5. Identification and Evaluation of Alternative Solutions to the Problem

5.1 The Alternative Solutions

Phase 2 of the Class Environmental Assessment process focuses on the identification and evaluation of planning solutions that may address the problem statement for the project. The following seven alternative solutions to the problem/opportunity statement were identified and comparatively evaluated:

Alternative Solution #1: “Do nothing”;
Alternative Solution #2: Shared Street where vehicles, pedestrians and cyclists share the same space;
Alternative Solution #3: Conversion to Pedestrian Mall where vehicles are prohibited and cyclists must disembark;
Alternative Solution #4: Reduce vehicle realm / increased pedestrian realm within the existing right-of-way;
Alternative Solution #5: Reduce vehicle realm / provide bike lanes within the existing right-of-way;
Alternative Solution #6: Right-of-Way widening to increase pedestrian realm & provide bike lanes; and,
Alternative Solution #7: Improve other roads.

The EA Process allows the screening out from further consideration, any suggested transportation initiatives that are not deemed to be “reasonable” solution that address the problem/opportunity statement. To this end, Alternative #7 was screened out and no longer carried forward for further considerations, given that other parallel roads (i.e. Peter Street, Simcoe Street, Duncan, etc.) are not as central and close as John Street to the key cultural and entertainment landmarks.

A description of Alternative Solutions #1 to #6 is summarized below:
Alternative 1: Do Nothing
The Class EA process requires that the ‘do-nothing’ alternative be considered. The Do Nothing alternative acts as a comparative benchmark for all of the other alternatives. To that end, no changes or improvements are considered under ‘do-nothing’ alternative. Figure 5-1.

Alternative 2: Shared Street within the Existing Right-of-Way
- Expand pedestrian realm width
- Include a narrowed, shared vehicular/cycling/pedestrian area
- Self-regulated right-of-way resolution
- 2-way street

A Shared Street (also called Green Street or Naked Street) is a common space created to be shared by pedestrians, cyclists, and low-speed motor vehicles (Figure 5-2). They are typically narrow local streets without curbs and sidewalks, and vehicles are slowed by placing trees, planters, parking areas, and other obstacles in the street. Motorists must travel at very low speeds below 16 km/h (10 mi/h). This makes a street available for public use that is essentially only intended for local residents or businesses. A shared street in a commercial area is often populated by restaurants, cafes, merchant displays, street vendors, and other outdoor commercial uses.
Consideration must be given to provide access by fire trucks, sanitation vehicles and other service vehicles (school buses and street sweepers), if needed.

Shared streets create a very low automobile volume and a public space for social interactions, commercial activities, or children’s play.

**Alternative 3: Conversion to Pedestrian Mall within the Existing Right-of-Way**

- Expand pedestrian realm by eliminating vehicular traffic lanes
- Vehicular access is restricted to emergency vehicles
- Cyclists required to dismount

A pedestrian mall (or a pedestrian street) is the most common form of pedestrian zone in large cities (Figure 5-3). It is a street lined with storefronts and closed off to most vehicular traffic and cyclists must disembark. Emergency vehicles have access at all times and delivery vehicles are restricted to either limited delivery hours or entrances on side streets.

**Alternative 4: Reduce Vehicle Realm, Increase Pedestrian Space, within the Existing Right-of-Way**

- Expand pedestrian realm and reduce vehicular realm / lane width
- Vehicular realm to be shared with cyclists
- 2-way street

This alternative (Figure 5-4) will involve reduction to vehicular realm to increase and enhance pedestrian environment within the existing right-of-way. This can be implemented by narrowing traffic lanes or reducing number of lanes currently available throughout the corridor.
Alternative 5: Reduce Vehicle Realm; Provide Bike Lanes within the Existing Right-of-Way

- Pedestrian realm width remains unchanged
- Vehicular realm width is reduced to introduce dedicated bicycle lanes
- 2-way street

This alternative (Figure 5-5) will involve reduction to vehicular realm to provide bike lanes within the existing right of way. This can be implemented by narrowing traffic lanes or reducing number of lanes currently available throughout the corridor which may potentially reduce the vehicular capacities along John Street.

Based on current practices within the City of Toronto, two-way traffic must be maintained if two way bike lanes are to be implemented.

Alternative 6: Widen John Street Right-of-Way, Provide Bike Lanes & Increase Pedestrian Space

- Widen John Street Right-of Way by acquiring lands
- Provide dedicated bicycle lanes
- Expand pedestrian realm width
- 2-way street

This alternative (Figure 5-6) will entail widening of the corridor to enhance pedestrian realm, provide bike lanes and maintain or potentially increase vehicular capacities (if required) within the corridor.
5.2 EVALUATION PROCESS

Project team members from their respective disciplines formulated criteria, indicators and measures through which to evaluate each of the alternatives’ fulfilment of the project objectives.

Once the criteria and indicators were identified, the alternative planning solutions were ranked in an evaluation matrix according to the desirability of each measure. This process was repeated again for assessing the alternative designs in Section 6. The criteria and measures are detailed below.

Under the EA Process, municipalities are required to consider all aspects of the environment in their assessment and evaluation of infrastructure projects. The EA Act includes a broad definition of the “environment”, including the technical, natural, social, cultural, built and economic environments. The EA Process requires a systematic evaluation of alternatives in terms of their advantages and disadvantages; and proponents are required to consider both positive and negative effects on the natural, social, cultural, and economic environments as part of their assessment and evaluation process.

The evaluation criteria were grouped under the following four categories (Table 5-1):

- Transportation Considerations
- Urban Design Considerations
- Socio-Cultural Environment
- Natural Environment; and
- Cost

**Transportation Factor**: or technical criteria subject to qualitative assessment for existing and future traffic conditions based on future traffic projections. This includes all modes of transportation such as vehicles, pedestrians, cyclists and transit. Potential impacts to emergency services associated with various alternatives were taken into considerations. A qualitative approach was applied to identify potential safety implications as well as accommodation for pedestrians, cyclists and goods loading.

**Urban Design Factor (Project Need and Justification)**: focuses on the creation of opportunities for improved urban form and improved or new public realm/open space. Urban design criteria was the key factor in the evaluation process as it directly corresponds to the problem / opportunity statement and considers the level of compatibility of the alternatives with the intended urban design vision for the area. This also takes into account the level of benefit / impact to the area businesses and opportunity to provide linkages between cultural attractions, character areas and key east-west destination shopping and dining streets.

**Social/Cultural Factor**: focuses on the qualitative assessment of the potential overall impacts of this project on the surrounding land uses and businesses. Built heritage objectives (as per Queen Street West HCD Plan) and archaeological impacts were also considered as part of this factor.

**Natural Environment Factor**: related to wildlife and habitat, however are generally not discernible as a metric for comparison of the alternatives since the lands are predominantly built-out.

**Cost Factor**: will be evaluative in terms of relative capital costs, as well as operating and maintenance
costs.
The criteria for evaluation alternative solutions were developed recognizing the fact that for many alternative solutions the specific design details are not developed at this stage of study. Detailed design treatments are typically undertaken in Phase 3 of the EA process: Assessment of Design Alternatives.

| **Transportation** | • Capacity, Existing and Future Traffic Conditions  
|                    | • Overall Safety  
|                    | • Accommodation of Pedestrians  
|                    | • Accommodation for Cyclists  
|                    | • Impacts to Passenger and Goods Loading  
|                    | • Impact to Street Parking  
|                    | • Accommodation for Emergency Services Access Needs  
|                    | • Accommodation for Utilities  
| **Urban Design**   | • Opportunity to bring to fruition a ‘Cultural Corridor’  
|                    | • Compatibility with BIA Master Plan  
|                    | • Opportunity to integrate with existing and planned adjacent uses, developments, improvements and events  
|                    | • Compatibility with City Building / Official Plan  
|                    | • Sense of Security - Level of Natural Surveillance in All Hours  
|                    | • Year-Round Street Life - Conductivity for sense of use and animation in all seasons  
| **Social - Cultural Environment** | • Impact to the Area Businesses  
|                          | • Noise and Vibration Impacts  
|                          | • Traffic Diversion  
|                          | • Archaeological resources  
|                          | • Built Heritage /Cultural Landscape Features  
| **Natural Environment** | • Impact on the trees /vegetation  
|                        | • Stormwater Management  
|                        | • Air Quality  
| **Cost**              | • Property Impact  
|                        | • Operation and Maintenance  
|                        | • Relative Costs  

Table 5-1: Evaluation Criteria for Evaluation of Planning Alternatives
5.3 EVALUATION OF ALTERNATIVES

A summary of overall pros and cons related to each of the alternative solutions are provided below. Table 5-2 presents a summary of the evaluation while more detail is included in Appendix H.

Alternative #1: Do Nothing

The Class EA process requires that the ‘do-nothing’ alternative be considered as a comparative benchmark. However, do-nothing alternative, by definition, does not result in substantial opportunities to enhance the public realm in the study area and hence does not address the problem opportunity statement.

Alternative #2: Shared Street within the Existing Right-of-Way

Shared Street is a desirable solution from an urban design standpoint given the highest levels of compatibility with the BIA Master Plan and the opportunity to integrate with existing and planned adjacent uses, developments, improvements and events.

Although there is no precedence for this type of solution in Toronto, there are examples elsewhere in Canada and globally. In support of this assessment, supplemental data was collected to aid in the project team’s assessment of this option (see Appendix I). In the end, a Shared Street was not recommended as the technically preferred alternative solution as it is not compatible given current transportation demands on this corridor and the associated consideration of safety of all modes.

Alternative #3: Conversion to Pedestrian Mall

Conversion to pedestrian mall provides the greatest opportunity for improvement to the landscaping / stormwater quality / quantity within the right of way but presents great challenges in addressing the operation of the emergency services, goods loading movements and general vehicular access and is therefore not recommended. Furthermore, most successful pedestrian malls require a high population density and critical mass of activity such as continuous retail uses to ensure animation at all times and seasons. John Street presently has large unanimated segments that would deaden the street if converted into a pedestrian mall. These conditions may change in the future and so the preferred solution should not preclude easy conversion into a pedestrian-only space when warranted.

Alternative #4: Reduce Vehicle Realm / Increased Pedestrian Realm (within the existing Right-of-Way)

This alternative was identified as the most balanced approach and hence recommended as the technically preferred alternative solution, given that:

- It provides great opportunities to enhance urban design and streetscaping features;
- It provides the highest levels of compatibility with BIA Master Plan;

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• It results in improvements to pedestrian movements without significant adverse impacts to vehicular and goods and services movements;

• It balances the needs of existing and future businesses, tourists and Torontonians by increasing space for pedestrians and spill out commercial activities while accommodating the cultural elements and programming envisioned.

The traffic operation assessment indicated that there are considerable reserve capacities currently available along John Street corridor during the majority of the time of any given day. However, even under the future “Do-Nothing” scenario localized vehicular congestion and deteriorated levels of service conditions are anticipated at some areas. Refinement of the design alternatives may include provision of turning lanes along John Street and / or diversion of portion of John Street traffic to the surrounding road network to better accommodate traffic operations along John Street.

**Alternative #5: Reduce Vehicle Realm /Provide Bike Lanes (within the existing Right-of-Way)**

As part of the initial technical recommendation, this option was not preferred, given that the dedication of the reduced vehicle realm exclusively to the use of cyclists would reduce opportunities to expand sidewalks and improve pedestrian environment which is counter to the overall project objective. Furthermore, since the City’s bike plan identified other parallel corridors, this recommendation was not seen as consistent with previous City planning.

However, in response to a number of comments received during the first round of consultation, the project team decided to retain this alternative solution for further study as part of Phase 3 of the process.

**Alternative #6: Right-of-Way Widening to Increase Pedestrian Realm & Provide Bike Lanes**

While this alternative is the most preferred alternative from a transportation standpoint and best addresses the need for all modes of transportation, it entails significant property acquisitions and capital costs and will pose significant adverse effects on the businesses and development potentials along John Street corridor. To that end, given that transportation capacity is only one factor in the overall evaluation process and the fact that this alternative best addresses the problem opportunity statement, it was identified as the least preferred alternative solution and hence was not recommended.
<table>
<thead>
<tr>
<th>Alternative Solution</th>
<th>Alt-1</th>
<th>Alt-2</th>
<th>Alt-3</th>
<th>Alt-4</th>
<th>Alt-5</th>
<th>Alt-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Do-Nothing - Continue to Operate the Corridor in its Current form</td>
<td>Shared Street Within the Existing R-O-W</td>
<td>Conversion to Pedestrian Mall Within the Existing R-O-W</td>
<td>Reduce Vehicle Realm Increase Pedestrian Space Within the Existing R-O-W</td>
<td>Reduce Vehicle Realm Provide Bike Lanes Within the Existing R-O-W</td>
<td>Widen John Street R.O.W Provide Bike Lanes &amp; Increase Pedestrian Space</td>
</tr>
</tbody>
</table>

### Comments
- **Alternative # 6** (widening the right-of-way to provide additional space for all users) is the most preferred alternative from a transportation standpoint.
- **Alternative # 4** (reducing the vehicle realm to provide more space for the pedestrians within the existing right-of-way) is the most balanced approach of the non-widening options. Although it does not change the environment for cyclists and increases pedestrian space.
- **Alternative # 5** (reducing the vehicle realm to provide bike lanes) does not improve pedestrian environment.
- **Alternative # 3** (conversion to a pedestrian mall) adversely affects the operation of the emergency services, goods loading movements and general vehicular access and therefore is the least preferred option.
- **Alternative # 2** (shared street) presents certain safety challenges.

### Transportation
- Alternatives #4 & 5 are the most preferred on an urban design standpoint given the highest levels of compatibility with BIA Master Plan and opportunity to integrate with existing and planned adjacent uses, developments, improvements and events.
- **Alternative # 6** will have a significant adverse effect on the businesses and development potential and therefore is the least preferred.

### Urban Design
- **Alternative # 4** well balances the needs of existing and future businesses, tourists and Torontonians.
- Alternatives #4 & 2 are the most preferred an urban design standpoint given the highest levels of compatibility with BIA Master Plan & opportunity to integrate with existing / planned adjacent uses, developments, improvements and events.
- Alternative # 6 will have a significant adverse effect on the businesses and development potential and therefore is the least preferred.

### Social-Cultural
- **Alternative # 6** will have a significant adverse effect on the businesses and development potential and therefore is the least preferred.
- **Alternative # 4** well balances the needs of existing and future businesses, tourists and Torontonians.

### Natural Environment
- Alternative # 3 is the most preferred and Alternative #5 is the least preferred against Natural Criterion given the opportunities they offer for improvement to the landscaping / stormwater quality / quantity.
- Although the alternatives may respond differently against this criterion, however, given the urban nature of the area this is not a key decision making criterion.

### Cost
- Alternative # 4 & 5 can be implemented at a modest cost.
- Alternatives #2 & 3 will potentially require a greater investment.
- **Alternative # 6** involves significant property and capital cost hence is least preferred.

### Summary
- Alternative # 4 is the most balanced approach as:
  - It provides great opportunities to enhance urban design / streetscaping features;
  - It provides the highest levels of compatibility with BIA Master Plan & opportunity to integrate with existing / planned adjacent uses;
  - Involves minimal impacts to the transportation network;
  - Offers modest opportunities to enhance drainage features and
  - Involves moderate capital costs.

Table 5-2: Summary of Planning Alternatives Evaluation

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5.4 PUBLIC FEEDBACK ON ALTERNATIVE PLANNING SOLUTIONS

The analysis and evaluation of Alternative Solutions was presented at the First Public Information Centre (PIC) on June 17, 2010. In total 97 comments were received (see Appendix B for details).

Participants who submitted the comment sheet form either in person at the PIC or subsequently by e-mail and/or fax, generally agreed with the initiative to transform John Street into a pedestrian oriented cultural corridor. No one expressed support for Alternative #1 – Do Nothing.

Although several comments supported Alternative #4 – Reduce Vehicle Realm / Increased Pedestrian Realm as the preferred solution, some felt it did not go far enough in creating a unique, pedestrian-oriented street to the degree that a pedestrian mall or a shared street would.

Of the comments submitted through an e-mail message, most were from the cycling community advocating for dedicated bike lanes (Alternative #5). Some felt that an alternative showing widened sidewalks as well as dedicated bike lanes was absent (at the expense of a reduced vehicle realm). However, this would not be a possible alternative for the segments of the corridor north of Adelaide Street where a two-lane roadway was already in place and was therefore deliberately left out as an overall solution for the street at this phase of the process.

5.5 SELECTION OF A PREFERRED ALTERNATIVE SOLUTION

While there was an overwhelming support for the transformation of John Street into a more pedestrian oriented environment, there was a wide variety of differing opinions on how or the extent that this should be achieved – from full closure to vehicular traffic on one hand, to inclusion of dedicated bike lanes in conjunction with widened sidewalks on the other.

In response, the project team elected to carry forward Alternative #4 - reduced vehicular realm for a widened pedestrian realm; and, Alternative #5 - with dedicated cycling lanes. This exploration will also be afforded an examination of potential design concepts that may differ from segment to segment along the John Street corridor. Although Alternative #2 – Shared Street - was also initially carried forward, it was eventually screened out by the TAC, as outlined in Section 5.3. In response to public comments, opportunities to incorporate elements of Alternative #2 was considered in subsequent design alternatives.