



DUNLOP STREET CORRIDOR IMPROVEMENTS

City of Barrie

Class Environmental Assessment Phases 1 & 2 Report
Final Report

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Table of Contents

1	Introduction	1
1.1	Background	1
1.2	Project Team	2
1.3	Class Environmental Assessment Process	2
1.4	Report Objective	3
2	Need & Justification	5
2.1	Problem Statement	5
2.2	Study Area	6
2.3	Transportation Network	6
2.4	Traffic Operations	7
2.5	Existing Project Environment	8
3	Development of Alternative Solutions	10
3.1	Pre-Screened Alternative Solutions	10
3.2	Alternative Solutions to Address Deficiencies – Dunlop Street	11
3.3	Alternative Solutions to Address Deficiencies – Ross/Collier/Bayfield Intersection Realignment	14
4	Project Environment	16
4.1	Physical Environment	16
4.2	Natural Environment	34
4.3	Social Environment	34
4.4	Cultural/Heritage Environment	35

4.5	Economic Environment	36
5	Evaluation of Alternative Solutions	39
5.1	Evaluation Criteria	39
5.2	Initial Evaluation	57
6	Public Consultation - Public Information Centre	59
6.1	Notification of Study Commencement	59
6.2	Notification of Public Information Centre	59
6.3	Public Information Centre	60
6.4	Public and Agency Comments	60
7	Selection of the Preferred Alternative	82
7.1	Evaluation Process and Criteria	82
7.2	Preferred Alternative Solution	82
8	Implementation	83
8.1	Project Timing	83
8.2	Project Phasing	83
8.3	Project Mitigating Measures	84
8.4	Next Steps	85

Appendices

Appendix A: Study Area Photographs

Appendix B: Ross Street Realignment

Appendix C: Traffic Counts

Appendix D: Draft Technical Memorandum – IBI Group – Scenario Analysis for Dunlop Street West Environmental Assessment (2011 volume comparison)

Appendix E: Technical Memorandum – IBI Group – Scenario Analysis for Dunlop Street West Environmental Assessment (2031 volume comparison)

Appendix F: Public Information Centre

Appendix G: Public and Agency Comments

Appendix H: Staff Report and Direction Memo

List of Tables

Table 1: Dunlop Street – Pavement Condition Rating	17
Table 2: Dunlop Street - On Street Parking Within Study Area	19
Table 3: Dunlop Street - On Street Parking Utilization	20
Table 4: Off Street Parking Within Study Area	20
Table 5: Off Street Parking Utilization	22
Table 6: 2011 Link ¹ Operations	23
Table 7: Level of Service Criteria for Arterials ^a Based on Volume-to-Capacity Ratios	25
Table 8: 2031 Link Operations	25
Table 9: Study Area – Multi-modal Active Transportation Master Plan – Planned Road Improvements	27
Table 10: Dunlop Street – Storm Sewer Infrastructure	29
Table 11: Dunlop Street – Sanitary Sewer Infrastructure	30
Table 12: Study Area – 2031 and 2051 Sanitary Deficiencies	31
Table 13: Dunlop Street – Water Distribution Infrastructure	32
Table 14: Study Area – Heritage Sites Inventory	35
Table 15: Cost Estimates	36
Table 16: Maintenance Cost Ranking (highest rank equals highest cost)	37
Table 17: Property Acquisition Costs	38
Table 18: 2011 Link Operations Comparison – PM Peak Hour	41
Table 19: 2031 Link Operations Comparison – PM Peak Hour	42
Table 20: Assessment of Alternative Solutions - Environmental Impacts - Physical Environment	43

Table 21: Assessment of Alternative Solutions - Environmental Impacts - Natural Environment	46
Table 22: Assessment of Alternative Solutions - Environmental Impacts - Social Environment	47
Table 23: Assessment of Alternative Solutions - Environmental Impacts - Cultural/Heritage Environment	48
Table 24: Assessment of Alternative Solutions - Environmental Impacts - Economic Environment	49
Table 25: Dunlop Street Alternatives Ranking – Instances Ranked as the Preferred Alternative	60
Table 26: Public Comments & Preferred Alternative Ranking	62
Table 27: Agency Comments & Preferred Alternative Ranking	78
Table 28: Project Mitigating Measures	84

List of Figures

Figure 1: Municipal Class EA Process	86
Figure 2: Study Area - Map	87
Figure 3: Study Area - Aerial	88
Figure 4: Intersection Configurations & Controls (a)	89
Figure 5: Intersection Configurations & Controls (b)Figure 6: Existing Transit Routes	90
Figure 7: Study Area Parking Figure 8: Ross Street Realignment Options	92
Figure 9: Ross Street Realignment Preferred Option	94
Figure 10: 2014 Traffic Volumes – Weekday PM Peak Hour	95
Figure 11: 2014 Traffic Volumes – Weekday PM Peak Hour	96
Figure 12: 2014 Traffic Volumes – Weekday PM Peak Hour	97
Figure 13: Alternative 1 – “Do Nothing” – Streetscape Rendering	98
Figure 14: Alternative 1 – “Do Nothing” – Overall Plan Drawing	99
Figure 15: Alternative 1 – “Do Nothing” – Dunlop Street West Plan Drawing	100
Figure 16: Alternative 1 – “Do Nothing” – Dunlop Street East Plan DrawingFigure 17: Alternative 2 – Temporary Closure – Overall Plan Drawing	101
Figure 18: Alternative 2 – Temporary Closure – Dunlop Street West Plan Drawing	103
Figure 19: Alternative 2 – Temporary Closure – Dunlop Street East Plan DrawingFigure 20: Alternative 3 – Pedestrian Promenade – Streetscape Rendering	104
Figure 21: Alternative 3 –Two Additional Lanes on Collier Street – Collier Streetscape Rendering	106

Figure 22: Alternative 3 – Pedestrian Promenade – Overall Plan Drawing	107
Figure 23: Alternative 3 – Pedestrian Promenade – Dunlop Street West Plan Drawing	108
Figure 24: Alternative 3 – Pedestrian Promenade – Dunlop Street East Plan Drawing	109
Figure 25: Alternative 4 – One-Way Dunlop Street – Streetscape Rendering	110
Figure 26: Alternative 4 – One-Way Dunlop Street + Additional Lane on Collier Street – Collier Streetscape Rendering	111
Figure 27: Alternative 4 – One-Way Dunlop Street – Overall Plan Drawing	112
Figure 28: Alternative 4 – One-Way Dunlop Street – Dunlop Street West Plan Drawing	113
Figure 29: Alternative 4 – One-Way Dunlop Street – Dunlop Street East Plan Drawing Figure 30: Alternative 5 – Reconfigurable Street – Streetscape Rendering	114
Figure 31: Alternative 5 – Reconfigurable Street – Overall Plan Drawing	116
Figure 32: Alternative 5 – Reconfigurable Street – Dunlop Street West Plan Drawing	117
Figure 33: Alternative 5 – Reconfigurable Street – Dunlop Street East Plan Drawing Figure 34: Existing Drainage System	118
Figure 35: Existing Sanitary Sewer System	120
Figure 36: Existing Water Distribution System	121
Figure 37: Existing Land Use Zoning	122

1 Introduction

1.1 Background

The City of Barrie is examining options to improve the pedestrian environment and public realm of Dunlop Street by widening sidewalks and implementing streetscape design features that will provide increased sidewalk space for pedestrians and opportunities for outdoor cafés and patios on Dunlop Street between Toronto Street and Mulcaster Street or sections thereof.

This study is following the guidelines for a Schedule 'B' (Phase 1 and Phase 2) project contained in the Municipal Class Environmental Assessment (Class EA) Document dated October 2000 and as amended in 2007 and 2011. This Municipal Class EA Document is a planning procedure developed to ensure that the potential natural, social, cultural and economic environmental effects are considered in the planning and design of a project. At the conclusion of the project City staff will determine the appropriate next steps to complete the Class EA process based on the preferred alternative that would be presented to Council for approval. The next steps are determined by the scope of work of the preferred alternative. If the preferred alternative is to maintain the status quo, no further action is required. If the preferred alternative maintains two-way traffic, but reduces parking, this is a pre-approved Schedule A+ project and may proceed to design and construction pending Council and budget approval. If the preferred alternative will result in a reduction or expansion of vehicular capacity as compared to the existing condition, this is a Schedule B project until costs exceeds \$2.3 Million. This cost threshold triggers a "bump-up" to a Schedule C project.

The previously completed Waterfront/Downtown Transportation Improvements Class EA, which produced alternatives and a preferred solution for the Ross-Collier-Bayfield Street Intersection realignment will be assessed as part of the proposed alternatives. The Ross-Collier-Bayfield Street realignment was adopted for planning purposes only. Appendix B contains the Staff Report, Preferred Alternative, and Direction Memo from Council.

The Five Points & Area Transportation Improvements Class EA identifies preferred alternatives for 2010 conditions and the 2020 and 2031 time horizons to improve traffic operations. All preferred alternatives assume the implementation of the Ross-Collier-Bayfield intersection realignment. The preferred alternative for 2010 and 2020 is to maintain existing conditions and implement signal control at Collier Street and Clapperton Street (which has been implemented). The 2031 time horizon

preferred alternative includes converting Bayfield Street between Ross Street and Dunlop Street to two-way traffic, convert Clapperton Street to one-way southbound, minor geometric roadway improvements at the Five Points intersection and investigate eliminating signal control at Clapperton Street and Collier Street. Due to potential operational changes depending on the preferred alternatives, the Five Points intersection will be considered during detailed design.

The proponent of a Schedule 'B' Municipal Class EA (MCEA) is required to follow Phases 1 and 2 of the MCEA planning process involving mandatory contact with the directly affected public and with relevant government agencies to ensure that they are aware of the project and that their concerns are addressed. Please see Figure 1 for a flow chart summarizing the Class EA process.

1.2 Project Team

The project team that has compiled this Class EA Document consists of:

- City of Barrie;
- D. Wood, BLA OALA CSLA, Envision Tatham (Urban Design Renderings);
- L. Chen, P. Eng., Ainley Group (Transportation Consultant); and
- S. Johnston, IBI Group (Transportation Consultant).

1.3 Class Environmental Assessment Process

The Class Environmental Assessment process is defined in the *Municipal Class Environmental Assessment* document. Applying to all municipal road improvement projects, a number of study categories or schedules have been established recognizing the range of environmental impacts. These are briefly described below whereas the process corresponding to each is illustrated in Figure 1.

Schedule A

Schedule A projects generally include normal or emergency operational and maintenance activities. As the environmental effects of these activities are usually minimal, these projects are pre-approved and may proceed directly to implementation (Phase 5 of the Class EA process) without the need to complete the Class EA process. No reports or public consultation is required.

Schedule A+

Schedule A+, includes projects that are typically limited in size and scope, and thus have minimal associated environmental impacts. While these projects are also pre-approved, they require notification to the public prior to construction. No reports need to be prepared, but public consultation notification is required prior to construction.

Schedule B

Schedule B projects generally include improvements and expansions to existing facilities (cost less than \$2.3 million). As there is the potential for some adverse environmental impacts, the municipality is required to conduct a screening process whereby members of the public and review agencies are informed of the project and given the opportunity to provide comment (Phases 1 & 2). Documentation of the planning and design process is required under a Schedule B study. As these studies are generally straightforward and do not require detailed technical investigations to arrive at the preferred solution, a formal design report is not required. Rather, a summary shall be prepared to demonstrate that the appropriate steps have been followed. The report is to be available for review by the public and review agencies, at which time the need for a Schedule C “bump-up” (projects costing more than \$2.3 million) will be determined. Subject to the successful conclusion of the Schedule B EA, the preferred alternative can proceed to implementation (Phase 5).

Schedule C

Schedule C projects generally include the construction of new facilities and major expansions to existing facilities. As they have the potential for significant environmental impacts, they must proceed under the full planning and documentation procedures specified by the Municipal Class EA document (Phase 1 to 5). Schedule C projects require that an Environmental Study Report (ESR) be prepared and appropriately filed for review by the public and review agencies.

1.4 Report Objective

The overall objective of this report is to document the planning process for potential improvements on Dunlop Street from Toronto Street to Mulcaster Street (or sections thereof) to create a pedestrian friendly atmosphere and improve the public realm, as established by the Class EA. The objectives of this report are as follows:

- prepare a detailed description of the problem;

- establish alternatives solutions to address the problem;
- prepare a detailed inventory of the natural, social, cultural and economic environment;
- screen the impact of the alternatives on the environment;
- establish mitigation measures to minimize potential environmental effects;
- document the Public Information Centre (PIC) comments & responses;
- develop the preferred alternative in consideration of comments received;
- document Phases 1 and 2 of the Master Plan Class EA process;
- develop next steps; and
- file the Notice of Study Completion for Schedule B projects.

2 Need & Justification

The City of Barrie has developed into its present form through population growth and annexation. Growth has occurred from the City Centre and north shore of Kempenfelt Bay southerly, around the west side of the Bay encompassing both Allandale and Painswick. In 2010, the City of Barrie annexed 23 square kilometres immediately adjacent to the existing southern limits of the City.

Dunlop Street is an arterial road. Dunlop Street is a vital component and attraction to downtown Barrie and the focus of revitalization efforts.

With proposed intensification in the downtown, maintaining and enhancing this corridor will be an essential component in the success of the downtown revitalization and the *City of Barrie's Downtown Commercial Master Plan*. The focus of this The Master Plan identified eight broad goals for the downtown:

- Barrie's downtown and waterfront revitalization will build on the existing assets and anchor future development to its history;
- to protect the waterfront as public land;
- to keep the land fronting Kempenfelt Bay public to allow public uses at all times;
- to create a "front porch experience" to the waterfront;
- to develop waterfront activities for all seasons and users;
- to achieve high-quality public spaces to attract high-quality private developments;
- to establish a better balance between cars, cyclists and pedestrians; and
- to encourage a mixed-use downtown and waterfront.

These goals generally align with the goals of the Waterfront and Marina Strategic Plan that is also being completed by the City.

2.1 Problem Statement

The Problem Statement which sets the framework for this Class EA is as follows:

"To enhance the existing pedestrian friendly atmosphere on Dunlop Street between Toronto Street and Mulcaster Street that will balance existing and future transportation needs for all users in an environmentally friendly manner."

2.2 Study Area

The study area under consideration is illustrated in Figure 2 (map) and Figure 3 (aerial), and is defined by the following boundaries:

- West – Toronto Street
- East – Mulcaster Street
- North – Collier and Ross Streets
- South – Simcoe Street

2.3 Transportation Network

This section details the existing conditions within the study area as they relate to the transportation network, a pictorial presentation of which is provided in Appendix A.

2.3.1 Ross Street Realignment

The realignment of the Ross Street / Collier Street / Bayfield Street intersection was previously considered in the *Waterfront Downtown Transportation Improvements Class EA*. This realignment would see the elimination of 2 separate stop/yield controlled intersections in favour of 1 signalized intersection, thereby improving operations (reducing delays at the unsignalized intersections and may permit left turns from Ross Street to Bayfield Street which are currently prohibited). In addition, the provision of traffic signals will allow for a safe and controlled pedestrian crossing at the realigned intersection.

As part of the *Waterfront Downtown Transportation Improvements Class EA*, a number of realignment options were developed and evaluated (as provided in Figure 8). The preferred realignment is illustrated in Figure 9 and was established based on the following:

- provides improved intersection geometry for pedestrian safety;
- consistent with the recommendation in the 2013 Multi-Modal Active Transportation Master Plan (MMATMP);
- generally supported through the *Waterfront Downtown Transportation Improvements Class EA* public consultation;
- at the time the Class EA was completed, it did not impact a building of cultural interest (building is not listed as a designated property or a listed property) on the

northeast corner of Collier Street and Bayfield Street (this building has been since demolished); and

- is in general compliance with the *Downtown Commercial Master Plan*.

Due to the demolition of building on the northeast corner of Collier Street and Bayfield Street, it is warranted to re-evaluate the previously developed alternatives as part of the Dunlop Street Corridor Improvements Class EA.

2.4 Traffic Operations

Traffic operations through the study area have been reviewed in consideration of existing (2014) conditions and future conditions corresponding to 2031 (17-year horizon, which coincides with all planning documents).

2.4.1 Expected Growth in Traffic Volumes

Places to Grow Population & Employment Forecasts

The Province of Ontario recently released the *Proposed Amendment 1 to the Growth Plan for the Greater Golden Horseshoe, 2006*¹ which provides more specific directions to the Simcoe sub-area on the objectives, policies and targets of the Growth Plan. It also builds on other key government initiatives including: the *Lake Simcoe Protection Plan 2000*; the *Provincial Policy Statement 2005*; and the *Barrie-Innisfil Boundary Adjustment Act 2009*.

For the year 2031, Amendment 1 notes a population of 210,000 within the City of Barrie and an employment level of 101,000. Amendment 1 reflects a 2% annual increase in population and a 2.5% increase in employment (based on compound growth).

City's Transportation Model

Future traffic projections were obtained from the City's Transportation Model for 2031 (the corresponding figures are provided in Appendix E). The model considers the travel demands of the entire City based primarily on population and employment levels within individual zones. In developing future travel demands, a number of factors are considered including: planned growth, development levels, population forecasts, and transit initiatives and service levels

¹ *Places to Grow. Proposed Amendment 1 to the Growth Plan for the Greater Golden Horseshoe, 2006*. Ministry of Infrastructure, October 2010.

In comparing the 2031 volumes with those of 2014 (under the same road networks), growth rates of -5% to 6% per year are anticipated through the study area, with typical growth in the order of 1 to 3%.

Over the period 2017 to 2031, -2% to 3% was realized, with typical growth in the order of 1%.

2.5 Existing Project Environment

In considering the need for improvements to Dunlop Street, a number of items have been identified and considered.

2.5.1 Pedestrian Space/Sidewalks

The existing clear pedestrian space along Dunlop Street measures approximately 1.6 to 1.8 metres in width. An additional 1.2 to 1.5 metres of boulevard space is located adjacent to the pedestrian space. This area can be used to facilitate passage between pedestrians, but is generally used for locating streetlights, parking metres and refuse receptacles.

The sidewalks and boulevard space along Dunlop Street generally consist of brick pavers. A recently reconstructed (2010) section between Toronto Street and Mary Street consists of concrete sidewalks with brick pavers in the boulevard space. Generally, the sidewalk and boulevard surfaces are in fair condition, with localized instances of pavers out of plane and disintegrating due to de-icing salts. It should be noted that the City completes repairs on a regular and frequent basis.

2.5.2 Street Lighting

The existing luminaries on Dunlop Street have been identified for replacement due to localized instances of corrosion at the structure base due to de-icing salts. Additional loadings placed on the streetlights by banners and hanging baskets are exacerbating the weakening base. The City has noted that the existing ducts servicing the street lights are in poor condition and require replacement.

2.5.3 Cycling Infrastructure

There is limited cycling infrastructure along Dunlop Street within the study area. This infrastructure primarily consists of bike stands. No dedicated bike lanes or signage are located on Dunlop Street within the study area.

2.5.4 Pedestrian/Active-Transportation Balance

The overall streetscape on Dunlop Street is heavily skewed towards motorized forms of transportation. If the street cross-section is considered as a budget, 65% of the roadway cross-section is dedicated to automobiles, 17% is dedicated to curbs and the boulevard strip (where parking meters, streetlights, and planters are located) and 18% is dedicated to clear sidewalks. In consideration of the problem statement, a desired outcome would be to reduce the percentage of the roadway dedicated to the automobile and increase the percentage dedicated to pedestrians.

2.5.5 Ross/Collier/Bayfield Intersection

The present intersection of Ross Street and Collier Street with Bayfield Street does not provide efficient east-west capacity or safe pedestrian crossing movements. The MMATMP identifies east-west peak hour capacity constraints in the downtown with Dunlop Street and Simcoe Street exceeding capacity in the 2031 horizon.

2.5.6 Collision History

The collision history will be further reviewed during detailed design of the preferred alternative.

3 Development of Alternative Solutions

Integral to the Class EA planning process is the adoption of a solution to address the Problem Statement. A number of possible solutions have been developed and are detailed in this section.

3.1 Pre-Screened Alternative Solutions

Several alternative solutions were developed but were not carried forward as stand-alone alternatives as they do not adequately address the problem statement.

3.1.1 Reduced Travel Demands

Rather than increase road capacity, this alternative focuses on reducing the overall travel demands through the study area, thus negating the need for capacity based improvements. Means to achieve this include increased use of non-auto based travel (transit, cycling and walking), increased occupancy and ridesharing (more riders per car translates to fewer trips), telecommuting (working from home) and flex hours (shifting working hours to avoid the peak hours).

The City of Barrie's Multi-Modal Active Transportation Master Plan (MMATMP) preferred solution is an increased emphasis on non-automobile modes of transportation (or alternative modes): transit, cycling and walking. This preferred alternative is developed aiming to double existing alternative mode shares. The target increases are as follows:

- Active transportation modal shares from less than 6% to 12%
- Transit modal share from less than 2.6% to 7%.

Although there will be an increase in non-automobile modal splits, there will also be an increase in traffic volumes due to population growth. As a result, road capacity considerations must be thought of in terms of both an increase in non-automobile and automobile users. The preferred solution will incorporate additional active transportation improvements as feasibly possible given the right-of-way width limitations.

3.1.2 Widening Dunlop Street

The provision of additional right-of-way space would allow for both wider sidewalks and areas for outdoor patios, while still accommodating two-way traffic and on-street

parking. However, any widening of Dunlop Street would require significant property acquisition and building demolition and thus would be entirely unacceptable due to severe social, cultural/heritage and economic impacts.

3.1.3 Elimination of Parking (One Side)

This alternative would see the elimination of parking on one side of Dunlop Street. This would allow 3m of roadway to be rededicated to pedestrian space. The additional space is beneficial; however, this measure would have impacts as follows:

- If the additional space was evenly added to sidewalks on both sides of Dunlop Street (1.5m on each side), there would be insufficient space for outdoor patios.
- If the additional space is only allocated to one side of Dunlop Street (3m to either the north or south sidewalk), the businesses located on the street with no sidewalk widening would have insufficient space for outdoor patios unless temporary wooden patios were installed in parking stalls. This asymmetric streetscape would appear cluttered and not aesthetically pleasing.

3.1.4 One-Way Dunlop Street + Parking Stalls on Both Sides

This alternative is screened out due to the same reasons as the alternative listed above (Elimination of Parking (One Side)) since it creates the same issues with respect to cross-section width.

3.1.5 One-Way Dunlop Street Westbound

This alternative is screened out due to impacts negatively affecting emergency response times for Barrie Fire and Emergency Services (BFES). BFES require eastbound access on Dunlop Street to access the northeast area of the City.

3.2 Alternative Solutions to Address Deficiencies – Dunlop Street

This section will identify the alternative solutions to the problems statement. There is usually more than one way to solve a problem. Therefore, the preferred solution may involve a combination of the following alternative solutions, which are all reasonable and feasible. All dimensions provided in the explanation of alternatives are approximate and should primarily be utilized as a comparison tool. It is assumed for the purposes of this study that lane widths are 3.5m for two-way streets and 4.0m for one-way streets, parking stalls are 2.4m wide and curbs are 0.5m wide (curb and gutter combined).

3.2.1 Alternative 1 – Do Nothing

Alternative 1 (illustrated in Figure 13), reflects The “Do-Nothing” alternative allows for the consideration of not making any changes to the existing infrastructure and transportation network within the study area. This alternative provides a benchmark to gauge the environmental effect of not implementing changes to the existing transportation system.

Even though this is considered the “Do-Nothing” alternative, this alternative includes all programs the City and the Downtown BIA are currently operating, including the Outdoor Patio Program and temporary full closures for street festivals and special events.

3.2.2 Alternative 2 – Temporary Vehicular Closure During Summer

Alternative 2 (refer to Figure 17) will temporarily close Dunlop Street during the summer months to all through vehicular traffic. Deliveries, maintenance and waste collections will still be permitted during off-peak periods only (i.e. morning hours). Emergency Services will be able to access the area at any time. Owen Street would need to be closed to through traffic for this period. Full traffic access would be restored once the summer peak season ended (i.e. October to May).

In the future, there is potential for seasonal pilot programs to replace parking on a section(s) of Dunlop Street with continuous wooden boardwalks and/or a combination of wooden boardwalks, landscape features and parklets.

The existing roadway will not be altered except for temporary barrier devices where the limits of the closure are implemented. Existing cross streets (Toronto, Mary, Maple, Bayfield, Mulcaster/Simcoe) will still allow travel across the Dunlop Street corridor, but turning movements will be prohibited. Road closure signage is required within the downtown area that conforms to the Ministry of Transportation requirements.

3.2.3 Alternative 3 – Pedestrian Promenade (Permanent Vehicular Closure) + Additional Two Lanes on Collier Street

Alternative 3 (refer to Figure 20) will permanently close Dunlop Street to all thru vehicular traffic. Deliveries, maintenance and waste collections will still be permitted during off-peak periods only (i.e. morning hours). Emergency Services will be able to access the area at any time. Owen Street would need to be closed to through traffic and converted into parking, a continuation of the pedestrian promenade or another public use.

The extent of alteration to the existing roadway can vary depending on the desired level of expenditure. Levels of alteration range from maintaining the roadway in its existing state to completing a full reconstruction to reflect the new primary modes of transportation utilizing the corridor.

An additional lane in each direction would be considered on Collier Street (4 continuous lanes) to compensate for the loss of capacity on Dunlop Street. The additional lanes on Collier Street would be achieved by eliminating some curb side parking. The limits of the additional lanes will mirror the selected limits of the vehicular road closure on Dunlop Street.

Permanent barrier devices, alteration to traffic signals and signs are required where the limits of the closure are implemented. Existing cross streets (Toronto, Mary, Maple, Bayfield, Mulcaster/Simcoe) will still allow travel across the Dunlop Street corridor, but turning movements will be prohibited.

3.2.4 Alternative 4 - One-Way Eastbound Dunlop Street (7m Asphalt, 1m curb (total combined width), 12m sidewalk space) + Additional Lane on Collier Street

Alternative 4 (refer to Figure 25) will eliminate one lane of traffic and convert Dunlop Street to a one-way eastbound street. On-street parallel parking will be located on the south side of Dunlop Street. The sidewalk and boulevard strip will be widened to 6m on each side of Dunlop Street.

An additional lane would be considered on Collier Street in the westbound direction to compensate for the loss of capacity on Dunlop Street. The additional lane on Collier Street would be achieved by eliminating some curb side parking. The limits of the additional lane will mirror the selected limits of the one-way implementation on Dunlop Street.

This alternative requires modifications to sidewalks, streetscape elements, curbs, roadway and alteration to traffic signals/signs.

3.2.5 Alternative 5 – Reconfigurable Street System (7m asphalt, 2m curb (total combined width) 4.8m reconfigurable space, 6.3m sidewalk space)

Alternative 5 (refer to Figure 30) will maintain two-way traffic and on-street parking on both sides of the street. The reconfigurable nature of the street is created by relocating barrier curbs with mountable rollover curbs and the installation of easily moveable bollards (or similar control device) that can be adjusted between two

locations perpendicular to the street on both sides of the street. The bollards are easily moved by the use of preinstalled bollard sockets that are flush mounted to the surface.

The first location is immediately behind the proposed rollover curb and the second location is directly in line with the first location, but located an additional 2.4m further away. Beyond this location, traditional widened sidewalks are in place to the building fronts. The reconfigurable street system allows the street to operate in two configurations: parking and additional sidewalk space. The following provides a brief explanation of each configuration:

- Reconfigurable space used as parking – this configuration provides traditional parallel parking similar to what exists on Dunlop Street. The moveable bollards would be located 3m away from the mountable rollover curb along Dunlop Street, thus providing 2.4m wide parallel parking stall. Vehicles would drive over the mountable rollover curb and parallel park. A widened 4m wide sidewalk would exist between the edge of the parking stall and building fronts. In this configuration, there is insufficient space for outdoor patios.
- Reconfigurable space used as additional pedestrian area – this configuration provides additional sidewalk space for patios. The movable bollards would be located immediately adjacent to the mountable rollover curb providing additional sidewalk space with the elimination of parking. If desired, patios would be erected adjacent to building fronts and the main pedestrian thruway would be located between the mountable barrier curb and the edge of patio. The pedestrian thruway would maintain a 2m width. The location of the patio and main pedestrian thruway can be reversed, but should be applied consistently. Further study by the Downtown BIA, Downtown Revitalization Committee and By-Law staff is required.

3.3 Alternative Solutions to Address Deficiencies – Ross/Collier/Bayfield Intersection Realignment

The Waterfront/Downtown Transportation Improvements Final Report Class EA (November 2002) identified 4 alternatives (refer to Figure 8) for the Ross/Collier/Bayfield realignment. During that process, general support from the public was received for the realignment at the public information centre (PIC). Each of the alternatives impacted properties at the intersection. Alternatives 1, 2 and 4 impacted the property at the southwest corner. Alternatives 3 and 4 impact multiple properties on the northeast corner. Alternative 2 was adopted for planning purposes. This alternative avoided the building that was considered culturally significant. The realignment includes full signalization.

Since the Waterfront/Downtown Transportation Improvements Class EA was completed, the non-designated building of cultural significance has been demolished. The adjacent building on Collier Street (4-8 Collier Street) still exists, but it does not have any historic significance and is vacant. The property on the southwest corner contains an active business (56/66 Bayfield Street). The City currently owns 10-14 Collier Street and uses this as a paid surface parking lot.

As the Alternatives 2, 3 and 4 for Dunlop Street resulted in reduced vehicle capacity, it is important to reconsider this intersection as it facilitates east-west movement in the downtown.

4 Project Environment

A description of the Dunlop Street study area has been developed considering the identified alternative solutions in context of the following environments:

- physical environment;
- natural environment;
- social environment;
- cultural/heritage environment; and
- economic environment.

Project Environment data was obtained based on field investigations, engineering drawings and reports, surveys, utility information and a review of secondary information pertaining to the study area. The purpose of the inventories is to provide the information from which the assessment of the alternative solutions can be based. Brief descriptions of the various environments investigated are provided below.

4.1 Physical Environment

The physical environment, as it relates to the existing transportation and service infrastructure systems.

4.1.1 Road Classification

The classifications of the study area roads, as per Schedule D of the *City of Barrie Official Plan*², are as follows:

- Arterial Roads - primarily traffic carrying facilities, providing through routes across and within the City. Arterial roads include:
 - Bayfield Street; and
 - Dunlop Street.
- Collector Roads - carry traffic between arterial roads and local roads, and may also be used to service property. Collector roads include:
 - Collier Street (major);

² *City of Barrie Official Plan*. City of Barrie, March, 2011.

- Ross Street (major);
 - Toronto Street (minor); and
 - Simcoe Street (major).
- Local Roads - provide access to abutting lands and are designed to restrict major volumes of through traffic. Local roads include:
 - Mary Street;
 - Maple Avenue;
 - Clapperton Street; and
 - Owen Street.

4.1.2 Pavement Structure

Partial depth asphalt rehabilitation is generally required for Dunlop Street with the exception of the recently reconstruction section between Toronto Street and Mary Street. The road structure is identified as being in good condition. Table 1 summarizes the Pavement Condition Index (PCI), which is a measure of the general condition of the pavement between 0 and 100. A rating of 100 represents the best possible condition and a rating of 0 represents the worst possible condition.

Table 1: Dunlop Street – Pavement Condition Rating

Street Section	Pavement Condition Index	Rehabilitation Identified
Dunlop – Toronto to Mary	92	No
Dunlop – Mary to Maple	56	Partial Depth Asphalt ¹
Dunlop – Maple to Bayfield	53	Partial Depth Asphalt ¹
Dunlop – Bayfield to Owen	39	Partial Depth Asphalt ¹
Dunlop – Owen to Mulcaster	59	Partial Depth Asphalt ¹

¹Rehabilitation is identified, but not immediately required. Source 2010 Road Condition Survey.

4.1.3 Speed Limit

The posted speed limit through the area is 50 km/h.

4.1.4 Intersection Configuration & Spacing

The existing intersection configurations, intersection control and intersection spacings are illustrated in Figure 4 and Figure 5 . Intersections on Dunlop Street within the study area include:

- Dunlop Street West and Toronto Street – Signalized;
- Dunlop Street West and Mary Street – Mary Street is stop controlled;
- Dunlop Street West and Maple Avenue – Signalized;
- Dunlop Street East and Bayfield Street/Clapperton Street (Five Points) – Signalized;
- Dunlop Street East Intersection Pedestrian Signal at Fred Grant Street (East);
- Dunlop Street East and Owen Street – Owen Street is stop controlled;
- Dunlop Street East Intersection Pedestrian Signal at Fred Grant Street (West);
and
- Dunlop Street East and Mulcaster Street – Signalized.

4.1.5 Sidewalks, Pedestrian and Cycling Facilities

There are sidewalks on both sides of all streets in the study area. There are sidewalks on both sides of Dunlop Street and typically are 1.6m in width. There are no dedicated bike lanes or signage indicating mixed use. The latest best practice documents recommend a minimum sidewalk width of 2.0 metres in high pedestrian traffic areas to allow users to walk side-by-side and allow safe passage between an adult and a person pushing a baby carriage or in a wheelchair.

The Multi-modal Active Transportation Master Plan (MMATMP) identifies buffered bicycle lanes on Ross Street and Bayfield Street and signed mixed-use bicycle routes on Dunlop Street and Toronto Street.

4.1.6 Transit Facilities

There is transit service on Collier Street, Maple Avenue, Ross Street, and Dunlop Street west of Maple Avenue within the immediate study area (refer to Figure 6 for the corresponding route mapping). Transit stops are not located on Dunlop Street due to space restrictions, traffic impacts, and the relatively short walk to transit stops located on adjacent streets.

4.1.7 Parking Facilities – On Street³

There is currently on-street-parking on many streets in the study area, with the exception of Ross Street, west of Bayfield Street and Simcoe Street (refer to Figure 7 for on-street parking locations). The existing parking capacity on Dunlop Street, bounded by the Toronto Street and Mulcaster Street consists of the following:

Table 2: Dunlop Street - On Street Parking Within Study Area

Street	Section	Direction	Parking Supply
Dunlop	Toronto to Mary	East Bound	5
Dunlop	Mary to Maple	East Bound	6
Dunlop	Maple to Bayfield	East Bound	7
Dunlop	Bayfield to Fred Grant	East Bound	11
Dunlop	Fred Grant to Fred Grant	East Bound	9
Dunlop	Fred Grant to Mulcaster	East Bound	10
Dunlop	Mulcaster to Owen	West Bound	14
Dunlop	Owen to Bayfield	West Bound	10
Dunlop	Bayfield to Maple	West Bound	8
Dunlop	Maple to Mary	West Bound	8
Dunlop	Mary to Toronto	West Bound	7
Total (spaces during summer months reduced depending on patio program demand)			95

Parking surveys were completed as part of the Multi-Modal Transportation Master Plan to determine parking demands. The survey determined utilization, duration and turnover. The survey was completed in 2011 over three days and observed the following peak times:

- Weekday daytime peak 12:00pm to 12:45pm;
- Weekday evening peak 6:45pm to 7:30pm;
- Saturday daytime peak 12:00pm to 1:00pm; and
- Saturday evening peak 8:00pm to 9:00pm.

³ Multi-Modal Active Transportation Master Plan – Technical Memorandum – Parking Study. City of Barrie/Genivar, April 2013

The following table shows the peak utilization of on-street parking capacity on Dunlop Street within the study area.

Table 3: Dunlop Street - On Street Parking Utilization

Street	Section	Parking Supply	Direction	During Peak Interval Weekday Daytime (%)	During Peak Interval Weekday Evening (%)	During Peak Interval Saturday Daytime (%)	During Peak Interval Saturday Evening (%)
Dunlop	Toronto to Mary	5	East Bound	60	60	20	60
Dunlop	Mary to Maple	6	East Bound	50	83	100	117
Dunlop	Maple to Bayfield	7	East Bound	71	71	43	0
Dunlop	Bayfield to Fred Grant	11	East Bound	91	73	109	100
Dunlop	Fred Grant to Fred Grant	9	East Bound	44	56	100	33
Dunlop	Fred Grant to Mulcaster	10	East Bound	110	90	120	120
Dunlop	Mulcaster to Owen	14	West Bound	93	100	100	64
Dunlop	Owen to Bayfield	10	West Bound	70	110	100	100
Dunlop	Bayfield to Maple	8	West Bound	100	100	163	150
Dunlop	Maple to Mary	8	West Bound	63	50	113	75
Dunlop	Mary to Toronto	7	West Bound	29	14	29	71

4.1.8 Parking Facilities – Off Street⁴

The existing downtown off-street parking system located within or adjacent to the study area consists of the following municipal lots and the Collier Street Parkade (refer to Figure 7 for municipal lot locations):

Table 4: Off Street Parking Within Study Area

⁴ Multi-Modal Active Transportation Master Plan – Technical Memorandum – Parking Study. City of Barrie/Genivar, April 2013

Municipal Lot Number	Location	Parking Supply
ML1	Collier Street Parkade	303
ML2	26 Mary Street	26
ML3	52 Maple Avenue	27
ML4	58 Maple Avenue	34
ML5	72, 76-78 Maple Avenue	45
ML7	Bayfield and Maple Avenue	19
ML8	Bayfield and Simcoe Street (NW corner)	81
ML9	Collier and Clapperton Street (NW corner)	46
ML11	Collier and Mulcaster Street (SW corner)	27
ML13	Bayfield and Simcoe Street (NE corner)	90
ML17	Mulcaster and Simcoe Street	58
ML18	Mulcaster and Simcoe Street	22
ML19	Mulcaster and Simcoe Street	8
ML20	Spirit Catcher Lot	79
ML23	Waterfront adjacent to Spirit Catcher Lot	50
ML24	Toronto and Simcoe Street	56
ML25	Mulcaster and Simcoe Street (NW corner)	36
Total (in study area or immediately adjacent)		1007

Parking surveys were completed as part of the Multi-Modal Transportation Master Plan to determine parking demands. The survey determined utilization, duration and turnover. The survey was completed in 2011 over three days and observed the following peak times:

- Weekday daytime peak 12:00pm to 12:45pm;
- Weekday evening peak 6:45pm to 7:30pm;
- Saturday daytime peak 12:00pm to 1:00pm; and
- Saturday evening peak 8:00pm to 9:00pm.

Table 5: Off Street Parking Utilization

Municipal Lot Number	Parking Supply (# of spaces)	During Peak Interval Weekday Daytime (%)	During Peak Interval Weekday Evening (%)	During Peak Interval Saturday Daytime (%)	During Peak Interval Saturday Evening (%)
ML1	303	55	12	8	7
ML2	26	38	19	38	12
ML3	27	56	7	59	67
ML4	34	53	6	6	35
ML5	45	7	4	4	4
ML7	19	74	68	47	26
ML8	81	43	6	12	0
ML9	46	80	30	2	28
ML11	27	41	96	19	85
ML13	90	30	6	36	16
ML17	58	17	45	16	19
ML18	22	27	64	91	73
ML19	8	50	50	75	100
ML20	79	15	16	9	No data
ML23	50	0	0	10	No data
ML24	56	14	7	0	No data
ML25	36	97	89	86	58

Additional private parking is available at some businesses and financial institutions within the study area.

4.1.9 2014 Traffic Volumes

Traffic volumes at intersections in the study area were determined from intersection counts completed in April 2014. The count sheets are provided in Appendix C.

The corresponding 2014 peak traffic volumes are illustrated in Figure 10, Figure 11 and Figure 12.

4.1.10 2011 Link Operations

Based on the City's macro transportation model and validated with traffic counts obtained primarily in 2013, the following peak hour directional volumes were generated as a base scenario to compare all of the proposed alternatives for impacts to the transportation network. The following links represent the most critical road sections:

Table 6: 2011 Link¹ Operations

Street	Section	Direction	Lane Capacity (vphpl ²)	2011 Volumes	V/C ³	LOS ⁴
Dunlop	West of Bayfield	EB	500	370	0.74	C
		WB		410	0.82	D
Dunlop	East of Bayfield	EB	650	220	0.34	A
		WB		250	0.38	A
Collier	Bayfield to Clapperton	EB	500	470	0.94	E
		WB		210	0.42	A
Collier	East of Clapperton	EB	500	230	0.46	A
		WB		160	0.32	A
Ross	Toronto St to Bayfield	EB	500	250-280	0.56	A
		WB		160-250	0.50	A
Simcoe	West of Bayfield (2 lanes per direction)	EB	500	570	0.57	A
		WB		780	0.78	C
Simcoe	East of Bayfield	EB	500	350	0.70	B
		WB		370	0.74	C
Mulcaster	North of Dunlop	NB	500	240	0.48	A
		SB		210	0.42	A
Mulcaster	South of Dunlop	NB	500	350	0.70	B
		SB		370	0.74	C
Clapperton	Dunlop to Collier	NB	400	280	0.70	B
Bayfield	North of Collier	NB	650	290	0.45	A
		SB		450	0.69	B
Bayfield	Collier to Dunlop (1 lane NB)	NB	650	430	0.66	B
Bayfield	Dunlop to Simcoe	NB	650	140	0.22	A
		SB		330	0.51	A
Toronto	North of Dunlop	NB	400	280	0.70	B
		SB		290	0.73	C

Toronto	South of	NB	500	130	0.25	A
	Dunlop	SB		20	0.04	A

¹Link – section of a street

²vphpl – number of vehicles per hour per lane

³V/C – volume to capacity ratio. Ranges between 0 (indicating there is full capacity available) to 1 (indicating there is no capacity available). V/C ratios above 0.85 indicate traffic congestion.

⁴LOS – level of service is a qualitative measure used to relate the quality of traffic service. It is rated on a letter scale from A to F. LOS A indicates free flow condition. LOS F indicates traffic congestion. LOS score is based on the Transportation Research Board, Highway Capacity Manual, Special Report 209 (Washington D.C., 1994), for arterial roads based on volume to capacity ratios.

In consideration of the traffic volumes and respective assumed capacities, vehicle lanes in the study area do not exceed capacity. However, it should be noted that both Dunlop Street (between Bayfield Street and Toronto Street) as well as Collier Street between Bayfield Street and Clapperton Street presently have v/c ratios exceeding 0.80 indicating existing traffic congestion during the PM peak hour.

The following table outlines the correlation between v/c ratios, level of service ratings and includes a corresponding description of the traffic condition:

Table 7: Level of Service Criteria for Arterials^a Based on Volume-to-Capacity Ratios

Level of Service	Description	V/C ^b
A	Free-flow conditions with unimpeded maneuverability. Stopped delay at signalized intersection is minimal.	0.00 to 0.60
B	Reasonably unimpeded operations with slightly restricted maneuverability. Stopped delays are not bothersome.	0.61 to 0.70
C	Stable operations with somewhat more restrictions in making mid-block lane changes than LOS B. Motorists will experience appreciable tension while driving.	0.71 to 0.80
D	Approaching unstable operations where small increases in volume produce substantial increases in delay and decreases in speed.	0.81 to 0.90
E	Operations with significant intersection approach delays and low average speeds.	0.91 to 1.00
F	Operations with extremely low speeds caused by intersection congestion, high delay, and adverse signal progression.	Greater Than 1.00

^a For arterials that are multilane divided or undivided with some parking, a signalized intersection density of four to eight per mile, and moderate roadside development.

^b Volume-to-capacity ratio.

≥ greater than or equal to.

< less than.

Source: Transportation Research Board, *Highway Capacity Manual, Special Report 209* (Washington, D.C., 1994).

4.1.11 2031 Traffic Volumes

Traffic projections for the year 2031 are presented in the report prepared by IBI Group located in Appendix E.

4.1.12 2031 Link Operations

As per the 2031 projections, the following peak hour directional volumes are anticipated (these represent the most critical road sections):

Table 8: 2031 Link Operations

Street	Section	Direction	Lane Cap. vphpl ²	2011 Volumes	V/C ³	LOS ⁴	2031 Vol.	V/C	LOS
Dunlop	West of Bayfield	EB	500	370	0.74	C	410	0.8	D
		WB		410	0.82	D	490	2.098	E
Dunlop	East of Bayfield	EB	650	220	0.34	A	470	0.7	C
		WB		250	0.38	A	520	2.080	C
Collier	Bayfield to Clapperton	EB	500	470	0.94	E	220	0.4	A
		WB		210	0.42	A	490	4.098	E
Collier	East of Clapperton	EB	500	230	0.46	A	250	0.5	A
		WB		160	0.32	A	290	0.58	A
Ross	Toronto St to Bayfield	EB	500	250-	0.56	A	250	0.5	A
		WB		280- 160- 250	0.50	A	340	0.68	B
Simcoe	West of Bayfield (2 lanes per direction)	EB	500	570	0.57	A	750	0.7	C
		WB		780	0.78	C	920	5.092	E
Simcoe	East of Bayfield	EB	500	350	0.70	B	410	0.8	D
		WB		370	0.74	C	450	2.090	D
Simcoe	East of Toronto (2 lanes per direction)	EB	500	240	0.48	A	830	0.8	D
		WB		210	0.42	A	1080	3.108	F
Mulcaster	North of Dunlop	NB	500	350	0.70	B	260	0.5	A
		SB		370	0.74	C	240	2.048	A
Clapper ton	Dunlop to Collier	NB	400	280	0.70	B	340	0.85	D
Bayfield	North of Collier	NB	650	290	0.45	A	270	0.4	A
		SB		450	0.69	B	460	1.03	A

								5		
Bayfield	Collier to Dunlop (1 lane NB)	NB	650	430	0.66	B	380	0.5 8	A	
Bayfield	Dunlop to Simcoe	NB SB	650	140 330	0.22 0.51	A A	440 530	0.6 8 0.8 1	B D	
Toronto	North of Dunlop	NB SB	400	280 290	0.70 0.73	B C	300 290	0.7 5 0.7 3	C C	
Toronto	South of Dunlop	NB SB	500	130 20	0.25 0.04	A A	30 90	0.0 6 0.1 8	A A	

In consideration of the traffic volumes and respective assumed capacities, many links within the study area have a volume-to-capacity exceeding 0.85 indicating that the links are deficient with respect to traffic volumes based on the 2031 travel demand forecasts. Simcoe Street and Dunlop Street both have links either approaching or exceeding a volume-to-capacity ratio of 1.0.

4.1.13 Compatibility with Existing and Future Road Network

The Official Plan classifies Dunlop Street as an arterial road and this classification is consistent with the Multi-modal Active Transportation Master Plan. Arterial roads are primarily traffic carrying facilities providing through routes across the City. Section 2 summarizes road classifications within the study area.

The Multi-modal Active Transportation Master Plan (MMATMP) does not recommend additional improvements to Dunlop Street within the study area; primarily since the area is fully built out and acquiring additional property to increase right-of-way width is not practical or desirable due to impacts upon the built environment. Table 9 outlines planned road improvements in the study area for the 2031 timeframe.

Table 9: Study Area – Multi-modal Active Transportation Master Plan – Planned Road Improvements

Street	Section	Planned Improvement
Ross	Toronto to Maple	Add two-way left turn lane

Ross/Collier	Maple to Clapperton	Realign street, add one lane per direction and two-way left turn lane
Collier	Owen to Mulcaster	Eliminate one lane per direction immediately east of Mulcaster
Mulcaster	Simcoe to Collier St	Add two-way left turn lane

4.1.14 Emergency Service

Emergency police and ambulance vehicles currently access the study area mainly from Dunlop Street, Bayfield Street and Lakeshore Drive/Simcoe Street. Fire Station 1 is located at 155 Dunlop Street. Dunlop Street eastbound is the main route for Fire Station 1 to access areas east of the downtown core.

4.1.15 Safety

Pedestrian operations at the Ross/Collier/Bayfield Street intersection can be difficult due to lack of stop control for westbound Collier Street and southbound Bayfield Street.

4.1.16 Services & Utilities

Existing services and utility information are shown in Figure 34 to Figure 36 for municipal services.

4.1.17 Storm Sewer System

The study area lies primarily within the Sophia Creek watershed with smaller areas that form part of the Mulcaster drainage area and the Kidds Creek watershed. All areas drain to Kempenfelt Bay. There is a large storm sewer under Bayfield Street that conveys minor flows from the Sophia Creek watershed. Major storms events are typically conveyed via overland roadways and through parks to Kempenfelt Bay. The existing storm sewer network is presented in Figure 34.

The City's standard is to convey the minor 5-year flows in the storm pipes and the major event storms overland. The City of Barrie updated the rainfall intensity-duration-frequency (IDF) curves utilized in the City of Barrie Storm Drainage and Stormwater Management Policies and Design Guidelines to reflect the effects of climate change. This update results in larger design storms which must be accommodated by all new stormwater conveyance systems. During detailed design of the preferred alternative, the existing conveyance system on Dunlop Street will be re-evaluated based on current design standards to determine if adequate conveyance capacity exists. Currently, there is no replacement or rehabilitation

work scheduled for storm sewers on Dunlop Street within the study area. Storm sewer sizes, material and date installed are summarized in Table 10.

The storm system on Dunlop Street will require relocation of catchbasins to satisfy alternatives that involve modifying the road cross-section and may require some localized storm system upgrades.

Table 10: Dunlop Street – Storm Sewer Infrastructure

Street Section	Size/ Shape	Material	Date Installed	Flow Direction	Watershed
Dunlop – Toronto to Mary	2400x1200mm Rect. Box Culvert	Conc.	2010	East	Sophia West Branch Sewer
Dunlop – Mary to Maple	675 to 750mm Round	Conc.	1990	West	Sophia Creek Watershed
Dunlop – Maple to Bayfield	300mm Round	Conc.	1990	West	Sophia Creek Watershed
Dunlop – Bayfield to Owen	375 to 525 to 600mm Round	Conc.	1989	East	Mulcaster Drainage Area
Dunlop – Owen to Mulcaster	375 to 450mm Round	Conc.	1989	West	Mulcaster Drainage Area

Sophia Creek Watershed/Mulcaster Drainage Area Conveyance Deficiencies

Existing storm sewer deficiencies have been identified at the following locations due to inadequate sizing to convey the 5 year peak flow as identified in the Sophia Creek Master Drainage Plan Class EA Update (Sophia Creek MDP EA) completed by C.C. Tatham Consulting Engineers (2008):

- Owen/Collier intersection
- Owen Street, south of Dunlop
- Mulcaster Street
- Sophia Street Trunk Sewer

Sophia Creek Trunk Sewer

The Sophia Creek Trunk Sewer traverses the study area under Bayfield Street and outlets to Kempenfelt Bay (main branch). A secondary branch of the trunk sewer splits off at Sophia and Bayfield Street and heads west to Queen’s Park. At that point, flows are directed south to Kempenfelt Bay via Toronto, Dunlop and Mary Street. The majority of the flow is directed through the main branch. Overland flow for this sewer is routed through the downtown core via Owen Street, Clapperton Street and Bayfield Street in a southerly direction towards Kempenfelt Bay. Overland flow occurs for events greater than the 5 year storm (note – existing study was completed prior to new IDF requirements, the actual storm return period is likely lower). The Sophia Creek MDP EA indicated that during the 100 year and Regional storm events, flooding will occur in approximately 32 properties until runoff has a chance to drain into the storm sewer or infiltrate. Additional studies focused on an overflow conveyance pipe should be undertaken to address capacity issues and overland flow through the downtown core. A potential solution is a new north-south trunk storm sewer routed through the downtown core, crossing Dunlop Street perpendicularly and drain to Kempenfelt Bay. This deficiency requires further investigation and an update of the Sophia Creek Master Drainage Plan to determine a preferred solution.

4.1.18 Sanitary Sewers

The study area lies within the North and Lakeshore sanitary catchment area. Sanitary sewers within the study area vary in size from 250mm to 1050mm. The existing sanitary network is illustrated in Figure 35.

The existing sanitary drainage system on Dunlop Street is adequate with respect to the City’s standards. Table 11 summarizes sizing, material and date in stalled for sanitary sewers on Dunlop Street. The Wastewater Collection System Master Plan for Intensification and Annexed Lands indicates some sanitary sewers within the study area will approach their design capacity within the 2031 timeframe, which is summarized in Table 12. Local sanitary sewers were not assessed in the Wastewater Collection Master Plan (only trunk sewers >300mm diameter). Further analysis is required to address any capacity upgrades in the future.

Table 11: Dunlop Street – Sanitary Sewer Infrastructure

Street Section	Size/Shape	Material	Date Installed	Flow Direction	Watershed
Dunlop – Toronto to Mary	300mm	PVC	2010	East	Flows to Mary Street Trunk (300mm)

Dunlop – Mary to Maple	250mm	PVC	1990	West	Flows to Street (300mm)	Mary Trunk
Dunlop – Maple to Bayfield	250mm	PVC	1990	West	Flows to Street (300mm)	Mary Trunk
Dunlop – Bayfield to Owen	300mm	PVC	1989	East	Flows to Street (400mm)	Mulcaster Trunk
Dunlop – Owen to Mulcaster	375mm	PVC	1989	East	Flows to Street (400mm)	Mulcaster Trunk

Table 12: Study Area – 2031 and 2051 Sanitary Deficiencies

Sewer	Location/ Section	Size	Planning Horizon	Deficiency
Lakeshore STS ¹	Lakeshore and Mary	1050mm	2031	85% Surcharge ² Condition
Mary STS	Dunlop to Simcoe	300mm	2051	85% Surcharge Condition
Toronto STS	At Connection to Lakeshore STS	825mm	2051	85% Surcharge Condition
Lakeshore STS	Lakeshore and Mary	1050mm	2051	100% Surcharge Condition
Lakeshore STS	Lakeshore, west of Mulcaster	975mm	2051	85% Surcharge Condition
Owen STS	Worsley to Collier	300mm	2051	85% Surcharge Condition

¹STS – sanitary truck sewer

²Surcharge – When the sewer flow exceeds the hydraulic carrying capacity of the sewer line

4.1.19 Water Distribution Network

The study area lies within pressure zone 1 and consists of watermains varying in size from 100mm to 400mm. The existing watermain network is illustrated in Figure 36.

The existing water distribution network on Dunlop Street is adequate with respect to the City's standards. There are no scheduled replacements or rehabilitation

planned. The Water Storage and Distribution Master Plan does not indicate any required upsizing or proposed watermains within the study area. Further assessment should be completed as intensification occurs within the Study Area.

Table 13: Dunlop Street – Water Distribution Infrastructure

Street Section	Size	Material	Date Installed
Dunlop – Toronto to Mary	300mm	Ductile Iron	1990
Dunlop – Mary to Maple	300mm	Ductile Iron	1990
Dunlop – Maple to Bayfield	300mm	Ductile Iron	1990
Dunlop – Bayfield to Owen	300mm	Ductile Iron	1989
Dunlop – Owen to Mulcaster	300mm	Ductile Iron	1989

4.1.20 Non-Municipal Utilities

The existing private (non-municipal) underground and overhead utilities consist of an electrical and natural gas distribution system as well as telecommunications lines for television, phone and internet. During detailed design of the preferred alternative, detailed record drawings will be obtained from the respective utility companies and subsurface utility investigations may be completed in select areas where either conflicts or critical infrastructure is located to confirm the exact position.

4.1.21 Electrical Distribution System

The electrical distribution within the study area consists of underground services within the City’s core (Dunlop, Collier and Simcoe Streets) and overhead in the core’s periphery. Minor relocations may be necessary depending on the preferred alternative design solution.

4.1.22 Telephone System

The telephone distribution consists of underground services on Dunlop Street and a combination of overhead and underground services within the study area. Minor relocations may be necessary depending on the preferred alternative design solution.

4.1.23 Gas Distribution System

The study area is serviced in part by a 50 mm and 100 mm gas main on Dunlop Street as indicated by record drawings in the City’s database. Other gas mains in

the area are generally 50 mm. Minor relocations may be necessary depending on the preferred alternative design solution.

4.1.24 Cable TV System

The cable TV system in the study area is not expected to be significantly affected by any of the alternatives. Minor utility relocations will be accommodated as required during the detail design phase of the project.

4.1.25 Soils

Native surface soils in the study area are characterized by loamy sand (Tis-Vasl) according to the Soil Survey of Simcoe County prepared by the Federal Department of Agriculture.

4.1.26 Groundwater Resources

There are two main aquifer units in the study area, an intermediate and deep aquifer. The deep aquifer is used by the City of Barrie municipal wells for supply.

The City of Barrie Well's 11 and 14 are located in Heritage Park and Well 16 is located south of the City's marina. Subsequently, most of the study area is located within well head protection areas. A well head is the physical structure of the well above ground. A well head protection area is the area around a well head where land use activities have the potential to affect the quality and quantity of water that flows into the well. Since the area is in a well head protection area, special consideration must be given to the implementation of any low impact development stormwater treatment systems during detailed design.

4.1.27 Water Quality / Stormwater Management

There are no quantity or quality stormwater detention facilities in the immediate study area. There are two privately owned oil grit separators within the study area. During detailed design of the preferred alternative an analysis will be completed to determine if compact stormwater treatment systems could be feasibly incorporated and produce quantifiable water quality improvements. Treatment systems range from oil grit separator devices to low impact development systems such as filtration basins.

4.2 Natural Environment

With the exception of a few landscape plantings and trees, there is no natural environment in the study area. Therefore, there are no Environmentally Significant Areas (ESAs), Areas of Natural and Scientific Interest (ANSIs) or Provincially Significant Wetlands (PSWs) located within the study area. As previously noted, a majority of the study area is within the Sophia Creek watershed with smaller sections that form part of Kidds Creek and the Mulcaster Drainage area. A portion of the study area is located within the Sophia Creek and Kidds Creek Lake Simcoe Region Conservation Authority Regulation Limits.

4.2.1 Vegetation

With the exception of a few landscape plantings and trees, there is limited vegetation in the study area.

4.2.2 Fisheries & Aquatic Habitat

There are no fisheries or aquatic habitat in the study area. The area drains to Kempenfelt Bay, whose cold water fishery is susceptible to poor quality of stormwater run-off. Reductions in total phosphorous, is identified by Lake Simcoe Environmental Management Strategy as a critical element in maintaining the health of Lake Simcoe.

4.2.3 Wildlife

Other than bird species, there is limited wildlife in the study area due to the lack of vegetation and lack of a natural environment.

4.3 Social Environment

The social environment is focussed on matters relating to the existing residents and other businesses.

4.3.1 Land Use & Development

The existing zoning within the study area is illustrated in Figure 37 and consists primarily of:

- C1 - Central Area Commercial (downtown);
- C2 - Transition Centre Commercial (downtown); and

- OS - Open Space (waterfront).

4.3.2 Noise Issues

There are residential units within the study area which are impacted by vehicular and pedestrian noise. Construction activities related to the preferred alternative would require adherence to the City of Barrie noise by-law (2006-140).

4.3.3 Aesthetics

The existing pedestrian areas adjacent to the roads are generally finished with hard surfaces and some trees. The opportunity will exist, as part of any road improvement, to further enhance the existing landscaping in the boulevard.

4.3.4 Access to Existing Properties

It is anticipated that property access can be satisfactorily maintained for Alternative 1, 4 and 5. Alternative 2 and 3 (temporary and permanent closures) will restrict access compared to existing conditions. Access details will be reviewed at detailed design.

4.4 Cultural/Heritage Environment

This environment encompasses archaeological sites, built heritage and First Nations interest.

4.4.1 Archaeological Assessment

The study area is completely developed and/or disturbed and therefore no Archaeological Assessment was undertaken.

4.4.2 Built Heritage

The City of Barrie Heritage Sites Inventory identifies buildings of architectural or historical merit. Table 14 summarizes the designated buildings within the study area.

Table 14: Study Area – Heritage Sites Inventory

Address	Name
123 Dunlop Street East	n.a.
72-74 Dunlop Street East	The Sanders Block

16-18 Mary Street	The John Pearson House
30 Mary Street	Dutton House
37 Mulcaster Street	Carnegie Building
36 Mulcaster Street	Farmers' Market Building
105 Toronto Street	Robinson-Burton House

While many of the existing buildings in the study area are older and exhibit heritage qualities none are currently designated under Part 4 of the Ontario Heritage Act.

4.4.3 First Nations

There are no known First Nations lands or interests within the study area. During the course of the study, additional investigations and correspondence with First Nations will be undertaken to provide confirmation.

4.5 Economic Environment

With respect to the economic environment, this considers the associated costs to be incurred in constructing and maintaining the various improvement solutions. The costs have been considered in relation to the extent of existing streets requiring upgrades/reconstruction and/or the extent of new street construction required. In addition, impacts to abutting lands have also been considered as part of the economic environment given the associated costs to obtain any required lands.

4.5.1 Construction Costs

Construction cost estimates have been prepared for each alternative based on the scope of improvements and have been considered for the length of Dunlop Street (700m) within the Study Area. The alternatives requiring additional through lanes on Collier both require widening of the westbound lane only to accommodate a buffered bike lane. The eastbound lanes are sufficiently wide to accommodate two travel lanes plus a buffered bike lane (note that on street parking would be eliminated). Table 15 provides an order of magnitude comparison between the 5 alternatives.

Table 15: Cost Estimates

Alternative	Construction Estimate
Alternative 1 - Do Nothing	\$0
Alternative 2 – Temporary Closure	\$100,000

Alternative 3 – Pedestrian Promenade	\$7,000,000
Alternative 3 – Pedestrian Promenade + 2 Additional Lanes on Collier	\$8,500,000
Alternative 4 – One-Way Eastbound	\$5,300,000
Alternative 4 – One Way Eastbound + 1 Additional Lane on Collier	\$6,800,000
Alternative 5 – Reconfigurable Street	\$5,800,000

These cost estimates are assuming that the existing sanitary, storm and watermains will remain as they were installed in 1990 and have substantial service life remaining.

4.5.2 Maintenance Costs

Typically, the frequency of maintenance on roadways increases over the years as the rate of infrastructure deterioration increases. A relative comparison in maintenance costs is illustrated in Table 16 for each alternative solution. Typically, designs that incorporate more travel area for vehicles require more maintenance.

Table 16: Maintenance Cost Ranking (highest rank equals highest cost)

Alternative	Rank
Alternative 3 – Pedestrian Promenade + 2 Additional Lanes on Collier	1
Alternative 4 – One Way Eastbound + 1 Additional Lane on Collier	1
Alternative 5 – Reconfigurable Street	2
Alternative 1 – Do Nothing	3
Alternative 4 – One-Way Eastbound	4
Alternative 2 – Temporary Closure	5
Alternative 3 – Pedestrian Promenade	6

4.5.3 Property Acquisition Costs

There are no property acquisition costs for any of the Dunlop Street proposed alternative solutions. Property acquisition is required for the Ross Street/Collier Street/Bayfield Street intersection realignment. Typically, alternatives that impact a greater number of properties cost more due to the increased number of real estate transactions and the associated purchasing fees that over and above the cost of the

actual real estate. A relative comparison in property acquisition costs is illustrated in Table 17 for each alternative solution

Table 17: Property Acquisition Costs

Rank	Alternative	
Dunlop Street Alternatives		
No Cost	Alternative 1	maintains the existing conditions
No Cost	Alternative 2	temporary pedestrian promenade, existing right-of-way represents construction limits
No Cost	Alternative 3	pedestrian promenade, existing right-of-way represents construction limits
No Cost	Alternative 4	one-way option, existing right-of-way represents construction limits
No Cost	Alternative 5	reconfigurable street, existing right-of-way represents construction limits
Ross/Collier/Bayfield Intersection Realignment Alternatives		
1	Alternative RCB-1	realign Ross Street to the south through 56/66 Bayfield Street
2	Alternative RCB-4	realign Ross Street to the south and Collier Street to the north

4.5.4 Impacts on Business

Business owners in downtown Barrie are generally supportive of creating a more vibrant and pedestrian friendly downtown. Some business owners may not be in favour of eliminating parking along Dunlop Street to provide wider sidewalks.

Impacts to businesses surrounding the Ross Street/Collier Street/Bayfield Street intersection would experience varying degrees of impact depending on the preferred alternative solution.

5 Evaluation of Alternative Solutions

The alternatives developed in Section 3 to correct the deficiencies noted in Section 2 are to be screened with respect to their impact on the *physical, social, cultural* and *economic* environments presented in Section 4. For each of the above criteria, sub-factors were established, which are presented below. The assessment process compares various alternatives to the undertaking in a comprehensive manner by ensuring that the conclusions and recommendations are reached in a clear and logical fashion, and that all environmental issues sensitive to each undertaking are given thorough consideration. This assessment has been based on the work undertaken to-date.

The results of the traffic studies (refer to Appendix D and E) have been incorporated into the evaluation for the various alternatives.

5.1 Evaluation Criteria

Alternatives are assessed on an established set of criteria to assess relative impacts to the physical, natural, social, cultural/heritage and economic environments. In completing the evaluation, a number of criteria were considered as outlined below.

The potential impacts associated with the Dunlop Street alternatives are noted in Table 20 through Table 24. It is noted that the following apply to each alternative unless otherwise noted:

- traffic capacity assessment assumes the Council approved realignment of Ross Street from Maple Avenue to Clapperton Street, to intersect Bayfield Street opposite Collier Street at a signalized intersection is in place;
- traffic capacity assessment is based on PM peak hour 2031 traffic volumes;
- Dunlop Street off-street parking and property access will not be affected by any of the proposed alternative solutions (ie. parking areas and access points will remain as existing);
- the study area is completely developed therefore there will be no additional negative impacts to the natural environment (ie. terrestrial wildlife or vegetation); and
- the potential to improve groundwater resources and stormwater runoff quality by implementing treatment devices to assist in reducing pollutants.

5.1.1 Alternative 1 – Do Nothing

Alternative 1 (refer to Figure 13) maintains the existing cross-section on Dunlop Street and continues the existing programs operated by the City of Barrie and the Downtown BIA including the Outdoor Patio Program and full closures for special events. In the future, additional pilot programs will be considered where continuous boardwalks, parklets and/or landscape features are installed on a continuous section (or sections) of Dunlop Street to create more public space for pedestrians, outdoor patios and potentially for retailers (pending demand and by-law amendments).

The 2031 traffic projections for the Alternative 1 scenario are shown in Appendix E. The corresponding 2011 and 2031 link operational assessment is summarized in Table 18 and Table 19 for the study area.

Current 2011 link volumes within the study area are acceptable with respect to lane capacity, although some corridors have V/C ratios exceeding 0.80. 2031 traffic volumes will exceed some of the capacities for existing roads within the study area on the following road sections:

- Simcoe Street East of Toronto (WB travel only)

Alternative 1 maintains existing parking inventory during the non-summer months and off-street parking year round. During late spring, early fall and summer, parking spaces are reduced to accommodate various programs operated by the City and the Downtown BIA. The reduction in parking spaces is subject to program demands and as a result, parking space reductions will vary yearly.

Maintenance costs are expected to increase as infrastructure ages. Alternative 1 will have a neutral impact to the natural environment and cultural/heritage environment. It will have slightly negative effect on the social environment due to less favourable aesthetics as compared to Alternatives 3, 4 and 5. Economically, this alternative will have a net positive effect since it is the least cost alternative. It should be noted that renewal is required on Dunlop Street in the near future with costs expected between \$4MM to \$5MM depending on street elements used.

Table 18: 2011 Link Operations Comparison – PM Peak Hour

Street	Section	Lane Cap. vphpl	Alternative 1 – Do Nothing			Alternative 2 – Temporary Closure			Alternative 3 – Pedestrian Promenade			Alternative 4 – One – Way Eastbound			Alternative 4 – One – Way Eastbound + Additional Westbound Lane on Collier			Alternative 5 – Reconfigurable Street			
			2011 Vol.	V/C	LOS	2011 Vol.	V/C	LOS	2011 Vol.	V/C	LOS	2011 Vol.	V/C	LOS	2011 Vol.	V/C	LOS	2011 Vol.	V/C	LOS	
Dunlop	West of Bayfield	EB	500	370	0.74	C	NA	NA	NA	NA	NA	NA	370	0.74	C	340	0.68	B	370	0.74	C
		WB	410	0.82	D								NA			NA			410	0.82	D
Dunlop	East of Bayfield	EB	650	220	0.34	A	NA	NA	NA	NA	NA	NA	210	0.32	A	190	0.29	A	220	0.34	A
		WB	250	0.38	A								NA			NA			250	0.38	A
Collier	Bayfield to Clapperton	EB	500	210	0.42	A	280	0.56	A	280	0.56	A	200	0.40	A	220	0.44	A	210	0.42	A
		WB	470	0.94	E	470	0.94	E	470	0.94	E	500	1.00	E	810 ²	0.81	D	470	0.94	E	
Collier	East of Clapperton	EB	500	230	0.46	A	233	0.47	A	230	0.46	A	180	0.35	A	170	0.34	A	230	0.46	A
		WB	160	0.32	A	300	0.60	A	300	0.60	A	350	0.70	B	450 ²	0.45	A	160	0.32	A	
Ross	Toronto St to Bayfield	EB	500	250	0.50	A	290	0.58	A	290	0.58	A	280	0.56	A	180	0.36	A	250	0.50	A
		WB	280	0.56	A	330	0.66	B	330	0.66	B	340	0.68	B	360	0.72	C	280	0.56	A	
Simcoe	West of Bayfield (2 lanes per direction)	EB	500	570	0.57	A	760	0.76	C	760	0.76	C	570	0.57	A	630	0.63	B	570	0.57	A
		WB	780	0.78	C	880	0.88	D	880	0.88	D	850	0.85	D	840	0.84	D	780	0.78	C	
Simcoe	East of Bayfield	EB	500	350	0.70	B	400	0.80	C	400	0.80	C	360	0.72	C	350	0.70	B	350	0.70	B
		WB	370	0.74	C	390	0.78	C	390	0.78	C	440	0.88	D	420	0.84	D	370	0.74	C	
Simcoe	East of Toronto (2 lanes per direction)	EB	500	700	0.7	C	840	.84	D	840	0.84	D	680	0.68	C	690	0.69	C	700	0.7	C
		WB	900	0.9	D	1040	1.04	F	1040	1.04	F	1020	1.02	F	1020	1.02	F	900	0.9	D	
Mulcaster	North of Dunlop	NB	500	240	0.48	A	50	0.10	A	50	0.10	A	270	0.54	A	270	0.54	A	240	0.48	A
		SB	210	0.42	A	190	0.38	A	190	0.38	A	200	0.40	A	210	0.42	A	210	0.42	A	
Clapperton	Dunlop to Collier	NB	400	280	0.70	B	270	0.68	B	270	0.68	B	250	0.63	B	320	0.80	C	280	0.70	B
Bayfield	North of Collier (2 lanes per direction)	NB	650	290	0.45	A	280	0.43	A	280	0.43	A	260	0.40	A	360	0.60	A	290	0.45	A
		SB	450	0.35	A	390	0.60	A	390	0.60	A	380	0.58	A	390			450	0.35	A	
Bayfield	Collier to Dunlop (1 lane NB)	NB	650	430	0.66	B	240	0.37	A	240	0.37	A	400	0.62	B	410	0.63	B	430	0.66	B
Bayfield	Dunlop to Simcoe	NB	650	140	0.22	A	290	0.45	A	290	0.45	A	90	0.14	A	210	0.32	A	140	0.22	A
		SB	330	0.51	A	300	0.46	A	300	0.46	A	440	0.68	B	450	0.69	C	330	0.51	A	
Toronto	North of Dunlop	NB	400	280	0.70	B	300	0.70	C	300	0.75	C	280	0.70	B	280	0.70	B	280	0.70	B
		SB	290	0.73	C	290	0.75	C	290	0.73	C	300	0.75	C	290	0.73	C	290	0.73	C	
Toronto	South of Dunlop	NB	500	130	0.25	A	180	0.36	A	180	0.36	A	140	0.28	A	120	0.24	A	130	0.25	A
		SB	20	0.04	A	60	0.12	A	60	0.12	A	10	0.02	A	10	0.02	A	20	0.04	A	

Analysis included Chase McEachern Way and Fred Grant Square open to vehicular traffic.

² 2 lanes westbound

Table 19: 2031 Link Operations Comparison – PM Peak Hour

Street	Section	Lane Cap. vphpl	Alternative 1 – Do Nothing			Alternative 2 – Temporary Closure			Alternative 3 – Pedestrian Promenade			Alternative 3 – Pedestrian Promenade + 2 Additional Lanes on Collier			Alternative 4 – One – Way Eastbound			Alternative 4 – One – Way Eastbound + Additional Westbound Lane on Collier			Alternative 5 – Reconfigurable Street			
			2031 Vol.	V/C	LOS	2031 Vol.	V/C	LOS	2031 Vol.	V/C	LOS	2031 Vol.	V/C	LOS	2031 Vol.	V/C	LOS	2031 Vol.	V/C	LOS	2031 Vol.	V/C	LOS	
Dunlop	West of Bayfield	EB	500	410	0.82	D	NA	NA	NA	NA	NA	NA	NA	NA	NA	400	0.80	C	410	0.82	D	410	0.82	D
		WB	500	490	0.98	E	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.80	C	NA	0.82	D	490	0.98
Dunlop	East of Bayfield	EB	650	470	0.72	C	NA	NA	NA	NA	NA	NA	NA	NA	NA	460	0.71	C	470	0.72	C	470	0.72	C
		WB	650	520	0.80	D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.71	C	NA	0.80	D	520	0.80
Collier	Bayfield to Clapperton	EB	500	220	0.44	A	300	0.6	C	300	0.6	C	410 ¹	0.41	A	220	0.44	A	230	0.46	A	220	0.44	A
		WB	500	490	0.98	E	590	1.18	F	590	1.18	F	940 ¹	0.94	E	590	1.18	F	940 ²	0.94	F	490	0.98	E
Collier	East of Clapperton	EB	500	250	0.50	A	350	0.70	B	350	0.70	B	540 ¹	0.54	A	230	0.46	A	240	0.48	A	250	0.50	A
		WB	500	290	0.58	A	380	0.76	C	380	0.76	C	670 ¹	0.67	B	390	0.78	C	670 ²	0.67	B	290	0.58	A
Ross	Toronto St to Bayfield	EB	500	250	0.50	A	350	0.70	B	350	0.70	B	360	0.72	C	250	0.50	A	250	0.25	A	250	0.50	A
		WB	500	340	0.68	B	390	0.78	C	390	0.78	C	400	0.80	C	390	0.78	C	400	0.80	C	340	0.68	B
Simcoe	West of Bayfield (2 lanes per direction)	EB	500	750	0.75	C	780	0.78	C	780	0.78	C	780	0.78	C	740	0.74	C	740	0.74	C	750	0.75	C
		WB	500	920	0.92	E	980	0.98	E	980	0.98	E	960	0.96	E	980	0.98	E	960	0.96	E	920	0.92	E
Simcoe	East of Bayfield	EB	500	410	0.82	D	450	.90	D	450	.90	D	440	0.88	D	410	0.82	D	410	0.94	E	410	0.82	D
		WB	500	450	0.90	D	510	1.02	F	510	1.02	F	470	0.94	E	510	1.02	F	470	1.02	F	450	0.90	D
Simcoe	East of Toronto (2 lanes per direction)	EB	500	830	0.83	D	960	0.96	E	960	0.96	E	960	0.96	E	830	0.83	D	830	0.83	D	830	0.83	D
		WB	500	1080	1.08	F	1240	1.24	F	1240	1.24	F	1240	1.24	F	1240	1.24	F	1250	1.25	F	1080	1.08	F
Mulcaster	North of Dunlop	NB	500	260	0.52	A	100	0.20	A	100	0.20	A	90	0.18	A	270	0.54	A	280	0.56	A	260	0.52	A
		SB	500	240	0.48	A	130	0.26	A	130	0.26	A	70	0.14	A	110	0.22	A	50	0.10	A	240	0.48	A
Clapperton	Dunlop to Collier	NB	400	340	0.85	D	380	0.95	E	380	0.95	E	390	0.98	E	330	0.83	D	340	0.85	D	340	0.85	D
Bayfield	North of Collier (2 lanes per direction)	NB	650	270	0.42	A	170	0.26	A	170	0.26	A	280	0.43	A	150	0.23	A	320	0.49	A	270	0.42	A
		SB	650	460	0.71	C	310	0.48	A	310	0.48	A	220	0.34	A	310	0.48	A	200	0.31	A	460	0.71	C
Bayfield	Collier to Dunlop (1 lane NB)	NB	650	380	0.58	A	420	0.65	B	420	0.65	B	460	0.71	C	420	0.65	B	460	0.71	C	380	0.58	A
Bayfield	Dunlop to Simcoe	NB	650	440	0.67	C	410	0.63	B	410	0.63	B	420	0.65	C	420	0.65	C	430	0.66	C	440	0.67	C
		SB	650	530	0.82	D	510	0.78	C	510	0.78	C	530	0.82	D	510	0.78	C	540	0.83	D	530	0.82	D
Toronto	North of Dunlop	NB	400	300	0.75	C	300	0.75	C	300	0.75	C	300	0.75	C	300	0.75	C	300	0.75	C	300	0.75	C
		SB	400	290	0.73	C	300	0.75	C	300	0.75	C	300	0.75	C	300	0.75	C	300	0.75	C	290	0.73	C
Toronto	South of Dunlop	NB	500	30	0.06	A	120	0.24	A	120	0.24	A	110	0.22	A	140	0.28	A	130	0.26	A	30	0.06	A
		SB	500	90	0.18	A	160	0.32	A	160	0.32	A	180	0.36	A	160	0.32	A	180	0.36	A	90	0.18	A

¹ 2 lanes in each direction.

² 2 lanes westbound

Table 20: Assessment of Alternative Solutions - Environmental Impacts - Physical Environment

Evaluation Criteria & General Descriptor		Weight (1-3)	Alternative 1 – Do Nothing	Alternative 2 – Temporary Closure	Alternative 3 – Pedestrian Promenade	Alternative 4 – One-Way Eastbound	Alternative 5 - Reconfigurable
link operations	Adequacy of the road system to accommodate existing and future vehicle travel demands based on road capacity	3					
			<ul style="list-style-type: none"> no change/impacts to existing traffic capacity 	<ul style="list-style-type: none"> not permitted during summer season on Dunlop Street increases congestion on study area streets 	<ul style="list-style-type: none"> not permitted on Dunlop Street increases congestion on study area streets 	<ul style="list-style-type: none"> one-way traffic on Dunlop Street increases congestion on study area streets 	<ul style="list-style-type: none"> no change/impacts to existing traffic capacity
traffic operations	Intersection operations (eg. acceptable delays, good levels of service, limited traffic queues between intersections, etc.)	2					
			<ul style="list-style-type: none"> no change/impacts to existing traffic capacity 	<ul style="list-style-type: none"> not permitted during summer season on Dunlop Street increases congestion on study area streets 	<ul style="list-style-type: none"> not permitted on Dunlop Street increases congestion on study area streets 	<ul style="list-style-type: none"> one-way traffic on Dunlop Street increases congestion on study area streets 	<ul style="list-style-type: none"> no change/impacts to existing traffic capacity
transit operations	Opportunity to improve/expand on transit provisions on Dunlop Street.	1					
			<ul style="list-style-type: none"> no change/impacts to existing transit service 	<ul style="list-style-type: none"> increased traffic congestion resulting in delays to transit arriving and departing the downtown terminal No opportunity for future transit routes on Dunlop Street during closure. 	<ul style="list-style-type: none"> increased traffic congestion resulting in delays to transit arriving and departing the downtown terminal No opportunity for future transit routes on Dunlop Street. 	<ul style="list-style-type: none"> one-way Dunlop provides reduced opportunity for transit 	<ul style="list-style-type: none"> no change/impacts to existing transit service
pedestrian operations	Opportunity to improve/expand on pedestrian facilities and operations within the Study Area	3					
			<ul style="list-style-type: none"> no change/impacts to existing pedestrian facilities 	<ul style="list-style-type: none"> pedestrians can safely utilize both existing sidewalks and roadway 	<ul style="list-style-type: none"> new cross-section will be pedestrian focused. 	<ul style="list-style-type: none"> expanded pedestrian sidewalks 	<ul style="list-style-type: none"> ability to increase sidewalk area for patios and special events
cycling operations	Opportunity to improve/expand on cycling facilities and operations within the Study Area	3					
			<ul style="list-style-type: none"> no change/impacts to existing cycling facilities 	<ul style="list-style-type: none"> cyclists will share roadway with pedestrians – no vehicles 	<ul style="list-style-type: none"> cyclists will share central “laneway” roadway with pedestrians – no vehicles 	<ul style="list-style-type: none"> improved signage indicating “sharrow” shared use road designation 	<ul style="list-style-type: none"> improved signage indicating “sharrow” shared use road designation

Evaluation Criteria & General Descriptor		Weight (1-3)	Alternative 1 – Do Nothing	Alternative 2 – Temporary Closure	Alternative 3 – Pedestrian Promenade	Alternative 4 – One-Way Eastbound	Alternative 5 - Reconfigurable
parking	Impacts to the overall parking supply and provision of suitable parking in the area.	2	○	◐	●	◐	○
			<ul style="list-style-type: none"> no change/impacts to parking supply 	<ul style="list-style-type: none"> 95 spaces removed due to temporary vehicular closure on Dunlop Street (maximum) additional parking available at Collier Street parking garage 	<ul style="list-style-type: none"> 95 spaces removed due to vehicular closure on Dunlop Street (maximum) 79 spaces removed on Collier Street due to one additional lane installed in each direction + buffered bike lanes additional parking available at Collier Street parking garage 	<ul style="list-style-type: none"> 95 spaces removed due to vehicular closure on Dunlop Street (maximum) 29 spaces removed on Collier Street westbound and eastbound angled parking would be replaced with parallel parking (approx 50% reduction ~ 25 spaces removed) due to an additional lane installed not installing bike lanes would maintain all 50 spaces eastbound Collier Street additional parking available at Collier Street parking garage 	<ul style="list-style-type: none"> no change/impacts to parking supply
emergency services	Impact to Emergency Services accessibility and response times	3	○	◐	●	◐	○
			<ul style="list-style-type: none"> no change to existing emergency service 	<ul style="list-style-type: none"> increased response times during summer closure 	<ul style="list-style-type: none"> increased response times 	<ul style="list-style-type: none"> one-way eastbound should limit any delays to response times, but accessibility could be impacted 	<ul style="list-style-type: none"> no change to existing emergency service
road safety	Opportunity to provide improved levels of safety to road users at intersections.	3	○	●	◐	◐	○
			<ul style="list-style-type: none"> no change to existing road safety 	<ul style="list-style-type: none"> Potential for creating confusion for unfamiliar users due to seasonal nature of road closure – may result in unintended driver behaviour 	<ul style="list-style-type: none"> Potential for creating confusion for unfamiliar users until road users become acclimated – may result in unintended driver behaviour 	<ul style="list-style-type: none"> Potential for creating confusion for unfamiliar users until road users become acclimated – may result in unintended driver behaviour 	<ul style="list-style-type: none"> no change to existing road safety
design vehicle	Ability of the road system to accommodate typical design vehicles and extent to which the passage of larger vehicles through the Dunlop Street area may be limited.	2	○	◐	●	◐	○
			<ul style="list-style-type: none"> no change from existing 	<ul style="list-style-type: none"> tractor trailers cannot make left/right turns at closure limits without significant encroachment into opposing lanes directs trucks onto non-truck routes 	<ul style="list-style-type: none"> tractor trailers cannot make left/right turns at closure limits without significant encroachment into opposing lanes directs trucks onto non-truck routes 	<ul style="list-style-type: none"> tractor trailers cannot make left/right turns at closure limits without significant encroachment into opposing lanes directs trucks onto non-truck routes 	<ul style="list-style-type: none"> no change from existing

Evaluation Criteria & General Descriptor		Weight (1-3)	Alternative 1 – Do Nothing	Alternative 2 – Temporary Closure	Alternative 3 – Pedestrian Promenade	Alternative 4 – One-Way Eastbound	Alternative 5 - Reconfigurable
utilities & services	Potential impacts and degree of such to overhead and underground utilities.	1	○ ▪ no change to existing services	○ ▪ no change to existing services	◐ × cross-section reconstruction will impact shallow depth utilities (gas, hydro, communications) – potential reconstruction requirement × storm sewer catchbasins and laterals will require replacement to reflect new curb location	◐ × cross-section reconstruction will impact shallow depth utilities (gas, hydro, communications) – potential reconstruction requirement × storm sewer catchbasins and laterals will require replacement to reflect new curb location	◐ × cross-section reconstruction will impact shallow depth utilities (gas, hydro, communications) – potential reconstruction requirement × storm sewer catchbasins and laterals will require replacement to reflect new curb location

Table 21: Assessment of Alternative Solutions - Environmental Impacts - Natural Environment

Evaluation Criteria & General Descriptor		Weight (1-3)	Alternative 1 – Do Nothing	Alternative 2 – Temporary Closure	Alternative 3 – Pedestrian Promenade	Alternative 4 – One-Way Eastbound	Alternative 5 - Reconfigurable
fisheries / aquatic impacts	Potential impacts and degree of such to fisheries and aquatic habitat.	3					
			<ul style="list-style-type: none"> minimal if any impacts expected given the limited natural environment (same for all alternatives) 				
wildlife / terrestrial impacts	Potential impacts and degree of such to wildlife and terrestrial habitat.	3					
			<ul style="list-style-type: none"> minimal if any impacts expected given the limited natural environment (same for all alternatives) 				
vegetation impacts	Potential impacts and degree of such to vegetation.	3					
			<ul style="list-style-type: none"> minimal if any impacts expected given the limited natural environment (same for all alternatives) 				
groundwater resources	Potential impacts and degree of such to groundwater resources.	3					
			<ul style="list-style-type: none"> limited opportunity to implement infiltration low impact development techniques due to location within Issues Contributing Area (Chloride and Sodium) as well as risk of flooding to buildings fronting Dunlop Street (same for all alternatives) 				
water quality / stormwater management	Ability to adequately address stormwater with respect to quantity and quality control.	3					
			<ul style="list-style-type: none"> no change to existing stormwater management system. 		<ul style="list-style-type: none"> ✓ Opportunity to implement Oil Grit Separators, sediment traps in CB, consideration of filtration LID or underground tree boxes with liners. 		

Table 22: Assessment of Alternative Solutions - Environmental Impacts - Social Environment

Evaluation Criteria & General Descriptor		Weight (1-3)	Alternative 1 – Do Nothing	Alternative 2 – Temporary Closure	Alternative 3 – Pedestrian Promenade	Alternative 4 – One-Way Eastbound	Alternative 5 - Reconfigurable
property	Potential impacts and degree of such to adjacent development lands resulting from the proposed road works.	3					
			<ul style="list-style-type: none"> no impacts to existing property or buildings (same for all alternatives) 				
aesthetics / public space	Opportunity for improved aesthetics and/or an increase in public space.	3					
			<ul style="list-style-type: none"> no change to existing conditions existing patio program increases vibrancy of downtown potential for new seasonal pilot programs to improve the public realm (continuous boardwalks, parklets and/or landscape features) 	<ul style="list-style-type: none"> increased public space during summer vehicular closure 	<ul style="list-style-type: none"> increased public space streetscape reconstruction increases aesthetics opportunity to coordinate design with Memorial Square reconstruction 		
noise impacts	Potential for increased noise levels.	1					
			<ul style="list-style-type: none"> no change to existing conditions 	<ul style="list-style-type: none"> minor noise decrease on Dunlop Street offset by noise increase on adjacent routes – considered neutral impact 	<ul style="list-style-type: none"> minor noise decrease on Dunlop Street offset by noise increase on Collier Street and adjacent routes – considered neutral impact 	<ul style="list-style-type: none"> minor noise decrease on Dunlop Street offset by noise increase on Collier Street and adjacent routes – considered neutral impact 	<ul style="list-style-type: none"> no change in noise levels as compared to existing conditions
construction impacts	Extent of impacts directly related to the construction and implementation of the alternative solution (albeit on a temporary basis).	1					
			<ul style="list-style-type: none"> no impacts/change to existing conditions 	<ul style="list-style-type: none"> minor annual impacts during yearly setup and takedown of road closure barricades and road closure signage 	<ul style="list-style-type: none"> significant impacts during reconstruction of street cross-sections 		
access to property	Extent to which access to abutting development lands are affected.	2					
			<ul style="list-style-type: none"> no change to existing conditions 	<ul style="list-style-type: none"> loss of on-street parking during summer vehicular closure may reduce commercial and customer accessibility vehicular access permitted during early morning hours for deliveries, etc. 	<ul style="list-style-type: none"> loss of on-street parking may reduce commercial and customer accessibility vehicular access permitted during early morning hours for deliveries, etc. 	<ul style="list-style-type: none"> loss of on-street parking on one side of Dunlop Street may reduce customer and commercial accessibility – albeit less than Alternative 2 and 3 	<ul style="list-style-type: none"> no change in access as compared to existing conditions

Table 23: Assessment of Alternative Solutions - Environmental Impacts - Cultural/Heritage Environment

Evaluation Criteria & General Descriptor		Weight (1-3)	Alternative 1 – Do Nothing	Alternative 2 – Temporary Closure	Alternative 3 – Pedestrian Promenade	Alternative 4 – One-Way Eastbound	Alternative 5 - Reconfigurable
archaeological impacts	Potential impacts and degree of such to archaeological resources.	3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
			▪ no known impacts (same for all alternatives)				
heritage impacts	Potential impacts and degree of such to heritage resources.	3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
			▪ no known impacts (same for all alternatives)				
First Nations impacts	Potential impacts and degree of such to First Nations lands and resources.	3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
			▪ no known impacts (same for all alternatives)				

Table 24: Assessment of Alternative Solutions - Environmental Impacts - Economic Environment

Evaluation Criteria & General Descriptor		Weight (1-3)	Alternative 1 – Do Nothing	Alternative 2 – Temporary Closure	Alternative 3 – Pedestrian Promenade	Alternative 4 – One-Way Eastbound	Alternative 5 - Reconfigurable
long term impact on business	Economic impacts to adjacent businesses resulting from the implementation of the alternative solutions (including impacts during construction).	3	<ul style="list-style-type: none"> no change to existing conditions continued patio program and potential new pilot programs by the Downtown BIA to help attract increased pedestrian traffic 	<ul style="list-style-type: none"> improved streetscape aesthetics will help attract pedestrian traffic during summer months increased opportunity for special events along Dunlop Street since closure is already in place – additional increase in pedestrian traffic increased opportunity for patios and sidewalk displays during summer months Dunlop Street reopened to vehicular traffic during fall/winter/spring minimal construction impacts users who prefer the opportunity to drive and park (if space is available) to access businesses on Dunlop Street may be deterred during closure no pass-by vehicular traffic during closure requires deliveries to be scheduled during certain hours or requires hand delivery (i.e. by foot or by cart) to business 	<ul style="list-style-type: none"> improved streetscape aesthetics will help attract pedestrian traffic increased opportunity for special events along Dunlop Street since closure is already in place – additional increase in pedestrian traffic increased opportunity for patios and sidewalk displays during summer months significant decrease in pedestrian traffic during late fall/winter/early spring significant construction impacts users who prefer the opportunity to drive and park (if space is available) to access businesses on Dunlop Street may be deterred during closure – impact significantly higher during winter months no pass-by vehicular traffic during closure requires deliveries to be scheduled during certain hours or requires hand delivery (i.e. by foot or by cart) to business 	<ul style="list-style-type: none"> improved streetscape aesthetics will help attract pedestrian traffic increased opportunity for patios and sidewalk displays during summer months significant construction impacts reduction in available parking spaces may reduce commercial/ customer accessibility 	<ul style="list-style-type: none"> improved streetscape aesthetics will help attract pedestrian traffic increased opportunity for patios and sidewalk displays during summer months – at the expense of parking spaces significant construction impacts no considerable change in available number of parking spaces as compared to existing conditions – parking spaces still required to implement patios
maintenance costs	Associated costs to maintain the alternative road cross-sections.	2	<ul style="list-style-type: none"> no change to existing conditions 	<ul style="list-style-type: none"> increased annual maintenance for installation and removal of traffic barriers 	<ul style="list-style-type: none"> decrease in maintenance costs due to elimination of through traffic offset by increase to maintain higher quality surface finishes 	<ul style="list-style-type: none"> comparable maintenance costs expected as compared to existing conditions 	<ul style="list-style-type: none"> increased maintenance costs to maintain bollard system as compared to alternative 4

Evaluation Criteria & General Descriptor		Weight (1-3)	Alternative 1 – Do Nothing	Alternative 2 – Temporary Closure	Alternative 3 – Pedestrian Promenade	Alternative 4 – One-Way Eastbound	Alternative 5 - Reconfigurable
construction costs	Associated costs to implement the alternative road system.	3	○ ▪ \$0	○ ▪ \$100,000	● ▪ \$7MM - \$8.5MM	◐ ▪ \$5.3MM - \$7MM	◑ ▪ \$5.8MM
land acquisition	Associated costs to acquire any lands necessary to implement the alternative road cross-section.	3	○	○	○	○	○
			✓ no land required (same for all alternatives)				
Total Score			-3	-27	-43	-10	+23

Overall Evaluation

Alternative 5 is the Preferred Solution

- × negative impact
- neutral impact
- ✓ positive impact

Alternatives scored by multiplying weight (1, 2 or 3) by Rank (either positive or negative number, -4 to +4).

Neutral Rank: ○ No significant change between alternatives

Positive Rank: ◐ ◑ ● Fully shaded circle indicates greatest positive effect from 1 to 4

Negative Rank: ◑ ◐ ◑ ● Fully shaded circle indicates greatest negative effect from -1 to -4

Weight = 3 – Critical Importance, 2 – Important, 1 – Less Important

5.1.2 Alternative 2 – Temporary Vehicular Closure During Summer

Alternative 2 (refer to Figure 17) the temporary closure of Dunlop Street between Toronto Street and Mulcaster Street or sections thereof during the warm weather months (May to September). The closure would involve the placement of a permanent barrier at the closure limits (emergency vehicles/delivery trucks/maintenance vehicles would still have access). This alternative design solution provides opportunity to increase the amount of outdoor patio space by encroaching on the parking lane space. This would be accomplished by installing a temporary platform in the road area that matches the elevation of the sidewalk and curb. Road closure signage would be required throughout the study area that complies with applicable provincial laws. The existing road cross-section would remain unchanged. Once the warm weather season finished, the closure barricades, patio extensions and signage would be removed and stored until the following spring. Owen Street between Dunlop Street and Collier Street would need to be closed to through traffic and used primarily for parking for this period.

The 2031 traffic projections for the Alternative 2 scenario are shown in Appendix E. The corresponding 2011 and 2031 link operational assessment is summarized in Table 18 and Table 19 for the study area.

Based on this alternative (when the closure is in place), 2011 link volumes within the study area increase as compared to existing conditions, with the following links exceeding capacity:

- Simcoe Street between Toronto Street and Mary Street

2031 traffic volumes will exceed the capacities for existing roads within the study area on the following road sections:

- Collier Street between Bayfield Street & Clapperton Street (WB travel only);
- Simcoe Street east of Bayfield (WB travel only); and
- Simcoe Street between Toronto Street and Mary Street (WB travel only).

Impacts on the transportation network within the study area will result in delays and congestion on the links identified as exceeding capacity and increases the overall volume of traffic on surrounding streets.

The maximum number of parking stalls temporarily removed based on a full closure between Toronto Street and Mulcaster Street is 95. It is noted however, that the Collier Street Parkade, located between Clapperton Street and Owen Street, has

303 spaces, of which 50% are typically available. In addition, there are numerous off-street lots within the study area. In this respect, other parking opportunities are provided.

This alternative will have a net negative effect on the existing physical environment resulting from increased traffic congestion within the study area and impacts to emergency services. Alternative 2 will have a neutral impact to the natural environment and cultural/heritage environment. It will have a slightly negative effect on the social environment due to less favourable aesthetics as compared to Alternatives 3, 4 and 5. Economically, this alternative will have a minor net positive effect since it is one of the least costly alternatives. It should be noted that renewal is required on Dunlop Street in the near future with costs expected between \$4MM to \$5MM depending on street elements used.

5.1.3 Alternative 3 – Pedestrian Promenade (Permanent Vehicular Closure) + Additional Two Lanes on Collier Street

Alternative 3 (refer to Figure 20) includes the permanent closure of Dunlop Street between Toronto Street and Mulcaster Street or sections thereof. The closure would involve the placement of a permanent barrier at the closure limits (emergency vehicles/delivery trucks/maintenance vehicles would still have access). Since the purpose of this alternative is to fully embrace a pedestrian atmosphere, the implementation of this alternative would require reconstructing the street cross-section. Existing sidewalks, curbs, asphalt roadway, street furniture and lights/traffic signals would be removed and replaced with a new pedestrian focused streetscape consisting of new hard surfaces, streetscape furniture, landscaping and lighting. Owen Street between Dunlop Street and Collier Street would be permanently closed to through traffic and be repurposed as either parking or potentially an urban park (further study and consultation required). Consideration will be given to providing two through lanes in each direction on Collier Street that mirrors the closure on Dunlop Street. The additional lane would be gained in the eastbound direction by removing on street parking. The additional lane in the westbound direction would require a road widening at the curb resulting in less sidewalk. The widening is required to provide area for buffered bike lanes as per the MMATMP. There is sufficient existing road width in the eastbound lanes to accommodate two through lanes and a buffered bike lane.

Evaluating the mitigation effects of the additional lanes on Collier Street based on 2031 link operations illustrate that there is not a significant positive impact on link operations in the study area.

The 2031 traffic projections for the Alternative 3 scenario are shown in Appendix E. The corresponding 2011 and 2031 link operational assessment is summarized in Table 18 and Table 19 for the study area.

Based on this alternative (when the closure is in place), 2011 link volumes within the study area increase as compared to existing conditions, with the following links exceeding capacity:

- Simcoe Street between Toronto Street and Mary Street

2031 traffic volumes will exceed the capacities for existing roads within the study area on the following road sections:

- Collier Street between Bayfield Street & Clapperton Street (WB travel only);
- Simcoe Street east of Bayfield (WB travel only); and
- Simcoe Street between Toronto Street and Mary Street (WB travel only).

Impacts on the transportation network within the study area will result in delays and congestion on the links identified as exceeding capacity and increases the overall volume of traffic on surrounding streets.

The maximum number of parking stalls temporarily removed based on a full closure between Toronto Street and Mulcaster Street is 95. In addition, up to 79 parking stalls would be removed on Collier Street to allow for the two additional lanes (one lane in each direction, which would be located where the existing on-street parking is) and buffered bike lanes. It is noted however, that the Collier Street Parkade, located between Clapperton Street and Owen Street, has a capacity of 303 spaces with available capacity usually exceeding 50% of the spaces. In addition, there are numerous off-street lots within the study area. In this respect, other parking opportunities are provided.

This alternative will have a net negative effect on the existing physical environment resulting from increased traffic congestion within the study area and impacts to emergency services. It will have a neutral impact to the natural environment and cultural/heritage environment. It will have a net positive effect on the social environment due to the creation of an aesthetically pleasing streetscape and improving the public realm. Economically, this alternative will have a net negative effect since it is the mostly costly alternative.

5.1.4 Alternative 4 – One-Way Eastbound Dunlop Street (7m Asphalt, 1m curb (total combined width), 12m sidewalk space) + Additional Lane on Collier Street

Alternative 4 (refer to Figure 25) will eliminate one lane of traffic and one-lane of parking and result in a one-way eastbound street with parallel parking on the south side of the street. A one-way alternative would require reconstruction of the road cross section. New sidewalks, curbs, asphalt roadway, street furniture/lighting, traffic signals and landscaping would be constructed. Consideration will be given to providing one additional through lane in the westbound direction on Collier Street that mirrors the closure on Dunlop Street. The additional lane would be gained in the westbound direction by widening the road to the north resulting in less sidewalk width. The widening is required to provide area for a buffered bike lane as per the MMATMP. To comply with the MMATMP, angled parking would be removed on Collier Street eastbound to allow space for a buffered bike lane. The parking would be replaced with parallel parking.

Evaluating the mitigation effects of the additional lane on Collier Street based on 2031 link operations illustrate that there is not a significant positive impact on link operations in the study area.

The 2031 traffic projections for the Alternative 4 scenario are shown in Appendix E. The corresponding 2011 and 2031 link operational assessment is summarized in Table 18 and Table 19 for the study area.

Based on this alternative (when the closure is in place), 2011 link volumes within the study area increase as compared to existing conditions, with the following links exceeding capacity:

- Simcoe Street between Toronto Street and Mary Street
- Collier Street between Bayfield to Clapperton (at threshold)

2031 traffic volumes will exceed the capacities for existing roads within the study area on the following road section:

- Simcoe Street between Toronto Street and Mary Street (WB travel only).

Alternative 4 impacts the transportation network less than Alternatives 2 and 3 and marginally increases link congestion as compared to existing conditions.

The number of parking stalls removed on Dunlop Street would be approximately 50% of the existing supply (approx. 48 stalls removed) since there will be parking

only on the south side of the street. If an additional lane is implemented on westbound Collier Street plus buffered bike lanes in each direction as per the MMATMP, 29 parking stalls would be eliminated in the westbound direction and the 79 angled parking stalls in the eastbound direction would be converted to parallel parking (resulting in a 50% reduction to approximately 30-40 stalls). It is noted however, that the Collier Street Parkade, located between Clapperton Street and Owen Street, has a capacity of 303 spaces with available capacity usually exceeding 50% of the spaces. In addition, there are numerous off-street lots within the study area. In this respect, other parking opportunities are provided.

This alternative will have a net negative effect on the existing physical environment resulting from increased traffic congestion within the study area and impacts to emergency services. Future traffic volumes could not be accommodated by this alternative solution. Alternative 4 will have a neutral impact to the natural environment and cultural/heritage environment. It will have a net negative effect on the social environment due to increased construction impacts. Economically, this Alternative will have a net negative effect since it is the second most costly alternative if the additional lane on Collier Street is implemented.

5.1.5 Alternative 5 – Reconfigurable Street System (7m asphalt, 2m curb (total combined width) 4.8m reconfigurable space, 6.3m sidewalk space)

Alternative 5 (refer to Figure 30) will provide a flexible street where the complete cross-section is barrier free and parking stalls can be easily reconfigured to provide either patio space or a pedestrian throughway. This alternative would require a complete reconstruction of the road cross section. New sidewalks, roll-over curbs, bollard system, asphalt roadway, street furniture/lighting, traffic signals and landscaping would be constructed.

The 2031 traffic projections for the Alternative 5 scenario are shown in Appendix E. The corresponding 2011 and 2031 link operational assessment is summarized in Table 18 and Table 19 for the study area. It should be noted that this alternative is identical to Alternative 1 with respect to traffic capacity.

Current 2011 link volumes within the study area are acceptable with respect to lane capacity, although some corridors have V/C ratios exceeding 0.80. 2031 traffic volumes will exceed some of the capacities for existing roads within the study area on the following road sections:

- Simcoe Street East of Toronto (WB travel only)

Alternative 5 maintains existing parking inventory during the non-summer months and off-street parking year round. During late spring, early fall and summer, parking spaces are reduced to accommodate various programs operated by the City and the Downtown BIA. The reduction in parking spaces is subject to program demands and as a result, parking space reductions will vary yearly.

This alternative will have a neutral effect on the existing physical environment since it will provide the same capacities for all transportation users as compared to existing conditions. It will have a neutral impact to the natural environment and cultural/heritage environment. It will have a net negative effect on the social environment due to increased construction impacts. Economically, this alternative will have a net negative effect since it is a costly, but is tied with Alternative 4 (One-Way Eastbound) as being the least costly of Alternatives 3 through 5 (alternatives requiring major reconstruction).

5.1.6 Ross/Collier/Bayfield Alternatives

As noted, the existing alternatives developed as part of the Waterfront/Downtown Transportation Improvements Class EA were reconsidered as well as new alternatives focusing on reducing property impacts including:

- Alternative 1a – Do Nothing
- Alternative 2a – Roundabout at Bayfield and Ross
- Alternative 3a – Signalized intersection at Bayfield and Ross

The initial macro and micro traffic modelling illustrated that further study is required to fully quantify traffic and pedestrian operations in the downtown core for both the existing conditions and projected growth to 2031 and also within a larger study area to accurately capture east-west vehicular travel. Both the Multi-Modal Active Transportation Master Plan and initial modeling indicated capacity issues on Dunlop Street and Simcoe Street during peak hours and demonstrated the need for the optimization of an additional east-west route through the downtown.

It is recommended that the City migrate the Ross/Collier/Bayfield intersection component of this study to a standalone study and complete a transportation analysis of the downtown core to further analyze network improvements considering:

- Intensification substantially exceeding current zoning;
- Pedestrian volumes based on existing volumes as well as projected growth (including intensification);

- Extended duration closures of Dunlop Street and/or Simcoe Street for special events; and
- Modifications to the existing downtown transportation network by considering limiting left turns during peak hours at specific intersections

This study will be completed as a Schedule B Class Environmental Assessment.

5.2 Initial Evaluation

An initial evaluation has been undertaken based on the environmental impacts previously presented, and consideration for the following key elements:

- traffic operations;
- pedestrian & cyclist operations;
- parking impacts;
- property impacts; and
- economic impacts (ie. cost).

5.2.1 Traffic Operations

A summary of the link operations is provided in Table 18 and Table 19 to allow direct comparison across the alternatives for 2011 and 2031 link operational projections. Vehicles per hour per lane (vphpl) per direction and the volume to capacity (v/c) ratio are provided for each link. Results which reflect v/c ratios in excess of 0.80 are highlighted (bold). Alternatives 1 and 5 provide the least impact to link operations. While Alternative 4 (One-Way Eastbound) does increase traffic congestion, it is not substantially more than 2031 projections for existing conditions. Alternatives 2 and 3 increase congestion on the additional road network more than Alternatives 1, 5 and 4. Additionally, the implementation of additional lanes on Collier did not have a significant mitigation effect on the level of congestion in the study area.

Design Vehicle

With respect to alternatives that involve a vehicular road closure; locations where the closure of Dunlop Street will occur will not accommodate the larger transport trailer design vehicle (WB-20) without significant encroachment into opposing lanes. The smaller design vehicle that represents a typical transit bus (B-12) can navigate these intersections with minimal lane encroachment. Other movements along

Dunlop Street and throughout the study area may be constrained for larger vehicles, but these restraints currently exist.

5.2.2 Pedestrian & Cyclist Operations

The safer alternatives for pedestrians are those alternatives which provide an environment with no interaction with vehicles. In this respect, the safest alternatives are Alternatives 2 and 3 with respect to vehicle/cyclist conflicts, but there is an increase in pedestrian/cyclist conflicts. Then next safest alternative is Alternative 4, the one-way option. This option creates a safer environment by limiting traffic volumes and the movement of vehicles and cyclists to one direction. Alternative 5 presents a pedestrian environment that is similar to existing conditions, but with the potential of increased safety due to narrower lane widths resulting in lower average vehicle speed (reducing lane widths creates a constrained feeling for drivers resulting in lower vehicle speed). Due to the speed reduction, cyclists may find themselves moving at the same speed as traffic, therefore more inclined to occupy an entire vehicle lane similar to a motorcycle.

Due to constraints imposed by the existing right-of-way width, designated bike lanes are not a viable option. As per the Multi-Modal Active Transportation Infrastructure Master Plan, Dunlop Street is designated as a mixed use route. To enhance awareness of this designation, additional signage and sharrow symbols placed on the asphalt surface is recommended.

5.2.3 Parking Impacts

Alternatives 1, 2 (during winter) and 5 will result in the least amount of existing on-street parking being removed. Alternative 3 eliminates all parking on Dunlop Street and Alternative 4 eliminates approximately 50% of parking on Dunlop Street. Alternatives 3 and 4 when incorporating additional lanes on Collier Street require a significant number of parking spaces removed.

5.2.4 Property Acquisition Costs

For purposes of the Class EA evaluation, the cost comparison is a qualitative assessment, as opposed to determining the actual cost to implement each alternative. The alternatives have been ranked in order of cost from least costly to most costly with an indication of the major cost elements. The resulting ranking is provided in Table 17.

Dunlop Street Alternatives 1 through 5 require no property, therefore acquisition costs are zero.

5.2.5 Construction Costs

Table 15 provides a cost comparison of each alternative for Dunlop Street.

6 Public Consultation - Public Information Centre

In completing a Schedule B Class EA, there are 2 points of mandatory stakeholder contact as per the following (refer also to Figure 1):

- the 1st point occurs towards the end of Phase 2 when a notice is issued inviting stakeholder comment and input via a Public Information Centre; and
- the 2rd point of contact is upon completion of the planning process at which time a Notice of Completion is provided.

In keeping with the chronological order in documenting events in the order that they occurred, the Public Information Centre is discussed in this chapter

6.1 Notification of Study Commencement

A Notice of Study Commencement was advertised in the Barrie Examiner on March 20 and 22, 2014. Copies of the advertisements are available in Appendix F.

6.2 Notification of Public Information Centre

In accordance with the EA guidelines, a notification of the Public Information Centre was issued inviting stakeholder comment and input. Stakeholders include review agencies, the public and other municipalities and thus notices were directed to each. Notices were also mailed to the area residents and businesses on May 30, 2014 encompassing the entire study area. As an additional level of effort, which is not required by the Class EA process, the City hand delivered notices to businesses, apartments above businesses and multi-unit houses on Dunlop Street between Toronto Street and Mulcaster Street. In addition, notice of the PIC was published in the Barrie Examiner on two separate occasions preceding the public information centres on June 5th and 7th, 2014. Copies of the notices and the respective distribution areas/lists are provided in Appendix F.

The Draft Class EA Report was available online as well in hard copy at the following locations commencing May 30, 2014:

City of Barrie
Clerk's Office
City Hall, 1st Floor
70 Collier Street
Barrie, ON L4M 4T5

City of Barrie
Engineering
City Hall, 6th Floor
70 Collier Street
Barrie, ON L4M 4T5

Barrie Public Library
Downtown
Information Desk
60 Worsley Street
Barrie, ON L4M 1L6

Barrie Public Library
Painswick Branch
Information Desk
48 Dean Avenue
Barrie, ON L4N 0C2

6.3 Public Information Centre

The purpose of the Public Information Centre was to provide information to the public and agencies and seek their input with respect to the proposed alternatives. The Public Information Centre was held on June 18, 2014 between 4:00pm and 7:00pm at Barrie City Hall and was attended by 86 individuals (as per the registry provided in Appendix G). Project information panels were displayed and representatives from the City of Barrie were in attendance to answer any questions and provide assistance as necessary.

The project information panels were prepared for viewing by the public (as provided in Appendix F).

6.4 Public and Agency Comments

Input was received from stakeholders from the Notice of Public Information Centre mail out questionnaire, Public Information Centre or shortly thereafter, via the comment sheets provided. Input was also received via the City's web page. All comment sheets returned are included in Appendix F whereas a summary of the comments are provided in Table 26 and Table 27. Where the respondent identified their preferred alternative solution this has been noted in Table 25.

Table 25: Dunlop Street Alternatives Ranking – Instances Ranked as the Preferred Alternative

Alternative	Instances Ranked No. 1
Alternative 1 – Do Nothing	18
Alternative 2 – Temporary Closure	25
Alternative 3 – Pedestrian Promenade	25
Alternative 4 – One-Way Eastbound	17
Alternative 5 – Reconfigurable Street	25

The rankings illustrate a three-way tie between Alternatives 2, 3 and 5. The rankings illustrate a desire for change as 84% of Residents selected an alternative other than alternative 1.

Comment sheets were mailed to all residents/property owners in the study area, available at the PIC and comments were received online via the City's website. Responses to these comments, in context of the preferred alternative, are provided in in Table 26 and Table 27.

The Ross/Collier/Bayfield Alternatives were not ranked and will be considered in a future standalone study.

Table 26: Public Comments & Preferred Alternative Ranking

ID	Public Comments	Response	Rank Alternatives (1 to 5 with 1 being the highest rank) (NR = not rated)				
			Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Comment Sheet Responses From Mail Out							
2	<p>-Closing Dunlop west from Bayfield to Mulcaster could work for the Summer months. Other than this option closing from Toronto to Bayfield would mess up bus traffic, LCBO access, etc.. As the downtown area is mostly bars + restaurants, they are the only ones benefiting from this option.</p> <p>-Try walking the downtown area with the panhandlers and other marginal persons in doorways, living, panhandling. The downtown area is a place you do not want to shop and we live down here. Close the bars sooner. As we are tired of hearing the drunks flopping around between 2-3am each night.</p>	<p>- The preferred alternative (Alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring.</p> <p>- Continuous full closures outside of special events would impact businesses negatively.</p> <p>- All businesses will benefit from the creation of a more welcoming and lively pedestrian environment. Increasing pedestrian presence will encourage other pedestrians to visit the downtown. All businesses play an important role in attracting pedestrians to the downtown.</p> <p>- A positive side effect of increased pedestrian presence is increased safety. The City of Barrie was recently ranked the safest city in Canada by Statistics Canada.</p> <p>- Increased vibrancy may provide the opportunity for collaboration between agencies offering social assistance and private employers to help members of our community receive an opportunity to participate in the workforce.</p> <p>- The hours for establishments serving alcohol are regulated by the Alcohol and Gaming Commission of Ontario.</p>	1	NR	NR	NR	NR
3	<p>- I can't imagine blocking off street except to pedestrian traffic improving business for established non bar/entertainment businesses. Do you want only an entertainment district OR retail/residential etc.?</p>	<p>- The preferred alternative will maintain two-way traffic all year.</p> <p>- The preferred alternative (Alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring.</p> <p>- The City welcomes all businesses that comply with current zoning regulations.</p>	1	NR	NR	NR	NR
5	<p>- Concern with the adding of vehicular traffic to the Simcoe St/Lakeshore corridor</p>	<p>- The preferred alternative will maintain two-way traffic and will not increase traffic on Simcoe Street or Lakeshore Drive.</p>	NR	1	NR	NR	NR
6	<p>- This has been discussed "to death". The only improvement might be to close Clapperton St from Dunlop to Collier St for pedestrian use. ABSELUETELY NECESSARY!! Fix the sidewalks - then get rid of the bricks, or set them on concrete slabs. They're currently dangerous.</p> <p>- We appreciate the available public input. The City does not need to spend "experimental" money at this time. However, a "slip+fall" lawsuit on these sidewalks is inevitable.</p>	<p>- The Five Points and Area Transportation Improvements Class EA did not recommend any changes to Clapperton Street. Clapperton Street provides on-street parking for neighboring businesses as well as the Mady Centre for the Performing Arts.</p> <p>- Sidewalk pavers requiring attention are temporarily repaired then replaced.</p> <p>- Sidewalk surface treatments will be analyzed during detailed design.</p> <p>- The Class EA process is a Provincially mandated process that is followed for all municipal infrastructure projects to facilitate consultation with First Nations, the public and other agencies and the selection of an alternative that minimizes impacts to the physical, natural, social, cultural/heritage and economic environments.</p>	1	NR	NR	NR	NR
7	<p>- I am very concerned about sidewalk conditions along Dunlop Street and the surrounding study area. The current conditions have resulted in trips and falls.</p> <p>- Traffic interactions are hazardous on Dunlop St. There have been close calls with vehicular traffic.</p> <p>- I prefer a one-way alternative.</p> <p>- Vehicles do not stop during the all pedestrian phase at the Five Points intersection.</p> <p>- These concerns are also brought forward by the whole community.</p>	<p>- City staff regularly perform checks on sidewalks and complete repairs where required. Any recommendations for repair are always welcomed. Please contact Roads, Parks and Fleet at 705-739-4255.</p> <p>- Concerns regarding traffic violations at the Five Points intersection and Dunlop Street have been forwarded to Traffic Services.</p> <p>- The preferred alternative (Alternative 5) provides similar benefits of Alternative 4 (one-way), but maintains two-way traffic in recognition that this street is an arterial road and a major link in the City's transportation network.</p> <p>- Noted.</p>	NR	1	NR	1	NR

8	<ul style="list-style-type: none"> - The impacts from previous work on Dunlop Street (2010) were extremely negative due to impacts to my customers (i.e. full 5 month road closure, difficulty navigating detours.) - I do not understand why the 2010 reconstruction project could not have been phased better to minimize business impacts. - I'm concerned that any upcoming construction in this area will impact my business. - When would this be built? 	<ul style="list-style-type: none"> - Noted. - The City will make every effort to minimize construction impacts. - The City has a duty of care to maintain City infrastructure. That maintenance can include the replacement of assets. The City is cognizant of the impact that construction has on all businesses and residents and will minimize/mitigate impacts whenever possible. - Implementation of this project is pending Council approval and subsequent budget approval. 	NR NR NR NR NR
9	<p>I have always had an interest in the improvement of our city esp. our downtown and lakeshore. My questions:</p> <ul style="list-style-type: none"> - Have discussions continued re: possibility of making Collier St. and Dunlop St. one way streets? - Was a round-about ever considered at the Ross/Toronto/Sophia intersection (have seen many beautiful ones in my travels with landscape or sculpture in centre depicting history of the neighbourhood)? - Pleased to read that "more pedestrian friendly atmosphere" downtown is still in the books. I see great improvements ahead. <p>P.S. Don't know if you deal with this but - re: outdoor patios - can the wooden barriers (which remind me of barracks) be replaced with vinyl or iron fencing which would be much more pleasing to the eye esp. with addition of flowers.</p> <p>Attached are some photos I took of some patio fences which may spur some ideas and discussion.</p> <p>All photos were taken in Quebec and PEI where they also have to deal with snow and winter conditions. This last picture was taken only because I liked the width and look of the pedestrian walkway.</p>	<ul style="list-style-type: none"> - Noted. - This study examined converting Dunlop Street into a one-way street (Alternative 4). The preferred alternative maintains two-way traffic. - A roundabout is not being considered at the intersection of Ross Street, Sophia Street and Toronto Street. A roundabout is being considered for Ross Street and Bayfield Street. - Creating a more balanced environment for all users of Dunlop Street and enhancing the pedestrian realm is the goal of this study. - Comments and photos regarding appearance of existing patios will be passed along to the Downtown Business Improvement Association. - The photo showing concrete paving stones is very attractive and like you pointed out, it is important that we look at examples from similar climates since the winter climate we experience is very severe and damaging to materials not designed for it. During detailed design, Engineers will need to select a surface that is both aesthetically pleasing, but also very durable to stand up to sidewalk snowplows, de-icing chemicals and freeze/thaw cycles. 	NR NR NR NR NR
10	<ul style="list-style-type: none"> - I have received and read the mail out: T05-DU4 - I have also downloaded the pdfs "Class EA Study" and "Appendix B". - I don't know who has time to read the entire study, as it is very comprehensive and long, but do you have illustrated plan views of the Alternatives 3, 4, 5, including the connection from Dunlop/Toronto St, to Toronto/Ross St? It would be far easier to understand the proposals if there were concept plan drawings. Perhaps there are plans that could be posted in an easy to find way on the website and/or you could direct me to view them. - If the Dunlop/Toronto St intersection is not improved and widened to handle ease of left hand turns, the traffic on Simcoe St will increase and create a racing highway effect on our waterfront - a real detriment to the pedestrian connections that are so important to a vibrant downtown and waterfront. - I have been aware that Simcoe St is already being used as a downtown Dunlop St bi-pass. <p>In conclusion, in order of preference, I support:</p> <ul style="list-style-type: none"> - Alternative 3 - the 'pedestrian only' Dunlop St, followed by - Alternatives 4 & 5 respectively - However, for me to support these alternatives, the north connection (from Dunlop to Toronto St, to Ross and Collier) must be modified to be a dominant and preferable East/West corridor. - I believe that the City of Barrie should not allow the waterfront streets ie: Lakeshore Dr, 	<ul style="list-style-type: none"> - Illustrated drawings available here: http://www.barrie.ca/Living/Environment/Documents/Dunlop%20Street%20Corridor%20Improvements%20-%20Figures%20to%2037.pdf - Agreed, any reduction in capacity on Dunlop Street will put increased traffic pressure on Simcoe Street and Ross/Collier Streets as the main east-west links. As the preferred alternative (alternative 5) maintains two-way traffic; there will be no significant change to existing traffic patterns. - The City is studying improvements to provide an alternative east-west link to provide alternatives to Dunlop Street and Simcoe Street. 	NR NR 1 2 3

	Toronto St, Simcoe St to be used as easy ways to bi-pass downtown routes. High volume, high speed traffic should be discouraged on the waterfront, Barrie's jewel!								
11	- More detail required.	- More details may be found at the City's Environmental Assessment webpage: http://www.barrie.ca/living/environment/pages/environmentalassessmentstudies.aspx	2	5	5	1	5		
13	- Alternative 2 would require approval of the majority of Dunlop store owners & operators (Not the BIA). - Many BIA members are property owners, not storekeepers. - The City should consider removing parking meters to increase sidewalk width and make snow removal easier. - You could replace meters with pay and display parking.	- Alternative 5 is the preferred alternative. The selection process considered comments from all interested individuals, parties and organizations. - Noted. - The City has identified the replacement of the existing parking meters with "pay and display" machines as part of the long-term plan outside of this process.	3	4	5	5	1		
14	- If Dunlop Street is closed down for the Summer, my business will suffer immensely. With the street closed, my shop will be dead and I will have to relocate from downtown which will upset my customers. This does not benefit my business at all!	- The preferred alternative (Alternative 5) maintains two-way traffic all year. Full closures for special events will continue as presently occurring.	1	NR	NR	NR	NR		
16	'A1 - doing nothing does not improve anything A3 - could be considered after results are in from using A2 A4 - traffic should be limited on Dunlop - This just makes it one way traffic A5 - let's make downtown "charming" + pedestrian friendly - this doesn't cut it. All are more expensive than alternative two. Info very definitive except for reference to "Schedule B process outlined in the Municipal Class EA"??	- Noted. - Alternative 3 and 2 were not selected as the preferred alternative due to impacts to traffic and experience of other pedestrian malls in cold climates. In addition, Dunlop Street is an arterial corridor and is a critical link in the City 's transportation network. Most pedestrian malls are situated on non-arterial roads. - Noted. - The preferred alternative (Alternative 5) is based on Kitchener's King Street project, which has been very successful in creating a pedestrian friendly atmosphere and provides the necessary balance for all street users considering that this street is an arterial street. - This project is following a Schedule 'B' EA process which involves a public consultation process including a public information centre presenting the alternatives being considered in an effort to solicit First Nation, public and agency input. Since Alternatives 3 and 4 involved changing the capacity of Dunlop Street (reduction in through lanes), this project was considered a Schedule 'B' project. Since the preferred alternative selected maintains the existing number of through lanes, the project is now considered a reconstruction project and is a Schedule A+ project, which is Pre-approved.	NR	1	NR	NR	NR		
18	1. Traffic if Toronto St to Mulcaster - will mean lots more traffic on Toronto + Simcoe Streets. 2. Westbound on Collier stops at Bayfield, so no continuous flow!! Complicated and not much to gain!	- The preferred alternative will maintain two-way traffic and will not increase traffic on Simcoe Street or Toronto Street. - Intersection improvements are being considered at Ross/Collier Street and Bayfield Street and will be further evaluated as a standalone study. - As the existing infrastructure on Dunlop Street ages, it is important, through public consultation, to determine the best approach to renew that infrastructure. This exercise provides valuable input for the development of the future vision for Dunlop Street.	1	NR	NR	NR	NR		
21	- I am concerned that Toronto Street north of Ross Street (outside of study area) did not receive notifications. - I do not want to more traffic on Toronto Street.	- The Study Area is based on the area of most impact and must be reasonably sized. Notification of the Public Information Centre (PIC) was advertised in the June 5th and 7th edition of the Barrie Examiner (June 5th edition is a free circulation). In addition, there was significant media coverage on local radio stations on the morning of the PIC. - The preferred alternative will maintain two-way traffic and will not increase traffic on Toronto Street.	NR	NR	NR	NR	NR		
25	- My customers are already complaining about lack of parking space. Full closure is unacceptable for my business. We need more parking space because our customers come from all over Ontario.	- The preferred alternative (alternative 5) will maintain two-way traffic and will emulate the existing conditions. - The number of parking stalls will remain based on individual businesses desire for sidewalk	1	NR	NR	NR	NR		

		<p>programming space or a parking space as it presently occurs.</p> <ul style="list-style-type: none"> - The City has undertaken a comprehensive Multi-Modal Active Transportation Master Plan which is based on increasing the number of non-vehicular trips from 6% of all trips to 12% of all trips. The increased use of active transportation will place less demand on existing parking capacity. - The Collier Street Parkade frequently has excess capacity as well as many downtown lots and they are within walking distance to Dunlop Street. 	
26	<ul style="list-style-type: none"> - I am a resident of Barrie as well as someone involed in a business downtown. I have reviewed the relevant information regarding Dunlop St and would like to support Alternative 5 of the Dunlop discussion. I am out of town for the week and unable to attend the open house. 	<ul style="list-style-type: none"> - Noted. 	NR NR NR NR
27	<ul style="list-style-type: none"> - Improvements are required on Dunlop Street. - I support A3, delivery trucks could still be allowed access until a certain time. - I am concerned for the need of parking, is a parking garage being considered? 	<ul style="list-style-type: none"> - The preferred alternative (alternative 5) will provide improvements to the streetscape on Dunlop Street and will facilitate (and enhance) the existing practice of closing Dunlop Street to create the feel of a pedestrian promenade for special events as presently occurring. - The City has undertaken a comprehensive Multi-Modal Active Transportation Master Plan which is based on increasing the number of non-vehicular trips from 6% of all trips to 12% of all trips. The increased use of active transportation will place less demand on existing parking capacity. - The Collier Street Parkade frequently has excess capacity as well as many downtown lots and they are within walking distance to Dunlop Street. 	NR NR 1 NR NR
28	<ul style="list-style-type: none"> - I made a point of walking both sides of Dunlop St and speaking to merchants about this questionnaire. I got the impression they would like more parking, not less. 	<ul style="list-style-type: none"> - The preferred alternative (alternative 5) will maintain two-way traffic and will emulate the existing conditions including parking with the inclusion of the patio program. - The City has undertaken a comprehensive Multi-Modal Active Transportation Master Plan which is based on increasing the number of non-vehicular trips from 6% of all trips to 12% of all trips. The increased use of active transportation will place less demand on existing parking capacity. - The Collier Street Parkade frequently has excess capacity as well as many downtown lots and they are within walking distance to Dunlop Street. 	NR NR NR NR 1
30	<p>I am part of the ----- located on ---- Dunlop Street. I think each idea put forward has positives and negatives but it is the lack of strategic plans outlining how things would be implemented over time that I would like to address. I feel each plan needs a full outline of how things would be handled if voted upon.</p> <ul style="list-style-type: none"> - With every change there is a huge amount of transition time for construction and adaptation from the public. - How long would the construction take? - When would the changes take place? - Would beautification of the new pedestrian areas be put back onto the individual business owner or subsidized by the city to help offset losses incurred by businesses during this time. - How will you promote your changes and to who? - Who is to be accountable for the revenues lost during this time? - Will there be subsidies for businesses who see a decline in income. - How will the lost parking spaces be made up throughout the downtown? - Will there be free parking given to people choosing to shop downtown, who will lose the convenience of parking near the store they frequent? - Businesses who require handling of large and heavy things, have they been considered in terms of providing access with their cars? 	<ul style="list-style-type: none"> - Prior to developing a complete implementation plan, City Council must endorse the preferred alternative. The project would then be considered for future budgets. - The preferred alternative (Alternative 5) closely emulates the existing conditions and has been implemented elsewhere successfully; it is anticipated that the public will adapt quickly to the new streetscape. - Construction would likely be completed in phases and be completed in sections between north-south streets (for example - Dunlop Street between Five Points and Owen Street) each year. 12 months is the estimated construction duration for a phase. - The City will investigate the possibility of alternative funding sources. - The City will implement a media (traditional and social) campaign prior to construction to provide information to residents and businesses. - The City has a duty of care to all of its citizens to maintain City infrastructure. That maintenance can include the replacement of assets. The City is cognizant of the impact that construction has on all businesses and residents and will minimize/mitigate impacts whenever possible. Typical mitigation measures include signage indicating alternative parking locations and access guidance as well as taking every reasonable effort to provide access to businesses. In addition, the short term impacts from construction should be viewed against the long term benefit from any renewal effort. - During construction, the City will implement a robust communication program to notify 	NR NR NR NR NR

		<p>businesses and residents of any relevant information or advise of potential upcoming impacts as to allow alternative arrangements to be made.</p> <ul style="list-style-type: none"> - Access to business is maintained whenever possible and for certain instances where it cannot be due to the type of construction activity occurring; alternative arrangements can be discussed ahead of time with the City's on-site representative. - Options to mitigate impacts due to loss of parking (as a result of construction) will be considered during the detailed design stage. - The preferred alternative closely emulates the existing condition by maintaining two-way traffic and will have on-street parking. Parking stalls may be used for patios or other approved programming. - The preferred alternative will not impact existing delivers as compared to the existing condition with sidewalk patios. 	
31	<p>I would like to see:</p> <ul style="list-style-type: none"> - Year round wider sidewalks that would allow businesses to place tables & merchandise outside for display. - Dunlop one-way east (single lane), with bike lane on one side with parking on the other. - Collier one-way west with parking on one side, bike lane on the other. - A bike lane (separated from vehicles with a physical barrier) from Toronto & Mulcaster around the lake towards centennial beach. - An additional, physically separated bike lane heading east from Mulcaster & Dunlop along Dunlop street. 	<ul style="list-style-type: none"> - The preferred alternative (Alternative 5) will improve the pedestrian realm by providing wider sidewalks through coordination of streetscape furniture/planters/allowable streetscape programming (sandwich boards) including the replacement of the existing parking meters with pay and display machines. The BIA and City will need to discuss the provision of retail programming in the public right-of-way. - Alternative 4 (one-way on Dunlop) was not selected as the preferred alternative due to traffic impacts, loss of parking and cost of implementation, which resulted in a lower overall ranking. - The Multi-Modal Active Transportation Master Plan (MMATMP) identifies Dunlop Street as a signed route (sharrow) as there are alternatives better suited for dedicated cycling facilities in the immediate area (Waterfront Trail and Collier Street). A sharrow is a marking placed in the centre of the travel lanes to indicate that a cyclist may use the full lane. - Physically separated bike lanes cannot be accommodated due the existing right-of-way width. The Waterfront Trail parallels Dunlop Street east of Mulcaster and provides access to Centennial Beach. This trail is physically separated from vehicular travel. 	NR NR NR NR NR
32	<ul style="list-style-type: none"> - A meal on Dunlop St at an outdoor patio would be so much nicer without trucks & cars passing by. As a minimum by-pass the large trucks. 	<ul style="list-style-type: none"> - The preferred alternative (Alternative 5) will encourage more cyclists and pedestrians on Dunlop Street helping to reduce traffic on Dunlop Street. - Dunlop Street is currently identified as a permissive truck route and should only be used to access businesses in the immediate area for deliveries/drop-offs/etc. and is not intended for through truck traffic. Most trucks avoid this area as more efficient routes exist unless they have business in the immediate area. - Increases in pedestrian and cycling activity in the downtown core will help discourage trucks from using Dunlop Street due to increased delays. - The comment was discussed with Traffic Services and the situation will be monitored. 	NR NR 1 NR NR
33	<ul style="list-style-type: none"> - Think about the stores, businesses, theatres etc. Dunlop St will become derelict - not keep or entice new business! We need other stores - not just support all the drinking places. 	<ul style="list-style-type: none"> - The preferred alternative (Alternative 5) will create a more pedestrian friendly space and beautify the existing space resulting in increased traffic (pedestrian, cyclists and vehicular). Renewal efforts such as this encourage additional private sector investment in real estate properties and increase demand for business space on Dunlop Street as well as increased demand for residential apartments above businesses. - All businesses are welcome on Dunlop Street as long as they comply with all applicable regulations and zoning requirements. Restaurants and bars must comply with liquor licensing requirements (over serving) or risk losing their license. 	1 5 5 NR NR
34	<ul style="list-style-type: none"> - The Current set-up with patios make the street look junky, it is hard to see shop signs. - Proper sidewalks would eliminate the weaving in and around patios. - When are improvements scheduled to occur? 	<ul style="list-style-type: none"> - The preferred alternative (alternative 5) will provide a more uniform and attractive appearance by eliminating the need for the temporary wood sidewalks since that space will be at the same elevation as the patio area eliminating the 150mm curb drop to the asphalt. 	5 4 3 2 1

		<ul style="list-style-type: none"> - Typically the weaving would still be required since patios are currently required to be attached to the business. Businesses along an extended stretch of Dunlop Street may wish to eliminate parking for an entire block eliminating the need to weave. This comment will be forwarded to the Downtown Business Improvement Association. - The preferred alternative is subject to Council endorsement. If endorsed, the project will be considered in future budgets. 	
35	- Concern with permanent closure is the negative impact on business in Winter.	- The evaluation of alternatives strongly considered the four season environment that the City experiences. The preferred alternative (Alternative 5) was selected in part since it provides on-street parking and two-way traffic all year round and provides the flexibility for more parking in the winter and less in the summer as presently occurring with the temporary wood sidewalks.	2 3 4 5 1
36	- Adequate information provided.	- Noted.	5 2 1 4 3
37	<ul style="list-style-type: none"> - Not able to get an easy way out of our building. - Not exactly sure of everything. 	<ul style="list-style-type: none"> - Access during construction will be maintained except in rare circumstances where specific construction activities near an entrance are required. Every effort will be made to coordinate any period where access may be limited. - Please contact the Engineering Department if you would like additional information or have any questions. 	1 NR NR NR NR
39	<ul style="list-style-type: none"> - Could one-way eastbound Dunlop St eastbound by extended to Blake & Collier Streets intersections. And have westbound Collier St start from there. Just like George St and Water St start before downtown Peterborough and end in the residential areas after leaving downtown. - The presentation at City Hall was well presented. I heard comments in the condo building that some owners received this survey in the mail. I didn't if that was the case. I have lived here for the last 8 years and had to go to City Hall to partake. 	<ul style="list-style-type: none"> - Alternative 4 (one-way on Dunlop) was not selected as the preferred alternative due to traffic impacts, loss of parking and cost of implementation (required works on Collier), which resulted in a lower overall ranking. - Alternative 5 was selected as the preferred alternative; one-way streets are not required since this alternative maintains two-way traffic. - Your address and unit was included on the Notice of PIC mail out. It may be advisable to subscribe to the City's Twitter account where notices are also posted as a safeguard against delivery issues. 	5 1 4 2 3
40	<p>Specific Concerns with Alternatives 2-5.</p> <p>We have chosen Alternative 1 - Do Nothing.</p> <p>Alternative 2 - If we had more unique shopping downtown, perhaps a museum or an attraction such as Mariposa Restaurant in Orillia, then perhaps a closure on Dunlop Street, but only from Mulcaster to Bayfield Street could be something we would consider. We just don't think Barrie is ready for this alternative. IT is improving, but we still have some (homeless?) people begging downtown.</p> <p>Alternative 3 - We would not at all be interested in this selection. Walking along Dunlop Street in the Winter to reach banks, restaurants, theatres, doctors, etc. is often not a choice. Driving is a necessity and parking is a must.</p> <p>Alternative e 4 - In the past, I actually suggested that we might look in the future at having one way streets for our area. But then you suggested Dunlop Street's one-way as being eastbound. We could only accept a westbound one-way. I drive a small light car and in the Winter when existing our circular drive from Bayshore Landing, we are advised to be safe and proceed westbound. Now, when the roads are slippery, I do not turn south on Mulcaster Street, nor do I turn North on Mulcaster Street. Therefore in order to head in a southerly direction, I use Toronto Street and for the northerly direction, I use Clapperton Street to Collier. Therefore we require</p>	<ul style="list-style-type: none"> - Agreed, the successful implementation of a pedestrian mall requires sufficient attraction to draw people and the City recognizes the negative impacts the winter and shoulder seasons would have on pedestrian volumes. - The preferred alternative (Alternative 5) maintains two-way traffic. - New surface materials will be evaluated in the detailed design stage. Ease of maintenance and mobility are important factors that will be considered. - The Provincial Government banned smoking on patios as of January 1, 2015. - Recommendations regarding additional benches in shaded areas will be forwarded to Parks Planning. 	1 NR NR NR NR

	<p>Dunlop Street westbound.</p> <p>Alternative 5 - This is an alternative that might work sometime in Barrie's future. We would also hope that the unistone be replaced with a surface that is smooth and easier to keep clean and that a no smoking ban be put on restaurant patios. Since my husband is now using a walker, more benches under shade trees would benefit us.</p> <p>A3 - This option would make accessing downtown banks, restaurants, theaters, doctors too difficult in the winter.</p> <p>A4 - Would be in favour if Dunlop Street was moving one way westbound; not eastbound.</p> <p>A5 - Replace the existing unistone with a smooth surface that is easier to clean. Place a no smoking ban around restaurant patios. More benches located in shaded areas should be considered.</p>		
41	<p>- Concerns from customers about not being able to drive through Dunlop to location. Customer counts already dropping due to busy roads and lack of parking. Business will suffer.</p> <p>- Detailed explanations of options</p>	<p>- The preferred alternative (Alternative 5) maintains on-street parking and emulates the existing conditions.</p> <p>- The Collier Street Parkade frequently has excess capacity as well as many downtown lots and they are within walking distance to Dunlop Street.</p>	<p>2 4 5 3 1</p>
42	<p>My choice is: Alternative 2 - Temporary Vehicular Closure during Summer.</p> <p>But only from Mulcaster Street to Five points. By not continuing to Toronto Street will allow decent flow of vehicular traffic.</p> <p>Also, having been to Promenade Days, I observed that the majority of activity is east of the Five points and is more collective - west of the Five Points was very disjointed.</p> <p>I attended the public information meeting on June 18th at City Hall and observed opposition from business owners regarding closing any of the streets off to vehicular traffic.</p> <p>However, the downtown area is for all of the citizens of Barrie and their visitors, not only what is convenient for the business owners.</p> <p>And if the business owners are serious about attracting business, they need to change their open hours. I work downtown but at the end of my working day, the downtown shops are closed, so therefore i cannot shop downtown!</p> <p>Another issue to the downtown lacking patronage is the parking. Meters for 2 hours only during the daytime is not enough time to shop and possibly eat without having to re-feed the meter.</p> <p>However, the downtown is a lovely area and will be greatly enhanced by implementing temporary vehicular closure during the summer!</p> <p>Concerns with alternatives include: Alternative 1 - something needs doing so this is not an option! Alternative 3 - once again, am in agreement with it but from Mulcaster to the five Points only and do not to increase traffic lanes on Collier Street. Alternative 4 - this does not present an improvement and only move the traffic to Collier Street</p>	<p>- The preferred alternative (Alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring. The preferred alternative allows the City to implement temporary closures more easily and if sufficient attractions exist/demand, consideration would be given to extended closures during the summer months (similar to Alternative 2). Also, closures can be tailored as desired and scale of event.</p> <p>- The evaluation of alternatives considered all users of the downtown core.</p> <p>- The intent of a 2 hour parking limit is help provide parking spaces for shoppers and restaurant customers. Nearby extended duration parking can be found at the Collier Street Parkade, Simcoe Street/Bayfield Street and Mulcaster Street.</p> <p>- It is anticipated that residents will adapt quickly as the preferred alternative (Alternative 5) is very similar to the existing practice of placing patios in the sidewalk space and using wooden boardwalks in parking stalls as the sidewalk. The benefit of alternative 5 is that the parking space (aka "reconfigurable space") does not require the use of wooden boardwalks, the sidewalk and reconfigurable space are at the same elevation. Delineation is typically achieved with bollards. This alternative has been successfully implemented on King Street West in Kitchener.</p>	<p>NR 1 NR NR NR</p>

	Alternative 5 - this would be too confusing and one would not know whether it is traffic or pedestrian. Should not be a consideration.		
43	<p>I am not concerned about loss of parking spaces. Changing the angled parking on Collier could be a good option for more space. People need to understand that you can't expect to pull up in front of your destination.</p> <p>My recommendation for the revitalization of Dunlop street is a hybrid of two alternatives:</p> <p>Alternative 2 - Temporary Vehicular Closure During Summer</p> <p>AND</p> <p>Alternative 4 - One-way Eastbound Dunlop Street + Additional Lane on Collier Street during Winter</p> <p>I believe the objective of any changes should be to draw foot traffic downtown to experience what Barrie has to offer and to help the area grow and thrive. The summer months provide a multitude of opportunity to engage residents and tourists and the closure of Dunlop street between these two points can be catalyst to making it happen. However, in order for it to be a success, there must be a commitment on the part of the City of Barrie, the BIA and any other relevant agencies, to USE the pedestrian space to its full capacity by considering it an event venue. Simply closing the street and waiting for something to happen will not work, and the merchants cannot be expected to be responsible for the success of a pedestrian promenade.</p> <p>Initially, I was not supportive of a closure based on what I have seen on Sparks Street in Ottawa - a ghost town with nothing of interest to attract people. Upon reflection however, I see this as an opportunity if it is done right and frankly, if we don't do it now, it may never happen. We need to try.</p> <p>In the winter months, I do not believe a pedestrian promenade will work - it is too cold and there is too much snow. People are not inclined to be outside any more than necessary on a regular basis and it may be unrealistic to think otherwise. However, I see a benefit to reducing Dunlop Street by one lane, changing it to one-way eastbound and leveraging wider sidewalks that have been created for the summer pedestrian promenade. Currently, for those who do walk outside in the winter, the sidewalks are narrow due to snow and there is barely room for one person let alone two to pass. Vehicle traffic would allow flow eastbound and the additional lane(s) on Collier Street would pick up the overflow.</p> <p>Suggestions for utilizing Dunlop pedestrian promenade in Summer months</p> <p>Saturday or weekend Farmers Market the full length of the street (or partial). Get all those people to come down to Dunlop rather than heading straight home after they shop.</p> <p>Outdoor movies - leverage what is currently offered by the Barrie Film Festival to bring people into the street to view films of all kinds</p>	<p>- As noted in your comments, full closures and conversion to pedestrian mall (or temporary pedestrian mall) require sufficient attractions to draw visitors to the downtown. The preferred alternative (Alternative 5) will be able to continue (and enhance) the current practice of closing Dunlop Streets for special events. As demand warrants, consideration could be given to extended duration closures similar to Alternative 2.</p> <p>- The City recognizes the negative impacts the winter and shoulder seasons would have on pedestrian volumes; the preferred alternative allows the street to be reconfigured during these months to maximize parking opportunities closer to stores.</p> <p>- Through improved organization of streetscape furniture and landscaping, there will be additional sidewalk width to accommodate snow storage.</p> <p>- Due to negative traffic impacts, Alternative 4 ranked lower.</p> <p>- Encouraging special events to include the downtown is a challenge that is top of mind. The proposed Memorial Square redevelopment was designed with that in mind, but a concerted effort is necessary. Comments regarding attractions will be forwarded to the Downtown Business Improvement Association as well as the Arts, Culture and Tourism Department.</p> <p>- Comments regarding modifying the existing angled parking to parallel parking stalls will be forwarded to traffic services.</p> <p>- The drop-in information Public Information Centre format is the standard format as it provides the maximum flexibility to residents; allowing them to "drop-in" when convenient (as opposed to a firm start time necessary for a presentation).</p>	NR 1 NR 1 NR

	<p>Kids programs - offer activities for kids and families that may involve merchants and move participants along the street, into Memorial Square and possibly into Heritage Park. Something similar to an Easter Egg hunt (the timing is not good), kids programming with sing-alongs, face painting, educational components etc. Perhaps the library and/or YMCA could be involved.</p> <p>Artists - outdoor exhibits are wonderful experiences in the summer. The Toronto Outdoor Art Show is a great success that has been running many years. Acknowledging that we have Kempenfest, it is important to know the differences here...this would be original pieces of art, created by and sold by the artists. It would not be an "arts and crafts" fair which seems to be a large component of Kempenfest. If there could be some collaboration between Kempenfest and downtown Barrie that would be ideal. As it stands, there is no connection whatsoever between downtown and Kempenfest, and that is a huge lost opportunity. Consider shuttle buses running from Kempenfest and downtown, extending the exhibits further east around the lake as has been done over the years on the west side, and engaging merchants and vendors in some partnership.</p> <p>There seems to be quite a divide between festivals run around the lake and the downtown and that needs to be addressed. Each can offer something to the other to increase the success of both and this needs to be seriously examined.</p> <p>Another idea is to consider dedicated artistic activities such as photo exhibits, acoustic performances by singers, musicians, and live street theatre. Bring the jazz/blues festival outdoors with rotating performances in collaboration with different venues/establishments on Dunlop Street.</p> <p>Taste of Dunlop - where restaurants bring their specialties outside for sampling - consider the success of Taste of the Danforth.</p> <p>Barkfest for all things dog-related (a big success in Toronto at the St. Lawrence Market).</p> <p>Buskerfest, again a huge success in many cities including Toronto at the St. Lawrence Market.</p> <p>Sports-related activities and challenges offering batting cages, golf clinic to test your swing and try some new clubs; soccer, etc..</p> <p>These are just a few of my ideas but I'm sure there are many other creative people who could add to the list. I realize resources, including people and budget, will be required but if the waters are tested in the first year with simple ideas, we may find there is an added benefit of revenue generating possibilities.</p> <p>Exhibits were good and that on-hand seemed well versed + knowledgeable. An introductory presentation offering an overview would be helpful although logistically challenging. There was a lot to digest.</p>		
44	- Temporarily or permanently closing Dunlop Street would eliminate any "retail business" or "services" left on the main street. Poor display of the total detail(s) and impact(s) that any one of	- The preferred alternative (Alternative 5) will maintain two-way traffic and emulate existing conditions. It will be able to continue (and enhance) the existing practice of closing Dunlop	1 3 5 4 2

	the "alternative plans" for the downtown improvement would have. Poor time of the day for open house.	Street for special events as presently occurring. - The Public Information Centre (PIC) slides No. 4 and 5 contained the evaluation tables, which included impacts from all alternatives. The slides may be found on the following page: http://www.barrie.ca/living/environment/pages/environmentalassessmentstudies.aspx under the Dunlop Street Corridor Improvements heading and labeled Info Boards: Public Information Centre, June 18, 2014 - The open house was scheduled on Wednesday, June 18th from 4pm to 7pm. The time period provides the public flexibility to attend and allows people to attend after the typical work day. Suggestions on alternative timing are welcomed and can be provided to the City of Barrie Engineering Department.					
47	- I support Alternative 2, provided there is sufficient entertainment/draw to bring people downtown weekly.	- The preferred alternative (Alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring.	NR	2	NR	NR	NR
48	- Part time closure on weekend.	- The preferred alternative (Alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring. If demand is generated for additional special events, consideration will be given to extending closures.					
49	- There needs to be sufficient activities/special events in the downtown to maintain steady traffic through the summer.	- The preferred alternative (Alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring. If demand is generated for additional special events, consideration will be given to extending closures.	NR	1	NR	NR	NR
50	- Closing street during winter months obviously a no brainer suggest only summer months but ban parking year round. Plenty of parking on lots at foot of Bayfield, Promenade & elsewhere as shown during past week. People get to Dunlop + find a place to park. Spending a high amount of money to change Collier just does not make fiscal sense. And with no parking on Dunlop traffic could flow much easier.	- The preferred alternative (Alternative 5) will be able to facilitate the temporary removal of parking spaces on Dunlop Street depending on demand from businesses (parking stalls would be considered reconfigurable space and either used for parking or the pedestrian walkway when patios or other outdoor programming is erected). This alternative allows for the temporary removal of parking spaces if sufficient demand exists. - Presently there is limited activity during weekdays in the downtown core. If demand is generated for additional special events, consideration will be given to extending closures. - Agreed. There is an excess supply of parking available in the area surrounding the downtown core. The Collier Street Parkade, which is a short walk to the downtown, commonly has excess capacity.	NR	1	NR	NR	NR
51	- I really feel long term closure of the street would kill business for downtown merchants, short special event closures are the best way to go.	- Agreed. A permanent closure or extended closure (without sufficient activities or special events) would negatively impact businesses. - The preferred alternative (alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring.	NR	NR	NR	NR	1
170	Benefits of Alternative 2 - The benefits of promenade days are economic and would mimic similar to 3rd St promenade in Santa Monica. - Best thing it is can be temporary if economic benefits to downtown are not present. Very well displayed, great informed City representations.	- The preferred alternative (Alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring (to provide a similar benefit as Alternative 2). If demand is generated for additional special events, consideration will be given to extending closures.	NR	1	NR	NR	NR

Comment Sheet Responses From PIC

54	<ul style="list-style-type: none"> - One visitor mentioned bringing the farmer's market to downtown. Awesome idea. Consider turning the bus terminal into a Hotel. - We could do a trial run of 2 leading to 3 or 4 with a lot of promotion and events planned. - The success of this venture depends on the value added to citizens and tourists. - Add drop off/ taxi stand in an arc from lakeshore at Memorial Square to mirror Fred Grant Square Arc. - Tie moveable kiosks and buskers/vendors/entertainment to themes of waterfront festivals to draw patrons up. - Encourage a couple of KEY anchor stores (i.e. Crate and Barrel to build at five points). 	<ul style="list-style-type: none"> - Comments noted and will be forwarded to the Downtown Business Improvements Association and the Downtown Revitalization Committee. - It was determined during the evaluation process that there is insufficient continuous demand to justify either a full summer closure or a permanent closure without negatively impacting businesses. - The preferred alternative (Alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring. Longer duration closures will be considered as presently occurring. - Comment regarding designated taxi stand area will be forwarded to the Downtown Business Improvements Association and Traffic Services. - Noted. 	NR 1 1 2 3
55	<ul style="list-style-type: none"> - Alternative 2 - This doesn't make allowances for physical improvements and leaves the space feeling ordinary. If you're going to do it, do it right. - I think if you're going to do it, it needs to be bold to offer something completely new, different and attractive to visitors. Simply closing the street is not enough, you have to add fixtures, entertainment and markets to bring it to life (like promenade days). - Maybe do a beta run for a summer and then commit with construction, but the space needs to have life. - There should be a drop off/taxi stand area to make it easier for people to access the area from lakeshore to decrease the mental perception of inaccessibility. 	<ul style="list-style-type: none"> - Agreed. Alternative 2 and 3 (temporary and full closure) require significant attractions to achieve the desired level of pedestrian traffic on a day-to-day basis without negatively impacting businesses. - The preferred alternative (alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring. - The existing practice of erecting temporary wooden sidewalks to provide patio space mimics the preferred alternative very closely. The program has been a success and could be considered the practice run for the preferred alternative. - Comment regarding designated taxi stand area will be forwarded to the Downtown Business Improvements Association and Traffic Services. 	NR 2 1 3 NR
56	<ul style="list-style-type: none"> - Alternative 4 is okay, but with two-way traffic and no parking or two lanes with one-way traffic and no parking. - Alternative 5 is okay with two-way traffic and parking from November to March. - Barrie; where the streets are paved with cold patch! - Any paving stones (etc.) must also be setup with a fund for annual maintenance outside of normal budgets. 	<ul style="list-style-type: none"> - The preferred alternative (Alternative 5) will provide reconfigurable space to accommodate demand for either parking or outdoor programming space (patios, retail, etc.). This alternative provides the option of eliminating parking to create more sidewalk space on a temporary basis. This reconfigurable space can be changed back into parking during the non-summer months when there's less demand for pedestrian space and more demand for parking spaces. - Due to our cold winters, all surface materials are susceptible to damage from deicing chemicals and freeze/thaw cycles. This interaction can be very degrading to many materials including the pavers. Operations staff proactively repair pavers as soon as possible with cold patch. These temporary repairs are permanently repaired with new pavers during an annual program that occurs later in the Summer. - Any future material will be evaluated based on its resistance to de-icing chemicals and freeze/thaw cycles. - Alternative funding sources for construction and maintenance will be investigated. 	NR NR NR 1 2
57	<ul style="list-style-type: none"> - I think that we could try closing Dunlop on Saturdays if the city would be willing to move the market into the middle of the street to draw foot traffic (shoppers) if closed. It must be active June to September. - The City needs strategic plans on how the city will help promote and inform the public as well as facilitate the transition fiscally through free parking (or for one summer) to promote the change. 	<ul style="list-style-type: none"> - The comment has been forwarded to the Arts, Culture & Tourism Department. - The existing practice of erecting temporary wooden sidewalks in parking stalls to provide patio space mimics the preferred alternative (Alternative 5) very closely. The program could be considered a practice run for the preferred alternative. 	
58	<ul style="list-style-type: none"> - No parking on Dunlop Street. - Would prefer not to look at parked cars when sitting on the patio enjoying a meal or a few 	<ul style="list-style-type: none"> - The preferred alternative (Alternative 5) will feature patios and pedestrian space to the roadway. Parking stalls will be eliminated in the immediate vicinity of an outdoor dining area. 	NR NR NR 1 NR

	drinks. - Alternative 4 with no parking on Dunlop Street is my preference.	- The preferred alternative will provide reconfigurable space to accommodate demand for either parking or outdoor programming space (patios, retail, etc.). This alternative provides the option of eliminating parking to create more sidewalk space on a temporary basis. This reconfigurable space can be changed back into parking return during the non-summer months when there's less demand for pedestrian space and more demand for parking spaces.					
59	- We need parking close to the shops.	- The preferred alternative (Alternative 5) will provide flexibility for either parking or patios/outdoor programming space depending on demand. - The Collier Street Parkade frequently has excess capacity as well as many downtown lots and they are within walking distance to Dunlop Street.	NR	NR	NR	NR	1
60	- Several options remove too many parking spaces/displace people to park further away and will discourage attendance. - Alternative 5 is a good mix of improved pedestrian space and traffic flow. It is the most flexible to accommodate a variety of uses/activities.	- Agreed. The preferred alternative (Alternative 5) provides flexibility by allowing the choice between either more pedestrian space or parking. - The Collier Street Parkade frequently has excess capacity as well as many downtown lots and they are within walking distance to Dunlop Street.	NR	NR	NR	NR	1
61	- We need this soon. Sixty years ago stated the value to the downtown! - Nice to see this going forward please continue.	- Noted.	NR	NR	1	NR	NR
63	- To add traffic lanes on Collier would be very expensive. - Having pedestrian traffic during the winter months does not seem very feasible. Probably wouldn't be used much.	- Agreed. Any work required on Collier Street to accommodate loss of traffic capacity on Dunlop Street would be very costly. - Agreed. Most pedestrian malls do not attract sufficient pedestrian traffic in the winter months and would impact local businesses negatively. The preferred alternative (Alternative 5) maintains two-way traffic while providing the flexibility to create more pedestrian space depending on the season and demand.	NR	1	NR	NR	NR
64	- I think the solution needs to be flexible to account for the strong seasonal differences in how people use the downtown. I don't think a pedestrian promenade would be used in the winter. As a new resident I think the Dunlop Street corridor has a lot of potential, but that it's not utilized as well as the waterfront. - Temporary closures should be complemented with something that creates a draw for people (to create a habit for coming downtown). - It was a small room and a conversation groups coalesced it was hard to access the display boards.	- Agreed. Most pedestrian malls do not attract sufficient pedestrian traffic in the winter months and would impact local businesses negatively. The preferred alternative (Alternative 5) maintains two-way traffic while providing the flexibility to create more pedestrian space depending on the season and demand. Through both private and public investment, as well as the Memorial Square Redevelopment, the goal is to attract visitors (in general), but also encourage waterfront visitors to come and spend time on Dunlop Street and consider it as part of their waterfront experience. - The preferred alternative will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring. Extended duration closures will be considered if demand warrants. - The City will investigate options for larger venues for PICs with high public interest. The display boards can be found online at: http://www.barrie.ca/Living/Environment/Documents/DunlopPIC-InfoBoards-061814.pdf	NR	NR	NR	NR	1
65	- Delivery to existing businesses must be maintained. - Alternative traffic flows. - Remove parking on Dunlop Street and redirect to side streets. - To close Dunlop Street; we need destination anchor store activities. Not bars; if we had a destination spot, people will come (i.e. Market stalls in France, activities).	- The preferred alternative (Alternative 5) will maintain access to existing businesses. - Traffic flows will emulate existing conditions as two-way traffic is being maintained. - The preferred alternative provides flexibility to allow for more pedestrian space or parking depending on demand and time of year. - Street closures for special events will continue and be enhanced with the preferred alternative. Most pedestrian malls do not attract sufficient pedestrian traffic in the winter months and would impact local businesses negatively.	5	NR	2	3	4
66	- None really, I love the idea of opening up the street.	- Noted	NR	NR	1	NR	NR
67	- Alternative 3 would not be good for businesses during the winter months. It is difficult enough with the weather conditions.	- Agreed. Most pedestrian malls do not attract sufficient pedestrian traffic in the winter months and would impact local businesses negatively. The preferred alternative (Alternative 5) maintains two-way traffic while providing the flexibility to create more pedestrian space	NR	1	NR	NR	NR

		depending on the season and demand.					
68	<ul style="list-style-type: none"> - Closing traffic on Dunlop significantly impairs access to Mary street as it is one way, clientele will have to travel along Toronto Street/Simcoe Street/Mary Street, which is already extremely busy in summer. Please consider closing only from 5 points to Mulcaster and only in summer. - I don't think this information addresses the major problem with downtown, the perception that it is unsafe due to drug dealers, street people and prostitutes. This is the #1 reason my clientele say they don't frequent downtown shops and restaurants. 	<ul style="list-style-type: none"> - The preferred alternative (Alternative 5) maintains two-way traffic and closely emulates existing conditions. The existing practice of closing Dunlop Street for special events will continue as presently occurring. - All businesses will benefit from the creation of a more welcoming and lively pedestrian environment. Increasing pedestrian presence will encourage other pedestrians to visit the downtown. - A positive side effect of increased pedestrian presence is increased safety. The City of Barrie was recently ranked the safest city in Canada by Statistics Canada. - As current and future cohorts of first-time home buyers seek opportunities to live, work and play all in one location, there will be a natural increase in demand for modern living spaces in the downtown core (Mady Centre, loft spaces/renovated living spaces above businesses). The increased number of residents in the downtown core will create a vibrancy that in itself will help create a safer and more welcoming and environment. 	2	4	5	3	1
69	- Something is going to happen finally!	- Noted.	5	5	1	2	5
70	<ul style="list-style-type: none"> - Closing the street to traffic means I must use streets that are poorly set up; there is no constant flow. Lakeshore is a mess; Collier isn't easy to get to. Taking the side roads means I will skip the businesses completely. - Also, I've seen and experienced one pedestrian promenade in Ottawa it was empty mid-week and multiple businesses went out of business. There were multiple empty store fronts. 	<ul style="list-style-type: none"> - The preferred alternative (Alternative 5) maintains two-way traffic and closely emulates existing conditions. The existing practice of closing Dunlop Street for special events will continue as presently occurring. - Agreed. Most pedestrian malls do not attract sufficient pedestrian traffic in the winter months and during normal working hours during the work week. This would impact local businesses negatively. 	2	4	5	3	1
71	<ul style="list-style-type: none"> - Summer and Winter on Dunlop Street is very different. - I like Alternative 5 because it appears to be most flexible and cost efficient. 	- Agreed. The preferred alternative (Alternative 5) maintains two-way traffic while providing the flexibility to create more pedestrian space depending on the season and demand.	3	2	4	5	1
75	- Charts crammed with fine print is difficult to understand. A power point or video of all important points would be more effective. Discussion with Q&A needed.	<ul style="list-style-type: none"> - Noted; future evaluation charts will be improved for better readability. - The evaluation tables are available online for viewing at: http://www.barrie.ca/Living/Environment/Pages/EnvironmentalAssessmentStudies.aspx - The drop-in information Public Information Centre format is the standard format as it provides the maximum flexibility to residents; allowing them to "drop-in" when convenient (as opposed to a firm start time). Multiple staff members attend PICs and are available to answer any questions or to review any aspect of the project. Also, residents are encouraged to contact City staff if they have any questions or desire more information. Please contact the Engineering Department at any time. 	5	4	2	3	1
76	<ul style="list-style-type: none"> - Like one-way alternative with a) summer pedestrian only b) on moveable bollards for summer. 	<ul style="list-style-type: none"> - An extended closure for the summer season would negatively impact businesses as there is less pedestrian demand outside of weekends and special events (especially during working hours during the work week). The preferred alternative will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring. - The preferred alternative (Alternative 5) maintains two-way traffic while providing the flexibility to create more pedestrian space depending on the season and demand. 	NR	NR	NR	1	NR
78	<ul style="list-style-type: none"> - Do nothing (expensive) until replacement needed. - Decide on bus terminal alternates. - Decide on Salvation Army house alternates. - Look at Toronto Street problems. - Planners have some answers, need to look at larger area, consider snow and snow clearing. 	<ul style="list-style-type: none"> - Agreed. Dunlop Street; similar to any infrastructure, requires life cycle activity (rehabilitation or reconstruction). This evaluation process recognized the cost of the do-nothing alternative (Alternative 1). - The preferred alternative is Alternative 5. - The City is studying alternate locations for the downtown bus terminal through a separate process. - Locations of organizations offering social assistance are outside the scope of this study. 	1	2	NR	NR	NR

		<ul style="list-style-type: none"> - Concerns regarding illegal activity on Toronto Street will be forwarded to Barrie Police Services. - Operational and maintenance aspects (including snow removal) were considered in the evaluation process. 					
79	<ul style="list-style-type: none"> - Have these been successful to business owners? - Would have preferred a discussion for feedback and comments by long-term business owners, also more case studies where some of these alternatives have been successful. 	<ul style="list-style-type: none"> - King Street West located in the City of Kitchener is the inspiration for the preferred alternative (Alternative 5). Kitchener's renewal project has encouraged investment downtown and has won many design awards. 	3	2	4	5	1
80	<ul style="list-style-type: none"> - Alternative 1 - Would like a more pedestrian/retail friendly alternative to the current situation. 	<ul style="list-style-type: none"> - The preferred alternative (Alternative 5) incorporates wider sidewalks that will create a more pedestrian friendly space as well as improving ease of pedestrian movement. This alternative provides flexibility for either parking or additional pedestrian space depending on demand and input from businesses. 	5	4	3	1	2

Comment Responses Generated From City's Web Page							
143	- Consider closing Dunlop Street during the weekend in the summer months. I think that is a good compromise, and easy to remember.	- The preferred alternative (Alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring. Additional closures (summer weekends) may be considered depending on demand.	1	3	4	5	2
145	- Firstly I would like to commend you on offering a number of excellent options; however I actually think a combination of Alternatives 4 and 2 would be ideal for the coming 10-15 years. Maybe closing Dunlop from 10 am Saturday and Sundays - May, June, September and all of July and August after 10 am. Also maybe at weekends leading up to Christmas with a Christmas market with stalls on the street and memorial square. - Long term; permanent pedestrian promenade (Alternative 3) would be great, but at the moment I don't think that would be good for the businesses down there, especially in the winter. Two-way traffic is a bad idea going forward (which is why I would be against the changeable streetscape), and permanent wide sidewalks will really help.	- The preferred alternative (Alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring. Additional closures (summer/holiday shopping season) may be considered depending on demand. - Agreed. Most pedestrian malls do not attract sufficient pedestrian traffic in the winter months and during traditional working hours. This would impact businesses negatively. The preferred alternative (Alternative 5) maintains two-way traffic while providing the flexibility to create more pedestrian space depending on the season and demand. - The preferred alternative (Alternative 5) provides similar benefits of Alternative 4 (one-way), but maintains two-way traffic in recognition that this street is an arterial road and a major link in the City's transportation network. - The preferred alternative will improve the pedestrian realm by providing wider sidewalks through coordination of streetscape furniture/planters/allowable streetscape programming (sandwich boards) including the replacement of the existing parking meters with pay and display machines and providing reconfigurable space allowing parking stalls to be used as pedestrian space during the summer months and returned to parking in the winter and shoulder seasons.	5	3	2	1	4
147	- I whole heartedly support efforts to promote and redesign Dunlop Street as a more pedestrian friendly corridor. To balance the concerns of merchants and citizens regarding the need for vehicular access and parking on Dunlop, I would suggest Alternative 1 is the best option to allow some seasonal flexibility in how the street is configured.	- You may be referring to preferred alternative (Alternative 5) since this alternative can be reconfigured for either increased pedestrian or parking space depending on demand and/or season.	2	3	5	4	1
151	- I would prefer to see Alternative 3 during the summer and Alternative 4 during the winter. I think the area can support a pedestrian promenade during the summer, which would justify removing the parking and vehicle traffic. I am concerned that the area would be empty for a lot of the winter. I would be happy to see examples of pedestrian promenade that works in a City with a similar climate.	- Most pedestrian malls do not attract sufficient pedestrian traffic in the winter months and during working hours during the work week. This would impact businesses negatively. The preferred alternative (Alternative 5) maintains two-way traffic while providing the flexibility to create more pedestrian space depending on the season and demand.	1	3	5	4	2
155	- Have you tried to drive in downtown Barrie? Any closure to Dunlop St will cause chaos forcing drivers to jog at some point off Dunlop St and then back on. How about you fix Bayfield St between five points and Collier St and make it a two way street. And then put additional angled parking on Clapperton (close this road, keep as a parking lot).	- The preferred alternative (Alternative 5) will maintain two-way traffic and will emulate the existing conditions. - The Five Points and Area Transportation Improvements Class EA (available at http://www.barrie.ca/living/environment/pages/environmentalassessmentstudies.aspx , under the title listed above) identified transportation improvements in this area. The preferred solution has been implemented to maintain existing conditions (ie. maintain one-way Bayfield Street and Clapperton Street with signal control at Collier Street and Clapperton Street).	2	3	5	4	1
156	- I don't see any reason to close Dunlop in the winter months, although closing it in the summer could make sense. NYC did this in Times Square for a summer a few years ago. Tourists loved it; but some of the locals expressed their displeasure.	- Most pedestrian malls do not attract sufficient pedestrian traffic in the winter months and during the day during traditional working hours. This would impact businesses negatively. The preferred alternative (Alternative 5) maintains two-way traffic while providing the flexibility to create more pedestrian space depending on the season and demand.	3	1	5	4	2
158	- Just wondering how the businesses on Dunlop feel ... will this help them, or hurt them? - I love the idea of just walking/biking/rollerblading on Dunlop ... but I don't own a business down there. How many parking spots would be eliminated? Would that be a concern? What	- Due to the four season nature of our environment, businesses would be negatively impacted during the non-summer months. Most pedestrian malls do not attract sufficient pedestrian traffic in the winter months and during the traditional working hours.	5	4	1	2	3

	<p>about the bus loop parking area? Still accessible?</p> <p>- I think if other cities are studied enough, you guys will make the right decision. Love the idea of pedestrian only, but I just don't know enough of how it works in other places. But sounds exciting!!!!</p>	<p>- The preferred alternative (alternative 5) maintains two-way traffic while providing the flexibility to create more pedestrian space depending on the season and demand; very similar to what presently occurs with the outdoor patio program.</p>	
161	<p>- Closing Dunlop would just cause further difficulties with the overflowing amount of traffic on Toronto street. We have been promised enhanced traffic calming measures in the school zone for the past two years and have still seen nothing. Closing Dunlop will only make this area further at risk. Furthermore; because of the potential impact on residents along Toronto street, all homeowners should have been notified.</p>	<p>- The preferred alternative (alternative 5) maintains two-way traffic on Dunlop Street; therefore there should be no impact as compared to existing conditions on Toronto Street.</p> <p>- The alternatives considered primarily affected east-west routes in the downtown core. The section of Toronto Street that would be impacted (Toronto Street from Ross Street to Simcoe Street) was included in the Study Area and were mailed a Notification of Public Information Centre and comment sheet. The City advertised the Public Information Centre on June 5th and 7th in The Barrie Examiner and through the City's official Twitter account and Facebook Page.</p>	1 2 3 4 5
163	<p>- Please ensure that all alternatives include space for cyclists on the road way.</p>	<p>- The Multi-Modal Active Transportation Master Plan (MMATMP) identifies Dunlop Street as a signed route (sharrow) as there are alternatives better suited for dedicated cycling facilities in the immediate area (Waterfront Trail and Collier Street). A sharrow is a marking placed in the centre of the travel lanes to indicate that a cyclist may use the full lane.</p>	5 3 2 1 4
167	<p>- Barrie needs to be bold in order to compete with other Ontario municipalities. Just like Stephen Avenue in Calgary, Sparks Street in Ottawa, and the Distillery District area in Toronto have become famous because of their pedestrian-only streets, Barrie can also be added to the list of innovative and progressive Canadian cities that are putting people first.</p> <p>- The success of the wood patios in the summer and promenade days during Canada Day weekend have proven that this is a viable option for the city, and large ROW space on Collier can accommodate the overflow vehicular capacity. During winter months, the street can still be closed (as seen in the success of British towns where streets become bustling Christmas markets even in cold and damp weather).</p> <p>- A loss in on-street parking will mean a gain in human movement by foot and bike. That's where a communities values should be; in accommodating human-powered movement and not lending our valuable downtowns to cars and parking. I implore the city to choose Alternative 3 purely for its social gains and long-term net positives. This is the chance to choose the boldest future.</p>	<p>- A primary factor that needs to be considered when examining the possibility of creating a pedestrian only street is the classification of the street. Many examples of pedestrian malls (or focused areas) are not primary thoroughfares and are typically side streets or parallel to main thoroughfares. Dunlop Street is a main arterial road within the City and important link in the overall transportation network.</p> <p>- The preferred alternative (Alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring. Additional closures may be considered depending on demand.</p> <p>- The City is committed to enhancing active transportation and through this study, is focused on bringing a balance between pedestrians, cyclists and motorists to Dunlop Street.</p> <p>- The preferred alternative will provide wider sidewalks and where demand exists, parking may be temporarily eliminated to provide additional sidewalk space that can be used for patios or outdoor programming.</p>	5 4 1 2 3

Table 27: Agency Comments & Preferred Alternative Ranking

ID	Agency/First Nations	Comments	Response	Alternative Rankings				
				1	2	3	4	5
Agencies								
1	Barrie Fire and Emergency Services	- BFES preference is vehicular traffic in both directions, but if it becomes a one-way street, our preference is eastbound traffic flow.	- The preferred alternative (alternative 5) will maintain traffic in both directions.	1	NR	NR	NR	NR
2	Simcoe Muskoka District Health Unit	<p>The Simcoe Muskoka District Health Unit (SMDHU) appreciates that the City of Barrie is examining options to improve the pedestrian environment and public realm of Dunlop Street with the intention to have the preferred solution incorporate additional active transportation improvement. SMDHU values the City's leadership and commitment to ensuring continued growth as a complete, well balanced and sustainable community as this is critical to the health and quality of life of residents. As such, we appreciate this opportunity to comment on the alternatives outlined in Dunlop Street Corridor Improvements Report, June 2, 2014 from a health perspective.</p> <p>Land use decisions and the way communities are designed have multiple impacts on people's physical and mental health and well-being. The physical form of a community affects the quality of the air we breathe, the types of physical activity choices we make and how we interact with our neighbours. It defines the character of our community, impacts real estate values and tax revenues, impacts the cost of providing services, and influences our community's ability to attract business and residents. Emerging evidence also demonstrates the built environment can have even greater health impacts on vulnerable populations including people with lower socioeconomic status, children and youth, the elderly, and people living with disabilities.</p> <p>In regards to the options available for the Dunlop Street corridor, we offer the following comments and recommendations:</p> <p>Given the City's desire to reduce the percentage of roadways dedicated to the automobile and increase the percentage available for pedestrians and cyclists, we would dissuade you from considering Alternative 1 to "do nothing". This option will not enhance the existing pedestrian friendly atmosphere, nor will it balance the existing and future transportation needs for all users.</p> <p>Instead, we strongly encourage consideration of alternative which promote a healthy environment, reduce the potential for injury, increase pedestrian safety, create more opportunities for active transportation, and support social cohesion.</p> <p>SMDHU strongly recommends Alternative 4 - One-Way Eastbound Dunlop Street +</p>	<p>- Agreed, Alternative 1 does not address the problem statement seeking to improve the pedestrian friendly atmosphere and balance existing and future transportation needs of all users.</p> <p>- The preferred alternative (Alternative 5) increases the equitable allocation of street space between all users, including pedestrians and cyclists, while providing the necessary flexibility to provide parking based on either demand or season. Alternative 5 ensures that nearby parking is available to ensure members of our community whom are less physically able can easily access businesses and services on Dunlop Street.</p> <p>- The Multi-Modal Active Transportation Master Plan (MMATMP) identifies Dunlop Street as a signed route (sharrow) as there are alternatives better suited for dedicated cycling facilities in the immediate area (Waterfront Trail and Collier Street). A sharrow is a marking placed in the centre of the travel lanes to indicate that a cyclist may use the full lane.</p> <p>- The preferred alternative (Alternative 5) will be able to continue (and enhance) the existing practice of closing Dunlop Street for special events as presently occurring.</p> <p>- Comments regarding safety features and angled parking on Collier Street will be forwarded to Traffic Services for consideration.</p> <p>- The preferred alternative, when implemented, will have new streetscape furniture and will be optimized to enhance the pedestrian space and calm traffic.</p>	NR	NR	NR	1	NR

		<p>Additional Lane on Collier Street as the preferred option for the Dunlop Street corridor. This option is most suited to addressing, on a more permanent basis, many of the aforementioned desired characteristics outlined above.</p> <p>SMDHU encourages the following additional considerations related to Alternative 4. We urge the City to consider forgoing automobile parking on Dunlop Street and using this space instead to accommodate a bike lane(s) as a component of Alternative 4. Doing so promotes and enables cycling as a key mode of transportation for accessing retail and other services along Dunlop Street, which serves as a key destination. This is a true model of active transportation.</p> <p>Dunlop and Collier Streets are currently heavily oriented towards motorized forms of transportation. Efforts to increase priority given to pedestrians and cyclists will need to consider safety features that would reduce the potential for injury and increase pedestrian safety on these streets. Reducing barriers to active transportation such that it is practical and safe will support more people to choose non-motorized options. Furthermore, road safety can be increased by reducing automobile dependency and creating a safe environment for both pedestrians and cyclists.</p> <p>Alternative 4 proposes that angled parking stalls in the eastbound direction of Collier Street would be converted to parallel parking. SMDHU supports this change as it will increase safety since changing the angle parking to parallel allows drivers to drive forward to leave the parking space with a clearer view of pedestrians, cyclists and oncoming vehicles. It is ideal to separate pedestrians from vehicles by time and space and include measures that increase the visibility and conspicuity of pedestrians. Pedestrian and bicycle facilities are generally safer when physically separated from roads, and when raised medians offer refuge for pedestrians crossing multiple lanes. Traffic safety can be improved by reducing the per capita motor vehicle mileage, slowing traffic, increasing the number of cyclists and pedestrians, and reducing the exposure of pedestrians and cyclists to unsafe conditions.</p> <p>SMDHU supports the construction of new sidewalks, curbs, street furniture, lighting, traffic signals and landscaping identified in Alternative 4. The placement of trees and other vertical elements close to a roadway in a low-speed urban setting may actually enhance safety. Pedestrian amenities and street furniture also contribute to the perception of a pleasant experience. The creation of indoor and outdoor public space enhances the public realm within the community and enables individuals to meet and congregate, providing opportunities for social integration.</p> <p>In addition to the above recommendations, we strongly encourage the City to consider factors in addition to infrastructure changes that contribute to the ability of the community to embrace and benefit from the changes resulting from the Dunlop Street corridor improvements, and healthy land use planning in general. This could include public awareness strategies regarding individual and community benefits of active transportation, as well as educational and skill-building opportunities that</p>		
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		<p>relate to safe cycling such as the use of bike lanes. Signage, mapping, programs and services when combined with facilities can also lead to increased public acceptance and uptake of infrastructure changes.</p> <p>As public health professionals, we work toward comprehensive approaches that increase the likelihood of successful outcomes. Comprehensive interventions consider a multitude of factors that may need to be addressed such as public awareness and education, policy implications, skills development and the creation of supportive environments. There are inextricable links between people and their environment. It is important that we increase the options available to people to exercise more control over their health and over their environments, and to make choices conducive to health. This responsibility for health promotion must be shared among individuals, community groups, health professionals, health service institutions and governments.</p> <p>The Board of Health and the staff of the SMDHU are committed to promoting the health of Barrie residents, and appreciate continued opportunities for consultation and collaboration in support of healthy community planning. City staff is most welcomed to contact us regarding our comments and recommendations related to the Dunlop Street corridor improvements.</p>		
3	Downtown Business Improvement Association	<p>Attention: City of Barrie Mayor, Council and Staff</p> <p>By way of this Letter of Support as dated above, and after consultation and discussion, the Downtown Barrie Business Association (BIA) Board of Management supports design option #5 – reconfigurable street system - as part of the Dunlop Street EA currently being conducted by The City of Barrie. Representing more than 400 businesses and 200 property owners within our boundary, option #5 – reconfigurable street system - as presented, represents the best design scenario for both area businesses and visitors. It presents an opportunity to first, create a pedestrian focused venue, and second, consider and control the traffic flow as a roadway. The design elements will allow the opportunity to address current and future needs that apply to pedestrian and vehicular accessibility, functionality, flexibility and design esthetic that will create a positive, interactive main street venue. If you have any questions please feel free to contact the Downtown Barrie Business Association (BIA) office.</p> <p>Signed on behalf of the Downtown Barrie Business Association (BIA) Board of Management.</p>	- Noted.	NR NR NR NR 1
4	Infrastructure Ontario	- On behalf of Lisa Myslicki, please refer to attached PDF that highlights next steps only if your project impacts lands owned/managed by Infrastructure Ontario. If your project does not impact any lands owner/managed by IO, please remove IO from the mailing list.	- Noted.	NR NR NR NR NR
First Nations				
4	Hiawatha First Nation	- I believe Alternative 3 would be the least disruptive to the downtown businesses during the construction process	- Construction of any nature will create some impact. The City will take every reasonable effort to minimize and mitigate construction impacts. All of the alternatives will create similar levels of construction impact (including the "Do-Nothing" alternative since at some point; the existing street, sidewalks, etc. will need to be replaced.	NR NR 1 NR NR

			- The preferred alternative minimizes post-construction impacts by maintaining year-round vehicular access to Dunlop Street.	
5	Mississaugas of Scugog Island First Nation	- Comment sheet delivered, but unreadable due to transmission error.	- City staff were unsuccessful in obtaining a re-transmission of this document. Follow-up email and voicemail sent on September 9, 2014. No response received.	NR NR NR NR NR
6	Aboriginal Affairs and Northern Development	- AANDC officials do not participate in environmental assessments that pertain to projects off-reserve, nor does the department track how other parties carry out their EAs. Only when a project intersects with reserve land, should the Environmental Unit of AANDC be contacted.	- Noted.	NR NR NR NR NR
7	Curve Lake First Nation	- Please send notice to Williams Treaty First Nation Claims Coordinator. - We would like to be informed if during the construction phase any remains are unearthed, or if any negative impacts to the environment, or to our Treaty or Aboriginal Rights arise.	- Forwarded Notice as requested. - Noted.	NR NR NR NR NR

7 Selection of the Preferred Alternative

7.1 Evaluation Process and Criteria

The Dunlop Street Corridor Improvements Class Environmental Assessment is a complex project that attempts to balance the current and future needs of the community with respect to the environmental, social, heritage and economic impacts on the study area. This Class EA evaluates alternative ways of improving the public realm and vibrancy of Dunlop Street while balancing the needs of the public including pedestrians, cyclists, motorists, and businesses.

The selection of a preferred Alternative for Phase 2 of this Class EA has been based on the evaluation of the alternatives from established criteria. The weighting used for evaluating the alternatives was presented for input at the PIC held on June 18, 2014 and is shown in Table 20 to Table 24. The proposed weighting for evaluating the alternatives indicates the relative importance of each category with respect to each other and is defined by a value from (1 to 3), with (3) being the more important. It should be noted that, criteria with a ranking of (1) does not indicate that those criteria are not important, only less important when compared to other criteria.

Potential impacts for each alternative were completed by members of the project team in consideration of input received during the public consultation process. Each potential impact was given a rank from (-4 to +4) (not including zero). A significant negative effect is (-4); a significant positive impact is (4). Therefore, the Alternative with the larger value indicates a greater degree of positive potential environmental effects. Score was then calculated by multiplying the weighting by the potential impact and the results show that Alternative 5 is the Preferred Alternative Solution as it provides the desired level of flexibility and is the best solution given the climate Barrie experiences.

7.2 Preferred Alternative Solution

In consideration of the problem statement, the preferred solution for Dunlop Street is Alternative 5 – Reconfigurable Street. The primary reasons for the selection are as follows:

- Provides increased pedestrian space to create a more comfortable and inviting environment;
- Provides the necessary flexibility to reallocate pedestrian space to parking during winter and shoulder seasons when there is very low pedestrian demand;

- Provides opportunities to implement outdoor patio and potential retail space in a cohesive streetscape that will be a standout feature to residents and visitors;
- Provides opportunities to remove of parking on continuous sections (between north-south streets) of Dunlop Street as demand warrants to provide additional continuous pedestrian space;
- Enhances the existing practice of closing down Dunlop Street for special events by reducing barriers in the environment;
- Rebalances the streetscape with more equitable allocations between pedestrians, cyclists and automobiles;
- Enhances cycling opportunities as the street will be designated an on-road sharrow route with shared lane markings indicating cyclists may use the full lane;
- The proposed streetscape will create a sense of shared space for all users; thus enhancing the comfort of cyclists in using Dunlop Street; and
- Maintains two-way traffic and ease of access to local businesses.

8 Implementation

8.1 Project Timing

The Capital cost associated with the detailed design and construction of the Preferred Alternative is estimated to be approximately \$6MM based on assumptions outlined in the cost estimate. As part of Detailed Design, staff will confirm the scope of the project and refine the cost estimate as required.

Detailed design for this project has been identified in the 5 year capital budget to commence in 2018 and continuing until 2019. Construction timing will be confirmed as part of future capital budget updates.

8.2 Project Phasing

Proposed phasing for the Dunlop Street Corridor Improvement project is as follows:

Phase 1 – Five Points to East Limit of Memorial Square

Phase 2 – East Limit of Memorial Square to Mulcaster Street

Phase 3 – Mary Street to Five Points

Phase 4 – Toronto Street to Mary Street

Phase 4 may be deferred as this section was recently reconstructed in 2010. Phasing is subject to consideration during the yearly budget process.

8.3 Project Mitigating Measures

Table 28 is a summary of the possible negative effects on the environment, as related to the preferred alternative solution. The following is not intended to be a complete list of the potential effects and the mitigating measures required, but an initial overview of the possible effects and measures. The detailed design phase will consider practicality of measures.

Table 28: Project Mitigating Measures

Potential Negative Effect	Mitigating Measures
Safety	<ul style="list-style-type: none"> • Provide sidewalks and pedestrian crossings as per Ontario Traffic Manual (OTM) Book 15; • Provide cycling pavement markings and signage indicating sharrow route as per OTM Book 18; and • Follow OTM for proper signing and pavement markings.
Impact on Road Capacity During Construction	<ul style="list-style-type: none"> • OTM Guidelines shall be followed to ensure safe lane closures / temporary conditions; and • Construction will be staged to limit impact.
Impact on Parking	<ul style="list-style-type: none"> • Signage will be erected directing motorists to parking lots within the downtown core. The City and BIA may consider parking incentives during construction.
Impact on Existing Businesses	<ul style="list-style-type: none"> • Notify businesses/residents of construction activities; • Ensure sidewalk access is maintained; • Ensure access for deliveries (coordination with Site Representative may be required); • For procedures restricting access; consideration for completion of said procedures after store hours; • Notify public agencies and adjacent owners of construction scheduling; and • Coordinate with BIA regarding business signage.
Water Quality / Stormwater Management	<ul style="list-style-type: none"> • Provision for spill control and fast accurate reporting of spill; • Pollution prevention and source control by best management land use practices and best management stormwater practices; • Specific identified areas for equipment maintenance and refuelling with appropriate spill cleanup procedures and materials; • Implementation of erosion and sedimentation controls; and • Development of a stormwater quality management plan to minimize entry of contaminants into Kempenfelt Bay. This could include measures such as oil-grit removal systems.
Noise	<ul style="list-style-type: none"> • Consider any request from noise by-law to allow extended duration construction days with consideration for residents on Dunlop Street.

8.4 Next Steps

Concerns and preferences expressed by the stakeholders at the Public Information Centre and throughout the public consultation process are documented and addressed in this updated report that recommends Alternative 5 as the Preferred Solution.

The preferred alternative solution has been presented to General Committee on June 15, 2015 and Council on June 22, 2015. Council has endorsed Alternative 5 as the Preferred Solution (Staff Report and Council Motion are included in Appendix H). Although not required, the City advertised the completion of this project in the Barrie Examiner on October 1, 2015 and October 3, 2015 (See Appendix F).

The Preferred Solution is a Schedule A+ project and therefore preapproved. The project may proceed to implementation.