost in the order of \$1,500,000.

5.2.3 George Street Bridge Rehabilitation

The present outlet under the George Street Bridge has hydraulic considerations that need to be addressed to provide the required flow characteristics for the Jackson Creek Diversion sewer. It has been estimated that this work will cost in the order of \$420,000.

5.2.4 Charlotte Street Rehabilitation

It is proposed to rehabilitate the streetscape on Charlotte Street from Aylmer Street to Park Street as part of the Bethune Street Project. From a construction viewpoint it is logical to combine these two road sections especially considering that the section of Charlotte Street from Aylmer Street to Water Street will also undergo a transformation during the same time period. This project has not been totally budgeted for in any previous budget and, accordingly, additional funds in the order of \$3,690,000 will be required.

5.3 Cash Flow

Although some of the additional costs are significant, they are not all required at the same time. Table 3 is an overall cash flow estimation of the additional budget requirements for the Bethune Street Project from 2018 to 2024.

5.4 Items not Included in the Budget

Certain cost aspects of the project require more detailed design work and/or additional field work before appropriate estimates can be provided. The following items are not included in the estimated budget:

- Soil remediation costs for the southwest corner of Bethune Street/Townsend Street;
- Unit pavers instead of asphalt for roads, shared street, cycle tracks;
- Furniture for Charlotte Street;
- Relocation of above ground hydro to underground on Charlotte Street; and
- Relocation of above ground hydro to underground on Bethune Street.

5.4.1 Conversion of Overhead Electrical to Underground – Bethune Street

The Land-Use Urban and Design Study recommends building setbacks on Bethune Street from Hunter Street to Sherbrooke Street that increase public realm space on the ground plain but would allow overhead building projections such as balconies and canopies.

To support the additional public realm space, the Study also recommends that the existing overhead electrical distribution line be placed underground or “somewhere else” within the Right-of-Way to achieve safety clearances from conductors. Staff concurs with the recommendation to relocate overhead utilities to underground to achieve safety clearances from future buildings, to allow for the future growth of street trees and to include downtown ornamental street lighting.

The cost of relocating overhead electrical to underground is difficult to determine without the completion of a detailed design. Using the cost supplied by Peterborough Distribution Inc (PDI) for the recent reconstruction of a section of electrical distribution line on Aylmer Street as a benchmark, City staff estimate the reconstruction cost for the overhead electrical distribution line on Bethune Street to be \$750.00 a metre.

Pursuant to PDI’s current Overhead Relocation to Underground Policy, PDI will make a financial contribution toward the relocation project equivalent to the cost of reconstructing the overhead distribution line, on the condition that it is at least 25 years old. The poles, conductors and transformers on Bethune Street have been there for more that 25 years. The PDI policy also states that the utility will contribute up to an additional 5% if there are “appreciable” improvements to safety clearances.

The distance from Hunter Street to Sherbrooke Street is approximately 600 metres. Accordingly, the estimated cost to reconstruct the overhead distribution line is \$450,000. Information available with respect to the cost to relocate overhead electrical to underground suggests that it can cost anywhere from 2 to 4 times more. Given the relative simplicity of relocating the overhead electrical distribution line to underground on Bethune Street, for the purposes of budgeting, it is assumed that it will cost 3 times more. As a result, the estimated cost for the conversion to underground is \$1,350,000.

PDI's contribution toward the conversion is calculated to be \$472,500. Accordingly, the City's estimated cost for the relocation of the overhead electrical distribution line to underground from Hunter Street to Sherbrooke Street for the Bethune Street Project is

\$877,500. Staff will review this matter in more detail and report further to Council at a future date.

5.4.2 Conversion of Overhead Electrical to Underground - Charlotte Street

In keeping with the streetscape improvements that were completed on George Street, Water Street and Hunter Street East and West, the streetscape plan for Charlotte Street includes the relocation of overhead utilities to underground. From Park Street to Millennium Park, Charlotte Street is the east-west "Main Street" in the Downtown. With the clearing of the air space, street trees and ornamental lighting can be included in the plan and an open vista can be created for views to the City's iconic Clock Tower.

Although there is only one block of electrical primary on Charlotte Street, there are many service drops due to a high density of commercial properties. For the purpose of budgeting, Staff is estimating it will cost \$750 per metre to reconstruct the overhead electrical service.

The section of Charlotte Street slated for streetscape improvements as part of the overall Bethune Street Project is 460 metres in length. Accordingly, the calculated cost to reconstruct the overhead electrical service is \$230,000. The estimated cost to relocate the service to underground is estimated to be three times the estimated cost to reconstruct the overhead service or \$690,000. Pursuant to PDI's current Overhead Relocation to Underground Policy, PDI's contribution is expected to be \$241,500. As a result, the estimated cost to the City for the overhead conversion to underground on Charlotte Street is \$448,500.

Staff will review this matter in more detail and report further to Council at a future date.

Table 5 – Major Next Steps

No.	Date	Item
1	4th Quarter 2016	Complete design of Charlotte Street streetscape between Aylmer Street and Park Street using Complete Street Design Concept.
2	4th Quarter 2016	Meet and discuss Charlotte Street streetscape design with affected stakeholders.
3	4th Quarter 2016	Complete Phase II Environmental Site Assessment (ESA) work at specific locations to ascertain environmental liability and determine suitability of soils to support a free-standing retaining wall at the outlet structure (George Street).
4	4th Quarter 2016	Continue discussions as necessary with Bethune Street stakeholders.
5	1st Quarter 2017 - 1st Quarter 2018	Complete any works that are required resulting from Phase II ESA Study.
6	4 th Quarter 2017	Complete Detailed Design.
7	1st Quarter 2017 - 2nd Quarter 2018	<ul style="list-style-type: none"> • tree removals • utility relocations.
8	4th Quarter 2017 - 1st Quarter 2018	Issue and award construction tenders.
9	2nd Quarter 2018	Commence complete construction.

SUMMARY

Bethune Street, a former rail corridor and transitional neighbourhood adjacent to the downtown, was selected for a new flood diversion culvert and surface reconstruction. An approach led by public realm design, informed by land use planning and urban design, blended landscape architecture, engineering, planning and urban design with extensive consultation and collaboration resulting in a recommended master streetscape plan for Bethune Street. The resultant streetscape master plan illustrates a first-of-its-kind public realm transformation – envisioning a linear park-like corridor where vehicle speeds are set by cyclists and pedestrians.

A design has been created that will turn Bethune Street into a park-like linear amenity. The “Bethunescape” will optimize cycling and walking, program vehicle-free blocks, create a wide range of programmable civic spaces and maximize the performance opportunities of the new landscape. Rather than quickly passing through an aging corridor of downtown Peterborough, the Bethunescape transformation will connect numerous parks and trails; it will give people pause to linger and enjoy the neighbourhood. Some of the potential features of the revitalization design include a bicycle-priority street, cycle tracks, walking trails, advanced traffic diversions and outdoor rooms that could be used for pop-up curling, community gardens, outdoor cafes and gatherings. Opportunities for public art are also promoted in the design.

Incorporated in a combined, hybrid plan that was presented at the third public information centre held on September 21, 2016, it presents a bicycle-priority street, wider sidewalk for trail users at the Trans-Canada connector at the Bethune-Brock intersection, gathering spaces and program elements. It also includes three activity nodes – Charlotte Plaza, Gateway Park and Simcoe Squared – as well as four themed walks – Forest Walk, Heritage Walk, Art Walk and Garden Walk. Based on the view that the Bethune Street corridor can be “rebranded” to reflect its local character through the use of good design, the plan emphasizes the area’s cultural core along with more efficient and effective use of constrained space in order to enhance local business activity and accommodating movement. It represents a shift away from concentrating on vehicle movement to support business activity, to provision of modal equality for all users such as pedestrians, cyclists and vehicle drivers.

The design team has worked closely with the community, City of Peterborough staff and stakeholders in demonstrating what imaginative leadership can look like for the revitalization of a neglected urban corridor. Bethunescape is a revolutionary design that is the product of Peterborough’s enlightened approach to downtown vitalization, land use planning, public realm along with streetscape design and green infrastructure. Along with accommodating the underground flood mitigation plan, the flood reconstruction project offers an opportunity for the Bethune Street corridor to be rebuilt in an innovative manner that supports diverse uses such as cycling, walking, socializing, playing and moving with assisted mobility devices. These improvements will assist in reducing the social, physical and economic risks associated with potential flooding, will

serve population growth in the area and will provide an excellent opportunity to showcase how urban design can contribute to healthier and more sustainable neighbourhoods.

Submitted by,

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Appendices:

Appendix A:	Existing Conditions
Appendix B:	Analysis of Opportunities, Issues and Constraints
Appendix C:	Streetscape Planning Policy
Appendix D:	Development of Alternative Streetscape Concepts
Appendix E:	Public Information Centres (PICs) Summary of Public Comments
Appendix F:	Public Information Centres (PICs) Comment Sheet

Appendix A

Existing Conditions

A.1. Area Street Inventory and Analysis

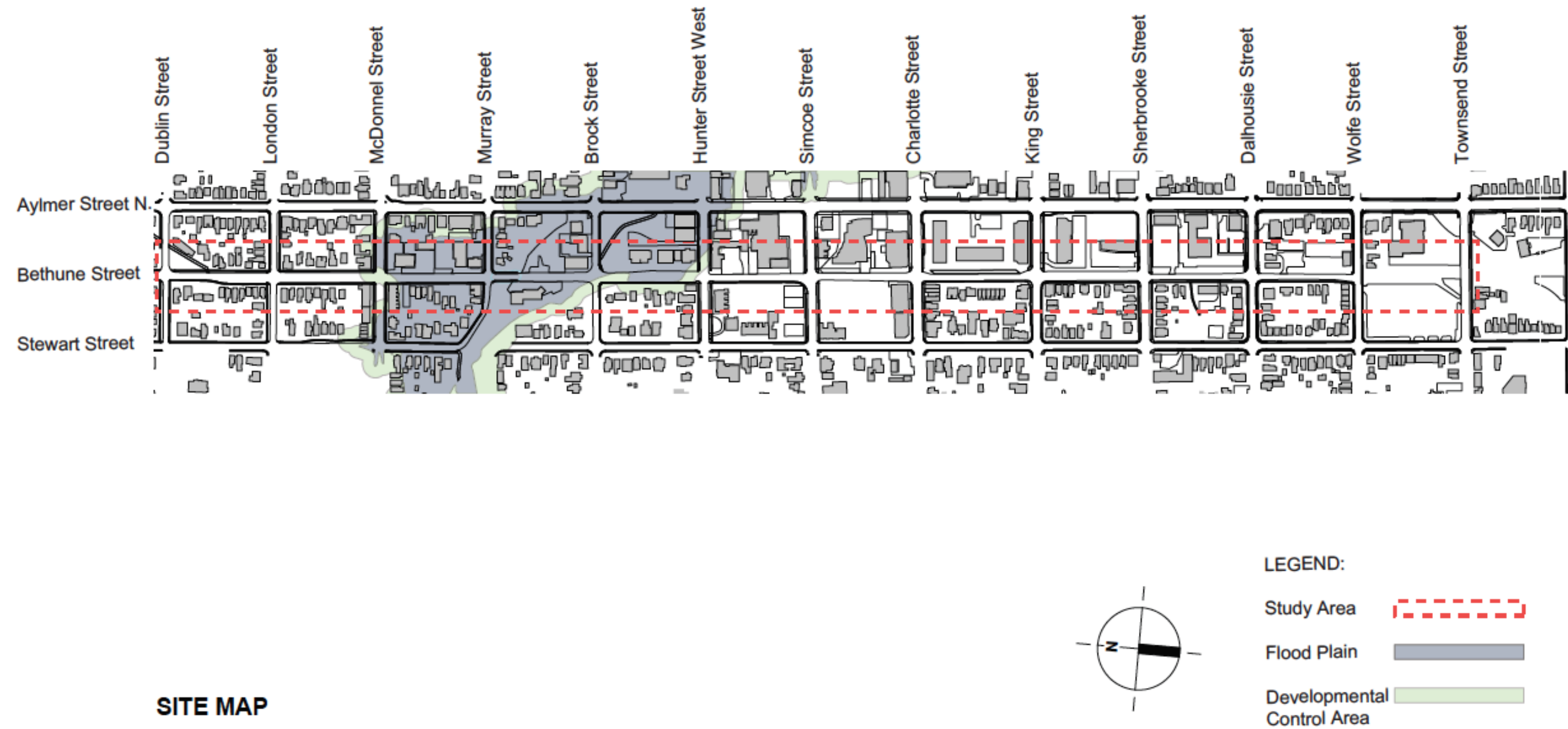
Map A.1 shows the Study area for this project. An important starting point in planning for the streetscape design of the Bethune Street project understands the layers of economic, social and physical components that define the area's character and opportunities in order to subsequently recommend sustainable improvements. Existing conditions were analyzed in terms of demographics, character areas, land use patterns, density, traffic circulation, parking facilities, building forms and heritage assets, lighting, architectural facades and gateways. Results of this analysis are provided below.

A.2. Population Demographics

As of the 2011 national census, approximately 4,441 people live in the Bethune Street/Aylmer Street corridor and immediate surrounding area while a number of retail and other business establishments populate it. An area bounded by Dublin Street on the north and Townsend Street on the south, by the Otonabee River to the east and Reid Street to the west, most residents live in a combination of single detached homes along with multi-dwelling units. These dwellings mostly populate the frontal area of Bethune Street. Many residents live within walking distance of around 800 metres from this main section. This is a significant consideration given the opportunities that this provides because of the opportunities it presents for increasing activities and linkages between the Bethune Street project area and surrounding neighbourhoods in order to grow commerce.

Figures from the 2006 Canadian national census showed that the median household income in the Bethune/Aylmer Street corridor and closely surrounding area was in the lowest level – under \$25,000, annually. This constituted the lowest in the entire city with a high percentage of low household income (30% to 50%). Similarly, the unemployment rate for those over fifteen years of age living in the area was in the two highest ranges -- between eighteen and twenty-six per one hundred persons. Statistics Canada figures for the years 2006 to 2011 show that these economic difficulties are accompanied by population decreases of between 5% and 25% -- again, one of the highest in the entire city. Median ages of residents within the area range between 25 and under 48 years. Many young people live in the area along with those in their early-to mid-thirties as well as those in their forties according to 2011 figures from Statistics Canada. Of the existing dwellings, there are four apartment buildings, row houses and small homes. Most of these structures are under five stories in height.

Map A.1 – Study Area – Bethune Street Project



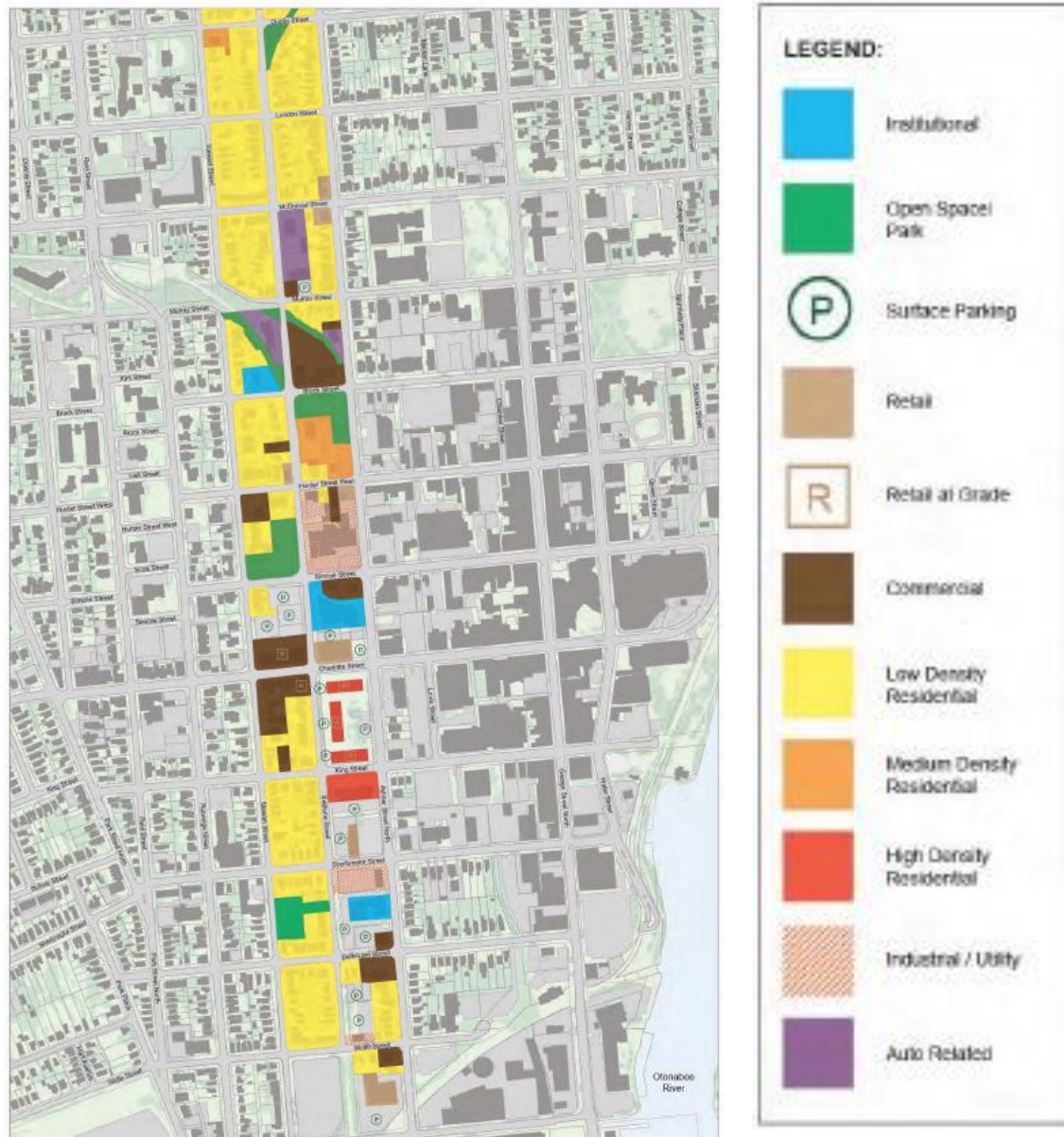
A.3. Character Areas and Land Use Patterns

A remnant of the City of Peterborough's industrial history, Bethune Street and its side streets represent a fairly compact and a tightly-knit fabric of homes and small businesses organized around the typography and reflecting a human scale. Designated an "Improvement Area" in Schedule H of the city's Official Plan, the vitality of the area's industrial past and industrial life has waned. The prosperity of the area has also come under substantial pressure. Closer examination of the Bethune Street project area identifies a number of distinct character areas with unique atmospheres resulting from building scale and massing, visual features and function. Specifically, the area in question consists of a core section of small retail businesses and restaurants located close to each other. An opportunity exists to strengthen this section by improving the pedestrian connections within it so that commercial activity is increased. The area also consists of lower-density and less compact development that provides opportunities for redevelopment into a more compact form.

The map of existing land use, Map A.2, Existing Typologies reinforces the typological nature as it underscores the largely residential personality of the street section. Although there is some commercial and industrial use depicted, most of it shows low-density residential buildings with some medium- and high-density structures. Open park space also appears on the map along with generous parking facilities that are limited to certain sections of the street.

Bethune Street and the side roads that run perpendicular to it consist of a mixture of residences and low-rise commercial establishments. Schedule E of the City of Peterborough's Official Plan categorizes this area as neither medium- nor high-density residential. The latter in turn consist of both commercial- and industrial-use enterprises along with the Peterborough Public Library situated between Charlotte and Simcoe Streets. As can be seen from Map A.2, most of the building structures along Bethune Street, from Dublin Street in the north to Townsend Street in the south, are geared towards the provision of residences – from detached houses, to duplexes and row houses as well as two mid-rise (three to five stories) and two high-rise (more than six stories) apartments. However, there are a number of low-rise structures that are dedicated to the provision of commercial and industrial activities as well.

The area is characterized by a high water table. Much of the corridor is located in the flood plain. Given that the sewer capacity and infrastructure is old, the area is vulnerable to floods much like the ones that occurred during 2002, 2004 and 2012. The design therefore needs to give appropriate consideration to the possibility of the 1-in-100-year flood as well as attention to a growing number of climate change concerns.

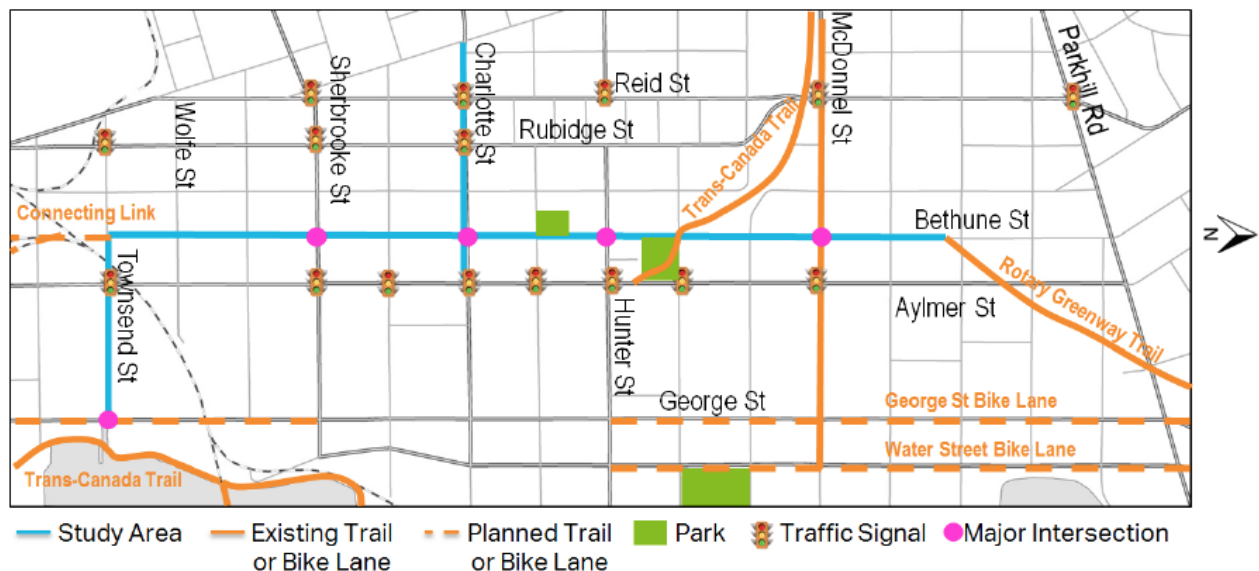


Map A.2 – Existing Typologies

A.4. Traffic Flow and Parking Facilities

Bethune Street provides a link to the city's trail network in the downtown area. While many pedestrians and cyclists use Bethune Street to access the downtown core, the existing infrastructure does not promote either cycling or walking as many sections of the roadway have only one or no sidewalks, leaving many pedestrians to cross the road mid-block.

There are a number of roads running perpendicular to Bethune Street that act as access points to it. Because many of the sidewalks that frame the roads in the area are currently quite narrow, close to the traffic and curbed, existing walkways tend to impede the paths of pedestrians and cyclists, limiting the efficient and safe interaction of vehicular with non-vehicular movement. Street furnishings, garbage receptacles and light standards tend to also constrain walkways while signage and way-finding often impede navigation. Pedestrians are seen to often use streets over sidewalks for walking and it can be challenging for them to cross at major intersections, one of the reasons being that there are currently no lane markings in many areas.



Map A.3 – Existing Transportation Conditions

The main pedestrian routes are north-south with small retail businesses generally fronting both sides of Bethune Street. The majority of these commercial establishments are cafes and restaurants.

There currently is adequate parking along much of Bethune Street. Some blocks have designated on-street parking. Premium on-street parking now exists on both sides of the roadway in certain parts. However, because of this, traffic flow is often restricted along with transit operations. As a result, street parking represents an important element in the design options considered – weighing traffic and transit opportunities against the quality of the walking environment for pedestrians.

Several bus routes cross Bethune Street (see Map A.3). There are also bus stops located along the Bethune Street thoroughfare. Bus routes extend in the north-south direction and wind around some of the side streets. These routes service a fairly heavy volume of patrons.

The street also has a number of retail businesses and services located in a compact area. The relatively high density of the population that lives within this small area

means that these services are easily accessible to commercial establishments by walking or by using bicycles. Only the central section of Bethune Street has significant vehicle volumes.

Appendix B

Analysis of Opportunities, Issues and Constraints

B.1. Analysis of Existing Conditions and of the Infrastructure

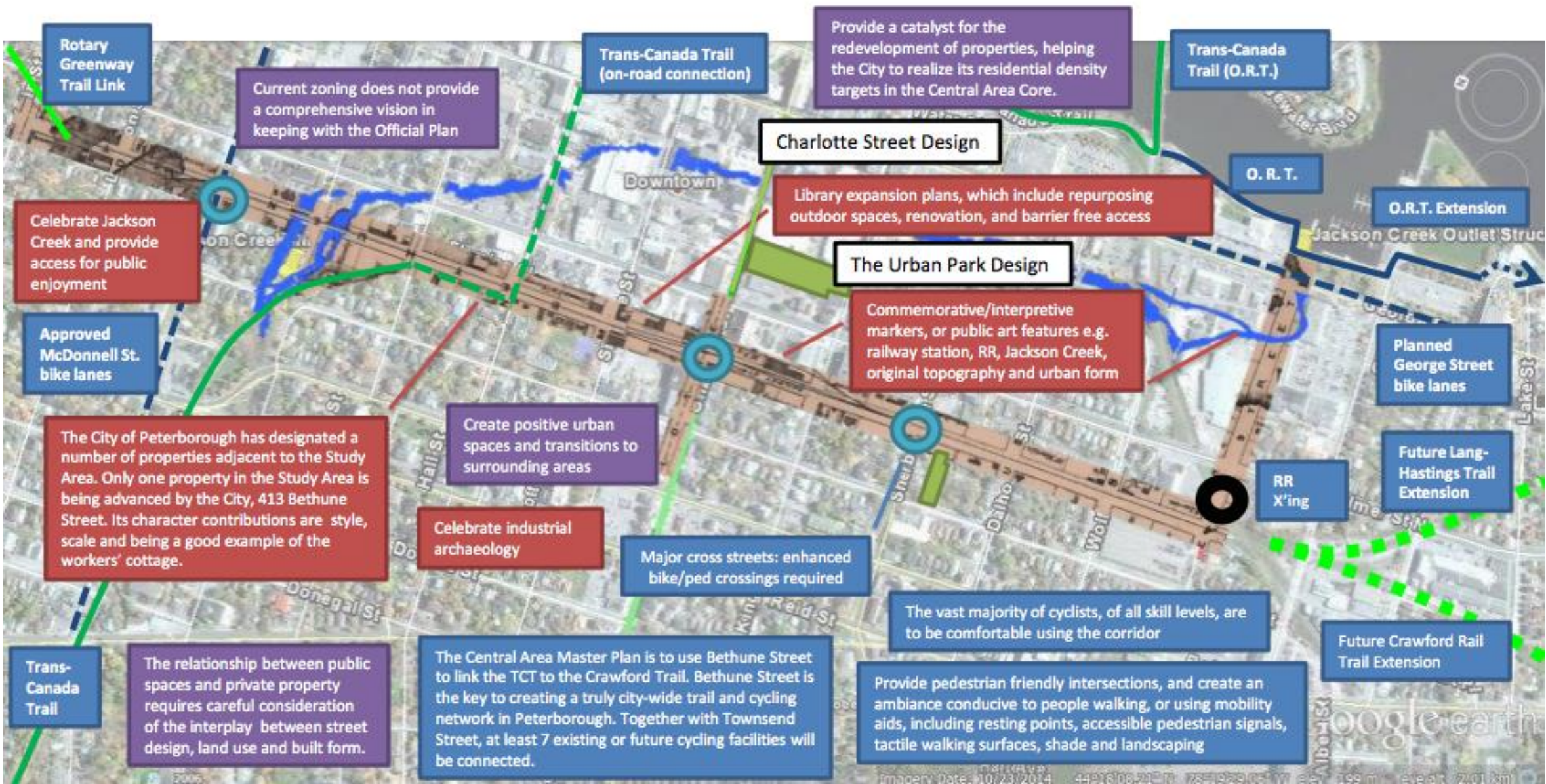
Analysis of existing conditions and of the infrastructure in the Bethune Street corridor reveals a number of issues and opportunities. These are identified in the following table and maps (Table B.1 and Map B.1 and Map B.2).

Table B.1 - Opportunities, Issues and Constraints

Opportunities	Issues and Constraints
<ul style="list-style-type: none"> • widening of sidewalks permit additional treatments and provision of site amenities • potential for greening and other amenities • possible to add pedestrian links to trails and parks • heightened pedestrian connections increase commercial, cultural and social interaction • potential provision of large gathering spaces for increased cultural and social activity 	<ul style="list-style-type: none"> • large spaces between buildings prevent creation of uniformity so that atmosphere is compromised • smaller tree species is required along with lower planting beds • overhead utility lines make planting additional trees difficult



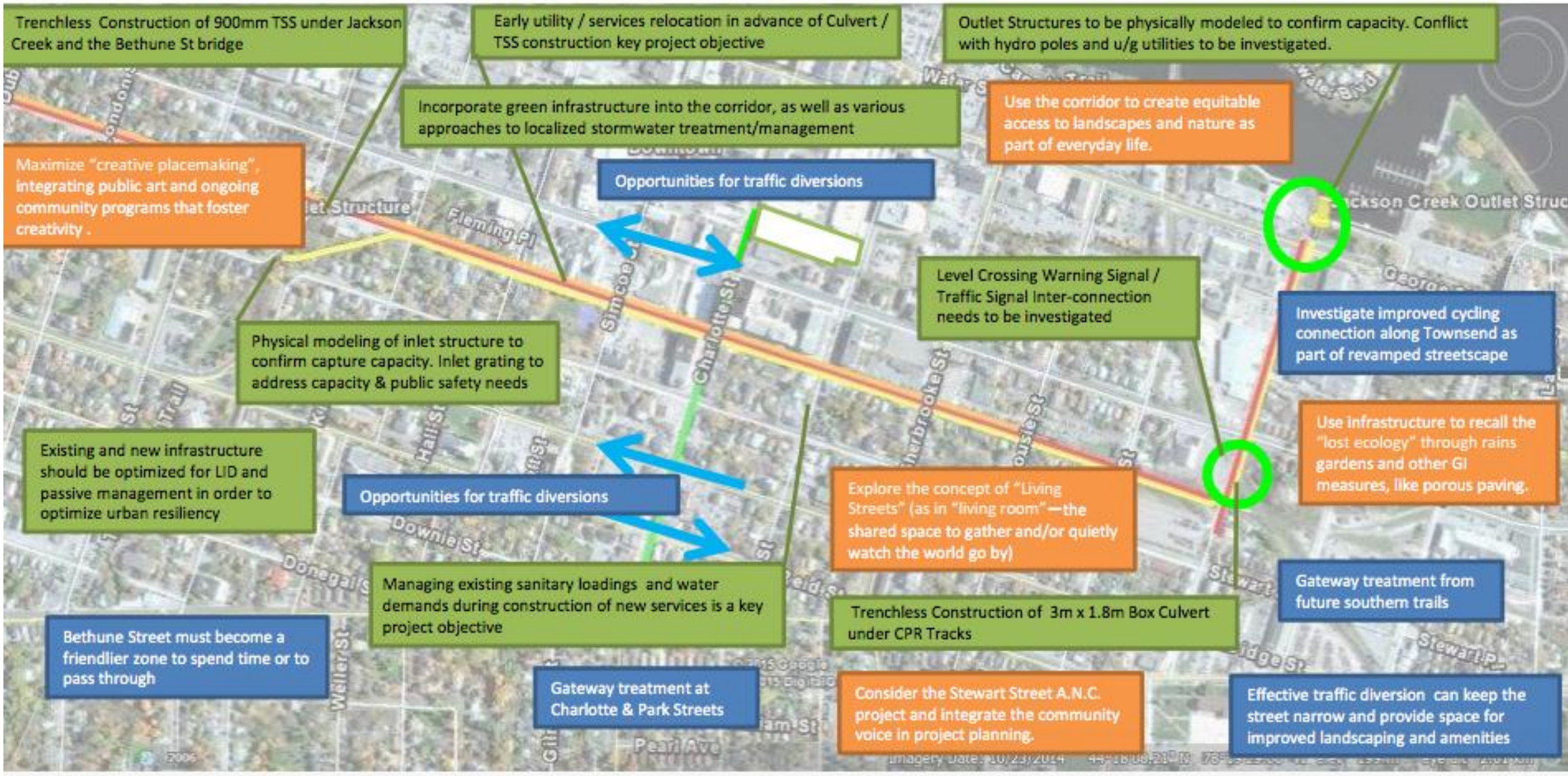
Issues and Opportunities Map:
Active Transportation, Public Realm, Culture, Heritage, Urban Planning and Design



Map B.1 - Issues and Opportunities Map: Active Transportation, Public Realm, Culture, Heritage, Urban Planning and Design



Issues and Opportunities Map:
Low Impact Development, Green Infrastructure, Complete Streets and Livability



Map B.2 - Issues and Opportunities Map: Low Impact Development, Green Infrastructure, Complete Streets and Livability

Appendix C

Streetscape Planning Policy

C.1 Policy Review, Framework and Authority

The mandate, overall framework and objectives for the Bethune Street/Jackson Creek Diversion Project (“Bethune Street Project”) are not limited to the provision of new sewer infrastructure alone. Instead, the goals are more wide-ranging and include the provision of a new streetscape design along the Bethune Street corridor supported by policy initiatives at the provincial, regional and municipal levels of government underscoring the growing use of the public realm in encouraging non-vehicular and pedestrian activities in building vibrant, healthy communities. Much of the streetscape design aspects of the Bethune Street Project were derived from City of Peterborough Council directives along with suggestions from residents as well as business owners in the area. They are supported by an impressive number of policy initiatives aimed at reinvigorating the central downtown core in the city and is supported by the following specific provincial and municipal policies that include the following:

- **Provincial Policy Statement (PPS) of 2014** which forms the foundation for regulating and use and development of land in Ontario. Some of its primary policy objectives relate to:
 - Emphasis on redevelopment and intensification initiatives as the preferred method of managing future growth;
 - Provision of safe and accessible public spaces such as streets as a means of facilitating social activity, interactivity and connectivity within neighbourhoods;
 - Use of the built form, cultural planning and heritage conservation as tools directed towards encouraging a sense of place; and,
 - Provision of an array of housing densities and types.
- **Places to Grow: Growth Plan for the Greater Golden Horseshoe** which establishes an overall framework for southern Ontario’s Greater Golden Horseshoe area. With its emphasis on the efficient use of infrastructure and redevelopment intensification efforts, its primary elements include:
 - Using intensification efforts to direct a significant portion of new growth towards the existing build-up areas;
 - Encouraging development of pedestrian-accessible urban areas that are supported by transit along with provision of mixed-use structures;
 - Provision of greater balance between employment opportunities and housing in neighbourhoods characterized by a diverse mix of land uses, ready access to local businesses and services, a diverse mixture of employment and housing types along with high-quality public open spaces.

- **City of Peterborough Master Plan (CAMP)**, essentially the secondary plan of the municipality within its Official Plan. Establishing growth as a key area of focus, its supporting goals include encouragement of new residential development with emphasis placed on mixed-use as well as higher-density built forms. It also supports stabilization and strengthening of retail business activity in local areas along with increasing pedestrian accessibility and connectivity within communities. Promotion of the quality of life within the City's Central Area is another key objective of the CAMP.

Further context and direction is provided by a number of other documents that are found at both the municipal and provincial levels. City of Peterborough policies, for example, establish a clear direction for the evolution of the Central Area whereby the health and vitality of the downtown core is enhanced through appropriate intensification, a compatible mix of uses and enriched public spaces. Some of the most important of these include:

- City of Peterborough **Comprehensive Transportation Plan** of 2012. This directive recognized Bethune Street as part of the Ultimate Cycling Network as it identified the Bethune Street corridor as having some of the largest numbers of cyclists using the roadway in the entire city. This corridor was recognized for the significant role that it plays in connecting the Rotary Greenway Trail, Trans-Canada Trail and Crawford Trail in the future;
- **Accessibility for Ontarians with Disabilities Act** establishes a set of practical standards for identifying, removing and preventing barriers in the movement within communities for people with physical disabilities. Integrated Accessibility Standards contained within the act outline requirements relating to design elements for redeveloped and newly-constructed public spaces such as sidewalks, walkways, parking areas, recreational trails and playgrounds. The City of Peterborough's Accessibility Plan underscores the municipality's commitment to the principles outlined in the provincial Integrated Accessibility Standards with the objective of ensuring that accessibility is integrated into all of its capital projects;
- **Municipal Cultural Plan (MCP)** focuses on culture and social interaction. It underscores the essential role that these qualities play in the provision of citizens' quality of life, social progress and future economic prosperity.

The principle task of the Land Use and Urban Design Study is to provide a further level of direction by detailing how these policies should be applied to Bethune Street given its local context. The Land Use and Urban Design Study is the primary framework for development of the streetscape design for Bethune Street.

C.2 Project Vision and Guiding Principles

Multiple disciplines were engaged along with community members and key stakeholders to develop a visionary framework that would inform the design of Bethune Street. In

light of the documents mentioned above and, given an understanding of the area's history and the potential benefits of any streetscaping project, in accordance with the "Draft Vision and Guiding Principles" for the Bethune Street Project, it was determined that a successful water diversion and streetscape plan would "integrate buildings, private and public spaces and streets to create a safe, attractive and accessible urban space which serves as an exceptional environment for pedestrians and cyclists and successfully transitions between the different activities and intensities present in the Central Area." The Guiding Principles for the Draft Vision for the Bethune Street Project are presented below. They emphasize objectives promoted by Active Neighbourhoods Canada (ANC) such as mobility and connectivity, accessibility, child-friendly design, greenscaping, place-making and neighbourhood safety.

Bethune Street Project Detailed Draft Guiding Principles

Draft Vision

The Bethune Street corridor will integrate buildings, private and public spaces and streets to create a safe, attractive and accessible urban place which serves as an exceptional environment for pedestrians and cyclists and successfully transitions between the different activities and intensities present in the Central Area.

1. Integrate public and private elements to create a high quality urban place

Built environments are made up of a variety of elements – buildings, front yards, sidewalks, streets, public spaces like parks – some of which are in public hands, some of which are privately owned. The reconstruction of the public right-of-way in the Bethune Street corridor provides the opportunity to transform public right-of-ways into vibrant places promoting recreation and social exchange and to integrate this public work with a planning and design framework that guides the long-term evolution of private property. The goal is to foster a unified environment where public and private elements complement each other to create a high quality urban place which is safe, attractive and accessible.

2. Enhance connectivity along and across the corridor

The Bethune Street corridor will connect the Trans-Canada Trail at Brock Street to the Crawford Trail Extension and the CPR Industrial Spur, which meet at Townsend Street. In addition to facilitating north-south trips with emphasis on pedestrian and cyclist traffic, the corridor should foster east-west connectivity, especially for those accessing places of work, shopping and other services in the Commercial Core and Waterfront Commercial sub-areas.

3. Create an exceptional environment for pedestrians and cyclists that fosters active transportation and incorporates accessible public realm design that recognizes all users

As a pedestrian and cyclist priority route, the Bethune Street corridor will be a completely new kind of street in the Peterborough context – a complete street that promotes universal mobility, balancing the needs of motorists, transit users,

bicyclists and walkers. It is an opportunity to create an example of best practice in urban form and bikeway design. The result should be an exceptional environment which promotes the Bethune Street Project Draft Vision and Guiding Principles with active transportation and is responsive to the needs of people of all abilities. Streetscape and public realm design should incorporate accessibility to create safe and inclusive spaces for all people.

4. **Improve the quality of life of local residents, workers and visitors to the area**

The creation of a new kind of street is an opportunity to improve the quality of life of all those who use the area, both as a route, as part of a neighbourhood and as a destination in its own right. The evolution of Bethune Street will promote health and well-being by encouraging physically active ways of getting around, enhance the safety of its users and contribute to community life.

5. **Strengthen the role of the Central Area and provide appropriate transitions between sub-areas**

The Official Plan and Central Area Master Plan establish a clear vision for the Central Area as a region-wide focal point providing the central place functions reflected in the retail, service, government, residential, and cultural activities of a traditional central business district. The Central Area comprises a number of sub-areas unique in character which contribute in distinct ways to the greater whole. The Bethune Street corridor falls within a number of sub-areas as well as forming the border between them. The planning and design framework for the Bethune Street corridor will knit these subareas together and provide appropriate transitions between them, at the same time as promoting activities which align with the central place functions critical to the long-term success of the Central Area.

6. **Foster context-sensitive intensification**

The Central Area is anticipated to intensify, which will see new residents and businesses locate in the area. As the area intensifies, the planning and design framework for the Bethune Street corridor will provide appropriate transitions between new and existing built form in the context of thinking about the long term evolution of the area. Preservation and adaptive reuse of built heritage resources should be a priority.

7. **Link design approach to surrounding streetscapes**

Although the Bethune Street corridor is the focus of this study and will see significant investment as part of the reconstruction of the right-of-way associated with the Jackson Creek Diversion project, the design approach adopted must integrate with those of surrounding areas. Linking with the design approach taken on Charlotte Street and the development of the urban park at Louis Street will be particularly important.

8. **Celebrate the cultural heritage of the corridor and adjoining areas**

The history of Bethune Street is part of the broader history of Peterborough. The role of the corridor has evolved over time. Wherever possible the cultural heritage of the corridor should be revealed and celebrated and contribute to the broader story

being told about Peterborough's past. Peterborough heritage should be incorporated into streetscapes to evoke Peterborough's unique sense of place and capture how natural and cultural systems have interacted over time to create the place that it is today. Cultural heritage can serve as a source of design inspiration and source for the incorporation of playful, interactive learning displays that can make the street a true civic destination.

9. Utilize public art to create distinctive destinations and event spaces

Artworks can raise the level of material craftsmanship, help define the ambience of a place and create distinctive destinations. Artworks can be permanent or ephemeral. The former can be individual works (sculptures, canopies, lighting, furnishings) or whole places, such as a signature plaza, designed in collaboration with an artist. The latter can be recurrent programs that enliven the public realm, such as dance, music, projection art, craft fairs. Event spaces may be established in conjunction with new development, or incorporated into the Right-of-Way as a "flex" area suitable for vehicular mobility and public gatherings. Public art, whether permanent or ephemeral, can make the Bethune Corridor into a regional attraction, spurring economic development. The streetscape and public realm should provide opportunities for residents to showcase the stories of their neighbourhood.

10. Contribute to the urban forest, green the street, and improve the environmental performance of the public right-of-way

Native vegetation, natural features and green and sustainable infrastructure can green the street and promote environmental quality to create landscapes and public right-of way that improve environmental performance. The use of green infrastructure such as well-planted rain gardens, bio-swales and porous paving surfaces among other measures should be incorporated to manage runoff and establish interactive and educational features. New trees should be added to help contribute to the urban forest and provide environmental, social, cultural and economic benefits. Green and natural elements contribute to welcoming community spaces, promote active recreation, foster physical and mental health, and help to offset the effects of climate change.

The streetscape design vision was developed to inform, more specifically, the design of public realm elements, programming and circulation patterns of pedestrians, cyclists and vehicles. It will accommodate cyclists and pedestrians of varied skill levels along with slow-moving local vehicular traffic within a park-like linear corridor that is designed to optimize public spaces, greening, programming, the pedestrian realm along with connectivity with neighbouring parks and trails.

C.3 Consultation with General Public and Other Stakeholders

Citizens possess a unique understanding of how their communities work. As a consequence, throughout the Bethune Street planning process, input from the general public along with other important stakeholders became a large component in the conceptual and design decisions that resulted. In essence, therefore, the streetscape plan for the Bethune Street corridor reflects the overall vision of members of the

community with the view that success of the project depends on consulting with those who will be using the space. Because of the complex, multi-faceted nature and uniqueness of the Bethune Street/Jackson Creek Diversion Project, significant public consultation and community collaboration occurred. The goal was to develop a sense of partnership and “ownership” within the community as an important component of its overall success. It should be pointed out that the project’s vision is not fixed but instead represents a commitment to take the project to the next level.

Three public information centres (PICs) were held – one in May 2016, another in July 2016 and yet another during September of 2016 -- in order to gather necessary input from residents and business owners. These were all well-attended, reflecting the public’s interest in the project. The valuable feedback and ideas provided by participants from these PICs were incorporated into the design vision and concepts subsequently developed (see Appendix E, Comments). Public feedback and consultation were used to subsequently develop the evaluation criteria.

C.3.1 Three-Day Design Workshop – February 2016

The Bethune Street and Jackson Street Water Diversion Project were presented publicly for the first time in a three-day workshop for stakeholders during February of 2016. The project’s overall vision and guiding principles were presented to frame and direct the initial exploration of public realm and streetscape design. Four “straw models” were presented on tables along with twelve-foot posters to enable critique, testing, assessment and blending by attendees. Participants were asked to “mark up” the models in an effort to subsequently come up with a preferred design concept. Precedents from other projects were also examined. Along with the vision and guiding principles, themes and goals were discussed and defined. Streetscape concepts were created to develop an overall guiding framework for project planning. Round-table discussions, reviews and presentations were held and a consensus on the public realm and these streetscape concepts was reached. Subsequently, findings were summarized and presented in an illustrated booklet.

C.3.2 Public Information Centre Session #1 – May 19, 2016

The overall objective of the first PIC was to outline the proposed project purpose and process, introducing the land use planning and urban design study for its streetscaping aspects. In addition, this PIC discussed the sewer and storm plans for the Jackson Street Flood Diversion Project. The vision and guiding principles for the project were outlined along with existing conditions, potential land-uses and typologies as feedback was presented and solicited on the initial streetscape strategies. This was set within the context of public realm and streetscape concepts along with the potential affects of these on various modes of transportation. The discussion was framed within the context of a changing and emerging vision for the downtown core area along with efforts to develop alternative streetscape concepts and evaluation criteria. Background information was collected. The proposed criteria to be used to evaluate each alternative strategy were reviewed as well. Held at the Holiday Inn on George Street in Peterborough, the event was well-attended and generated discussion and feedback on

what was and what was not working in the affected Bethune Street corridor area according to attendees. Priorities for renewal were presented along with a series of guest speakers who added their perspectives on what was presented.

C.3.3 Public Information Centre Session #2 – July 7, 2016

Held at the Holiday Inn on George Street, this two-hour PIC session concentrated on and considered the land use and urban design/development alternatives for the Bethune Street corridor. The study will consider the long-term evolution of the Bethune Street corridor. Beginning with a presentation of the available alternatives, the discussion undertaken in small groups also considered guiding future development in terms of variations in building heights, massing of structures, land uses as well as private parking. The relationship between buildings and the re-constructed street was also considered. Land-use/development regulation proposals and changes to match the various streetscape scenarios were suggested. These included consideration of building heights, setbacks and massing. A technical evaluation of these aspects has been undertaken and this, plus the proposed ultimate land-use patterns, will be presented to Council in a future report.

C.3.4 Public Information Centre Session #3 – September 21, 2016

Also held at the Holiday Inn on George Street in Peterborough, this third and final PIC took place in two separate PICs on the same day – one during the afternoon and another that same evening. The purpose of this public information session was to review an evaluation of the alternative streetscape options that had been developed. Land use and urban design/development alternatives were also considered. The recommended streetscape plan for the project area was presented along with land use and urban design plan recommendations for the project. A number of displays accompanied the presentation.

C.3.5 Additional Public Information Centres

An additional two to three public events are scheduled to be held. At least one of these is planned to occur during the detailed design phase prior to construction. This event will address all modifications to the sewer infrastructure as well as to the planned streetscape improvements that will be implemented during the initial stage of the project. Reconstruction of the roadway will actually act as a “canvas” for future planning. City staff and consultants will review priorities for future planning activity based on the feedback received from the PICs in conjunction with available budget resources. As part of the recommended streetscape master plan, for example, several zones in the study area have been identified. Many of these are lower-cost alternatives. Final decisions regarding which alternatives to implement will be made along the way; they can be customized and tailored and are not necessarily fixed in nature.

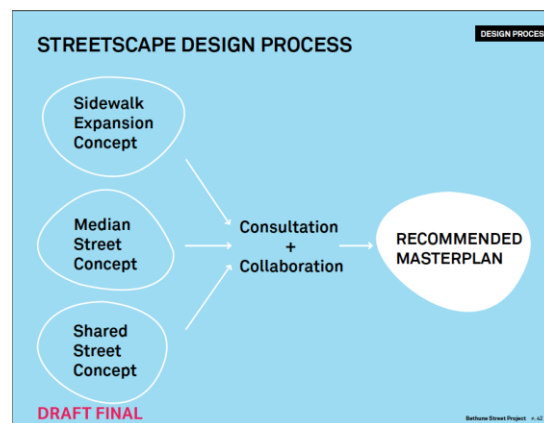
C.3.6 Stakeholder Consultations

The City, along with the consultants hired to assist with the Bethune Street/Jackson Creek Diversion Project, also conducted a number of interviews with key business owners and community groups along the corridor. These stakeholders were also specifically invited and requested to attend all three of the public information centres. Aside from notices given to the general public to attend the PICs sessions, business owners, residential and commercial property owners along the Bethune Street corridor were specifically notified by mail of the PICs. Various agencies were also informed and invited to attend the public information centre events.

At least some of this consultation was conducted on an ongoing basis over the course of months with representatives from key stakeholder groups. This process was undertaken in an effort to identify opportunities as well as constraints in the programming by providing assistance and input in prioritizing design options for the project. Commercial property owners were contacted in order to secure their support. Potential inconveniences to them and any concerns that they had were discussed and allayed by provision of appropriate workable solutions.

The Streetscape Design Process with consultation and collaboration through to the Recommended Master Plan is depicted in Figure C.1.

Figure C.1 - Streetscape Design Process



C.3.7 Online Consultations and Information

Along with PICs and in-person interviews with specific stakeholders such as area small business owners, residents and business-people with establishments in the area were asked to submit ideas and suggestions online through the City of Peterborough website. Members of the general public were given access through the website to material relating to the Bethune Street project that is in the public record. This includes presentations, maps, drawings and renderings as well as comment sheets. Sectional

options such as those relating to Peter Street, Dalhousie Street and others were posted with areas available in which participants could make comments. Notices, reports as well as information relating to the PICs are also available for the public's convenience.

C.3.8 Technical Staff Input and Consultation

A number of functional departments within the City of Peterborough were also consulted during preparation of this report. Input was especially sought on an ongoing basis from Planning & Development Services as well as Utility Services for their assistance in framing the relevant issues to be considered in the planning, design and execution of the crucial elements in the Bethune Street project. In addition, a staff Technical Committee from different departments was established to review and provide commentary in the final report.

C.3.9 Feedback Results from Public Information Centres

A broad range of opinions were expressed in relation to the streetscape design concepts and programming ideas that were initially presented at the public information centres, particularly during the first PIC. These responses, received from attendees and participants are listed below:

- maintain the existing road configuration;
- provision of a two-way cycling track along a vehicular street was viewed as being unsafe;
- non-vehicular transport such as cycling should be made more desirable than driving a vehicle;
- pedestrian safety should be emphasized (for example, the area should be well-lit during the evening hours);
- ensure a design that emphasizes accessibility;
- needs of children should be considered in terms of safety, interactivity and age-appropriateness;
- cultural heritage of the corridor should be maintained where possible;
- community resources should be used for public art elements;
- concerns over potential negative impact to property use and access were expressed; and,
- Provision of cul-de-sacs at crossing streets was suggested in order to discourage traffic and to increase safety for residents, pedestrians as well as cyclists.

C.4 Evaluation Criteria – Land Use and Urban Design

With respect to the proposed streetscape aspect of the Bethune Street/Jackson Creek Diversion Project, land use and urban design alternatives were evaluated based on the extent to which they adhered to the following general principles:

- a) integrate public and private elements to animate streets and public spaces, evoke a unique sense of place and provide a sense of personal safety;
- b) achieve context-sensitive intensification;

- c) successfully transition between the different activities and intensities present in the Central Area;
- d) strengthen central place function of the Central Area;
- e) successfully transition between existing and new built form;
- f) respect cultural and heritage landscapes and built heritage resources;
- g) contribute to the urban tree canopy and greening of the corridor;
- h) reduce/consolidate curb cuts and access points along Bethune Street;
- i) reduce impact of parking on the public realm;
- j) promote architectural compatibility of new development with the existing character of Peterborough's architecture, materials and design; and,
- k) successfully integrate the forms and functions of the built form with the public realm and open space strategies.

At the third PIC, a more detailed and specific set of preliminary evaluation criteria were developed and were prepared in consideration of the "Vision and Guiding Principles." They were used to compare and evaluate the various design concepts presented and can be summarized as follows:

Social/Land Use

- consistency with City Master Plans and policies such as the Central Area Master Plan, Comprehensive Transportation Plan and Little Lake Master Plan
- consistency with the City of Peterborough Accessibility Plan goals and objectives
- effect on open space areas
- ability to integrate public and private elements
- ability to evoke a unique sense of place
- ability to provide a sense of personal safety

Transportation

- effect on trail connectivity
- effect on cyclists
- emphasis on pedestrians
- effect on cyclist safety
- effect on pedestrian safety
- ability to accommodate on-street parking
- effect on traffic operations

Economic Environment

- effect on existing business operations
- capital costs

Built Environment

- ability to accommodate future land uses and support redevelopment
- effect on existing utility infrastructure
- ability to provide transitions between different activities and intensities

- ability to enhance corridor connectivity
- ability to deliver and accommodate public art
- ability to incorporate sustainable infrastructure

Cultural Environment

- potential to affect archaeological resources
- effect on existing cultural and heritage landscapes
- effect on existing built heritage resources
- explores creative design for new infrastructure
- potential to celebrate culture and heritage

Natural Environment

- effect on individual trees
- ability to contribute to greenscaping
- potential to improve landscape performance.

C.5 Recommended Streetscape Plan Process

Development of the recommended streetscape plan is part of a staged approach to the Bethune Street. It is formed on the basis of the recommendations on the Jackson Creek Diversion Municipal Class Environmental Assessment (EA) study, City of Peterborough policy direction as well as extensive community engagement and collaboration. The findings establish a comprehensive vision for the Bethune Street corridor. A summary of this approach is described herein:

C5.1 Existing Conditions Analysis

The first stage in developing the recommended plan included a comprehensive analysis of existing study area conditions, policy direction and other guidance material. This was accompanied by a review of existing best practice examples. As part of the review, an inventory of cultural heritage resources in the study area was undertaken.

C5.2 Streetscape Design Workshop

An intensive design workshop was held during the initial planning stage in order to confirm existing conditions. The Vision and Guiding Principles were also established in the design workshop and potential ideas for the Bethune streetscape were explored.

C5.3 Development of Evaluation Criteria

A comprehensive set of evaluation criteria were developed to assess each strategy in terms of its advantages and disadvantages. The project team defined specific comparison points against which aspects of the alternative streetscape strategies could be ranked. These criteria target measurable aspects of each design to ascertain which strategy most successfully fulfilled the vision and guiding principles.

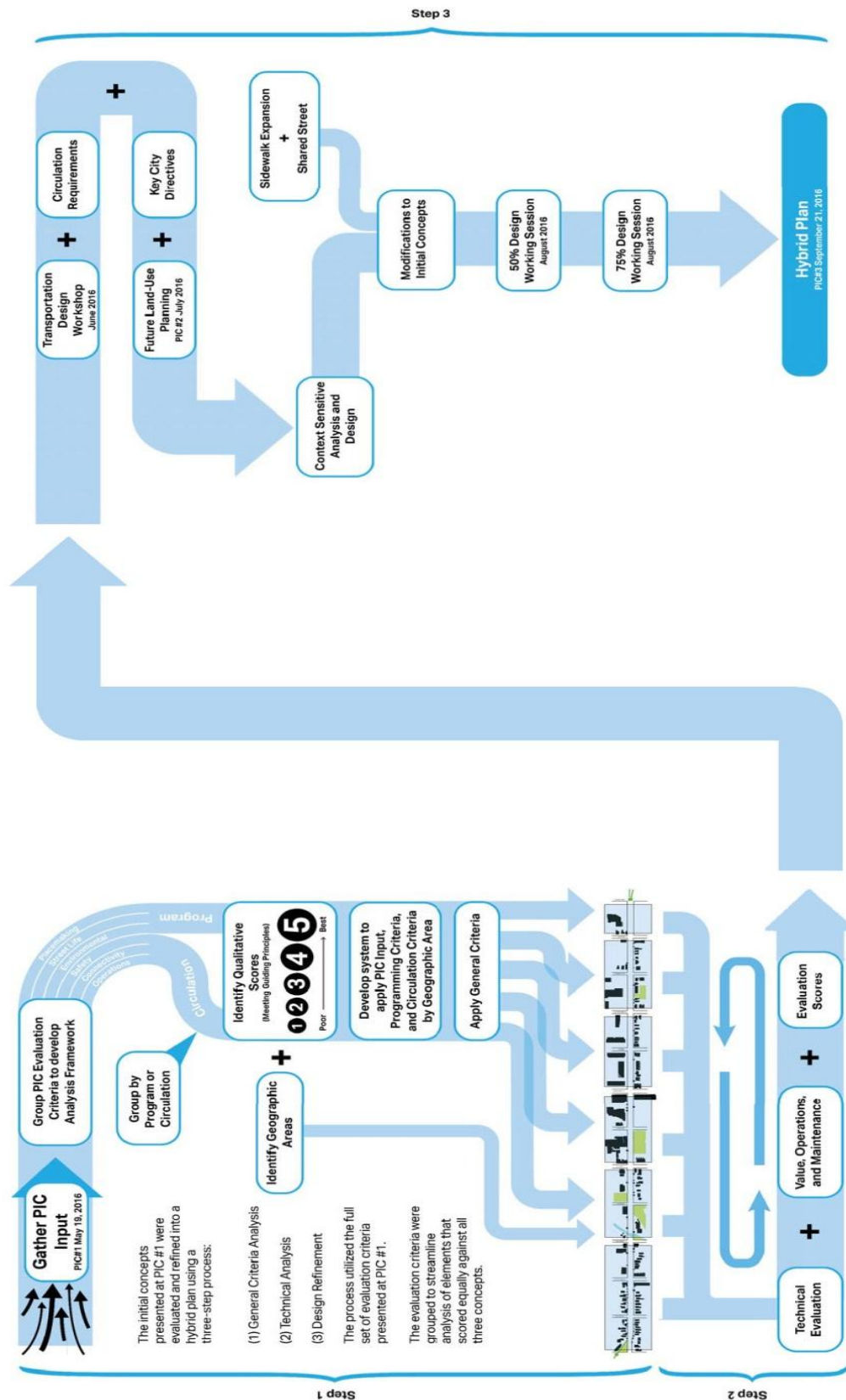
C5.4 Development of Alternative Streetscape Strategies

Building upon the ideas and strategies advanced through the stakeholder design workshop referred to above, three conceptual streetscape plans were developed for further consideration and evaluation by City of Peterborough staff, project team members as well as key stakeholders.

C5.5 Evaluation of Alternative Streetscape Strategies

A comprehensive evaluation of each of the conceptual streetscape strategies was undertaken using a qualitative and quantitative approach. A detailed description of the evaluation process is described in the sections that follow as well as being depicted in Figure C.2.

Figure C.2 – Evaluation Criteria Used for Alternative Streetscape Strategies



C5.6 Iterative Collaboration Used Throughout Design Process

The Consultant led numerous meetings, workshops and interviews during the planning, creation and development of the recommended streetscape plan. Together with the City of Peterborough project committees and stakeholders, the consulting team facilitated many formal as well as informal opportunities for plan review. The resultant recommended streetscape plan for Bethune Street, termed “Bethunescape,” reflects extensive ongoing and iterative collaboration. Formal review and input sessions included the following (see Table C3.1):

Table C3.1 - Design Review Meeting Summary

Date	Purpose
April 12, 2016	25% streetscape concepts review
May 4, 2016	75% streetscape concepts review
June 10, 2016	Pre-evaluation workshop
June 16, 2016	Evaluation workshop
July 21, 2016	Transportation workshop
August 12, 2016	50 % Design Review
September 1, 2016	75 % Design Review
September 8, 2016	Stakeholder Interviews
September 14, 2016	100 % Streetscape Design Review

Appendix D

Development of Alternative Streetscape Concepts

D.1 Development of Alternative Streetscape Concepts

The Consultant has facilitated an approach for the Bethune Street Project that is lead by public realm design that is informed by land use planning and urban design principles using a blending of landscape architecture, engineering, planning and urban design within the context of extensive consultation and collaboration. The resulting Streetscape Master Plan envisions a first-of-its-kind public realm transformation underscored by a linear park-like corridor where vehicle speeds are set by cyclists and pedestrians. During development of the streetscape concepts and finalization of the preferred streetscape concept, specialists in the following areas have informed and influenced the process and product:

D2.1 Engineering and Infrastructure

As has been mentioned previously, the following infrastructure components are included in the Bethune Street Project:

- **Jackson Creek Diversion Project**
 - To be completed within the context of a 2014 EA which recommended that a buried sewer connecting Jackson Creek to the Otonabee River be placed under Bethune Street in order to divert high water flows in future from Jackson Creek around the downtown Peterborough core;
 - A new storm sewer will connect Jackson Creek north of Brock Street and will follow Bethune Street south to Townsend Street then along Townsend Street to the Otonabee River; and,
 - investigation of the feasibility of diverting any 1-in-100-year storm flows from the Rink Street storm conveyance system into the Jackson Street diversion sewer.
- **Charlotte Street Storm Sewer Upgrades** – upgrades to the storm sewer pipe capacity are required on Charlotte Street.
- **Sanitary Trunk Sewer Upgrades** – modifications to the existing sanitary trunk sewer on Bethune Street from Dalhousie Street to Dublin Street are needed to support growth in the north end of Peterborough.

The Bethune Street streetscape master plan was developed to ensure the best possible public realm solution is built subsequent to the installation of the Jackson Creek flood diversion sewer as well as sanitary sewer upgrades from Dalhousie Street to Dublin Street. Working closely with the engineering team, the streetscape concepts have been developed to accommodate the utility and infrastructure features while optimizing

opportunities for public art, greening, and active transportation facilities along with accessible, convenient and safe public realms in addition to low-impact developments.

Traffic and Transportation

The transportation team developed the following objectives for the transformation of Bethune Street:

- Maintain efficient and comfortable circulation of cyclists and pedestrians;
- Reduce and slow vehicular traffic presently travelling along the road;
- Accommodate both fast and slow-moving cyclists;
- Create links with and between Peterborough's trail network;
- Increase safety for all users of the Bethune Street corridor; and,
- Retain adequate access to private driveways.

The team considered many different street configurations and traffic patterns. Eventually, a combination of bicycle-priority street and cycle track was selected as the preferred solution to multiple-user demand from pedestrians, cyclists and vehicles. The goal of a bicycle-priority street is to slow vehicular traffic as much as possible through design elements that also enhance the space for cyclists and pedestrians. The recommended master plan includes the following potential changes in traffic operations:

- Some turning movements will be limited and restricted due to the street closures, one-way conversions and imposition of median barriers;
- Most cut-through traffic on Bethune Street will be eliminated;
- Short-cutting from eastbound Charlotte Street to Sherbrooke Street avoiding signals at Aylmer Street will be removed; and,
- All cross-streets other than Brock will remain open in order to provide local access to Bethune Street.

D.3 Heritage and Culture

The project area has retained many architectural and urban features as well as character that focus on the historical railway line. Removal of the railway infrastructure and associated structures opened up property to commercial and residential development. Hutchison House, one of Peterborough's most important historical buildings, is one of the twelve structures designated as heritage property under Part IV of the Ontario Heritage Act. In light of this, the Bethune Streetscape Master Plan used a context-sensitive approach to programming and public realm design/materials that reinforces the area's heritage character. It also promotes cultural vibrancy.

Along with "milk bottle columns," cornice line and roof slopes, four-square house facades, common verandas and narrow property lot fabrics with side lanes, the public realm relationship to front yards and "porous" public realm designs can reinforce the "pre-automobile" role of the street in joining neighbourhoods. Opportunities for cultural enrichment that is consistent with the City of Peterborough's Cultural Master Plan

abound in the Bethune Streetscape concept. The opportunities respond to the rich and creative commentary the project team received from advisory committees, stakeholders and City residents.

D.4 Land Use Planning and Urban Design

The Bethune Street Project includes a major investment in flood diversion and sanitary servicing infrastructure. In addition, it includes a complete redesign of the public right-of-way and re-thinking of the development possibilities for adjacent properties. While the infrastructure improvements will be largely located underground and out of sight, the street redesign and land use/urban design components establish a future direction for Bethune Street which will dramatically change the nature of the corridor. This applies to both its role as a transportation route as well as an urban place. The Land Use and Urban Design Study will provide a planning and design framework to guide the long-term evolution of the properties along the Bethune Street corridor. This study should be reviewed in conjunction with the “Recommended Streetscape Plan,” which represents a redesign of the public right-of-way. Both documents have been developed based on a common vision for Bethune Street as a safe, attractive and accessible urban space as well as a welcoming environment for both pedestrians and cyclists. These components work together to ensure that the design and use of both the public realm and private property contribute to this vision and advance the City of Peterborough’s objectives for the Central Area.

D.5 Evaluation of Alternative Streetscape Concepts

Streetscape concepts were systematically evaluated using a well-defined process that began with gathering public comments at the PIC of May 19, 2016. This feedback was grouped for evaluation using a set of criteria and an analytical framework. These evaluation criteria were formulated after the first PIC.

Following a three-step process, the initial concepts gathered from the first PIC were subsequently refined into a composite plan that was presented at the third PIC held on September 21, 2016. The three-step process involved: (1) general critical analysis; (2) technical analysis; and, (3) design refinement. During step one, geographic areas were identified and qualitative scores from 1 to 5 were set reflecting “poor” to “best” assessments. The evaluation criteria were grouped to streamline the analysis of elements that scored equally against all three requirements of PIC input, programming criteria and circulation criteria by geographic area. In step two, these general criteria were applied to produce overall evaluation scores against technical evaluations as well as value, operations and maintenance assessments.

Finally, the step one and step two evaluation results were used as input for the design refinements that occurred in step three. During this last step, a transportation design workshop was held in June of 2016 outlining key circulation requirements. Land use planning suggestions were outlined during the second PIC held on July 7, 2016 in which design directives for the project were established. Out of all of these initiatives, a context-sensitive analysis and design resulted which underscored plans for sidewalk

expansion and use of shared streets. Modifications were then made to these initial working plans which resulted in the combined plan that was presented at the third PIC which was held on September 21, 2016.

D.6 Identification of Alternative Solutions

Three alternative streetscape and circulation solutions were presented to the City and to community members at PIC #1 for review and comment. Expansion of the public realm space within the twenty-metre right-of-way required a reconfiguration of traffic patterns. The three alternatives identified three distinct programming concepts applied to three distinct traffic patterns for the reconstruction of Bethune Street. The alternative solutions include:

1. Sidewalk Expansion/Production Junction

- Expansion of raised sidewalk into existing road width for increased public realm area at street frontage;
- One-way vehicular traffic pattern on Bethune Street. Northbound to from Townsend Street to Brock Street. Southbound from Dublin Street to Brock Street;
- Forced turns from Bethune Street onto Brock Street to provide an uninterrupted link of Trans-Canada Trail;
- Bike trail separated from vehicular traffic by one-meter buffer; and,
- Streetscape programming focus on community involvement, production and education.

2. Medium Street/Peterborough Artwalk

- Creation of a raised median within the centre of existing road width to provide a continuous boulevard experience;
- Two-way traffic is maintained on Bethune Street with one lane on either side of the new median;
- A mixed-use bike and pedestrian trail on the median is separated from vehicular traffic by public realm areas; and,
- Streetscape programming focus on arts, culture and history.

3. Shared Street/Sport 'n Leisure Way

- A complete reclamation of the entire twenty-meter right-of-way for public realm programming;
- Vehicular, bike and pedestrian traffic to mix within a designated six-meter "clearway";
- Fully mixed modes of transportation encourage reduced speeds and increased awareness of surroundings;
- Site furniture, plantings and tactile strategies are employed to keep vehicular traffic from entering public realm areas;
- Only local vehicular traffic allowed on Bethune Street to access driveways and businesses; and,
- Streetscape programming focus on active recreation.

D.7 Consideration of the Alternative Solutions

Following the identification and development of the three alternative solutions, each solution was evaluated against two distinct analyses – one a qualitative analysis and the other a quantitative analysis. The site was divided into six segments that were delineated based on side character, building type and programming. Each segment was then graded on a 1 to 5 scale (poor to best) under a variety of criteria in both the qualitative and quantitative analysis. Scores were then weighted and totalled to target preferred elements of each alternative solution. Preferred elements were then to be reviewed and integrated holistically into a recommended hybrid Master Plan.

1. The qualitative analysis assigned scores to more subjective and experiential elements of the alternative solutions. There was a focus on programming, place-making, user comfort and greenscaping. This also took into account public feedback from PIC #1. The criteria used were:
 - Comfort: cyclist comfort, pedestrian comfort, conflicts;
 - Connectivity: trail connections, bicycle network connectivity, pedestrian network connectivity;
 - Operations: vehicular accessibility, utilities and maintenance;
 - Placemaking;
 - Street life;
 - Green performance; and,
 - Public support.
2. A preliminary investigation into traffic diversion and transportation operations impacts was performed as the basis of a quantitative analysis. This involved reassigning displaced turning movement volumes to logical neighbouring streets and their corresponding movements. The impacts on Stewart Street and Aylmer Street were examined closely and in a conservative manner. Impacts related to parking, safety, access, loading and the transportation network as a whole were considered for all three major user groups. The criteria used in this step of the analysis included:
 - Comfort: pedestrian safety, cyclist safety, vehicular safety;
 - Connectivity: bicycle network improvements;
 - Operations: on-street parking, driveway access, loading access, vehicle network impacts.

Appendix E

Public Information Centres (PICs) Summary of Public Comments

- increase use and activity in business sections by increasing connectivity
- add public events that occasionally close off certain sections of the street
- present live music events, public art displays and a farmers market
- increase way finding and other signage to improve movement through the area
- increase number of benches and street furniture and improve appearance of garbage cans, pot holes and sidewalk imperfections
- improve landscaping and “treescape” environment
- repair and improve upkeep of heritage buildings in the area
- make the area more pedestrian-friendly by decreasing use of vehicular traffic
- closing certain sections of the street to vehicles and reducing bus traffic

Appendix F

Public Information Centre #3 (PIC# 3) Comment Sheet



Bethune Street Project - Comment Sheet

Public Information Centre #3
September 21, 2016

Your comments and suggestions are very important to us. Please take a few minutes to complete this comment sheet. All comments will be considered in the design process. Personal information is optional.

Name: _____
Address: _____ Postal Code: _____
Email: _____
Phone: _____

Recommended Streetscape Design

- 1) How do you feel about the recommended changes to transportation patterns along Bethune Street?

- 2) What programming (various ways the corridor is used) would you like to see in the Recommended Streetscape Design?

- 3) Are there specific design elements of either the Bethune Street or Charlotte Street Recommended Streetscape Design you like or would change?

- 4) Which built features and/or programming would you like to see implemented first along the Bethune Street corridor?



Bethune Street Project - Comment Sheet

Public Information Centre #3
September 21, 2016

Recommended Planning Framework

5) What do you think about the land uses proposed for the Bethune Street corridor?

6) Are the recommended heights, massing and setbacks appropriate?

7) Do you have any other comments you would like to add?

Please complete this form and deposit it in the Comment Sheet box or take it home and return your sheet to the project team by **October 12, 2016**. Completed sheets can be mailed, emailed or faxed to the following project team member:

Peter Middaugh, P.Eng.

AECOM

300 Water Street, Whitby, ON L1N 9J2

Phone: 905-668-9363 ext. 2256

Fax: 905-668-0221

Email: JacksonCk.Project@aecom.com

All comments and information received from the public, stakeholder groups and agencies are being collected to assist the City of Peterborough in project planning and will be used for future contact in relation to this project. Comments, input, and information regarding this project may be included in documentation. With the exception of personal information, all comments will become part of the Public Record.