

**APPENDIX G**  
**Supplemental Alternative Assessment and Evaluation**  
**Information**

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**APPENDIX G**

Assessment and Evaluation of Corridors

Exhibits

Town of Whitby Assessment of Conlin Road – Anderson Street Area – Alternative Alignments



## **Assessment and Evaluation of Corridors**

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## 1 ASSESSMENT & EVALUATION METHODOLOGY

Appendix G provides supplemental assessment and evaluation information to support the summary information identified in **Section 9** of the Transportation Master Plan.

An evaluation is the application of a systematic process that takes into account multiple attributes in decision making. An evaluation helps to clarify tradeoffs between alternatives, address the public and agency demand for accountability and meet the EA principles of traceable decision making processes. There are a number of different methods for evaluation and choosing a method depends on the level of detail in the data available for decision making, the complexity of the evaluation when considering number of alternatives and number of criteria.

For this project, a “pairwise comparison” approach was used. The evaluations were conducted on the basis of the evaluation criteria/indicators, the collected data and the relative importance of the criteria/indicators. For this process, each criteria/indicator was weighted equally.

Since all road improvement options were considered capable of solving the transportation problem, the option that was identified to have the least overall impact was considered the preferred option. The approach to select the preferred roadway improvement alternatives involved the following steps:

1. Document the differences between the alternatives using the established evaluation criteria
2. Determine a preference (through ranking of alternatives with rank of first being preferred) for each of the criteria groups (natural environment, social environment, economic environment, cost and transportations service)
3. Bring together the criteria group preferences to identify tradeoffs and determine a preferred alternative overall

The collection of data for the evaluation was based on secondary source data included in air photos (social/economic and natural environment features shown in **Exhibit 1.3** and **Exhibit 1.4** respectively in the main report), information on institutions from the Town of Whitby GIS data base, and assumptions regarding cost. The costing is based on benchmark costs and typical cross sections. The benchmark costs contain normal engineering and construction contingency allowance. Property requirements were not included as part of this assessment and would need to be confirmed during Phase 3 and 4 of the Municipal Class EA process with input from the Town. Utility costs were also not included and should be determined during later phases of the design process with direct input from utility companies. It must be noted that this is order-of-magnitude costing.

The roadway options for each of the area options are presented in **Exhibit G.1, G.2 and G.3** (at the end of this appendix). It should be noted that the proposed road alternatives were developed as “corridors” and refinement of alignments would be required in future environmental studies to mitigate any potential social and environmental impacts.

The following documents the roadway improvement alternatives that were considered in each area to address 2031 screenline level capacity deficiencies. While various road improvement solutions may be warranted for specific Sub-Area capacity issues, local service and network connectivity and transit purposes, the preferred list of road solutions identified in this section of the report are those that have the potential of best solving the screenline capacity deficiency in 2031 when considering transportation, environmental and cost criteria.

This appendix includes text describing the alternatives and evaluation as well as a supporting table of data and ranking for each of the criteria and criteria groups for the following sub-areas:

- South West Whitby
- East Central Whitby
- North Central Whitby

### 1.1 Evaluation Criteria

Evaluation criteria were developed to compare the alternative roadway modifications within each of the areas discussed above. The criteria considered transportation service, socio-cultural and natural environmental factors, economic environment, and estimated construction cost. Presented in **Table G.1** is a summary of the evaluation criteria, indicators/measures and data sources used for this evaluation.

The purpose of this evaluation was to identify broad distinctions among the alternatives being considered. The potential for effects were identified based on conceptual level right-of-way (ROW) requirements. In the next phase of the EA, more detailed assessments will need to be undertaken that will include fieldwork and the delineation of a more refined ROW for each of the selected routes.

| <b>Table G.1 – Evaluation Criteria</b>       |                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                          |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b>                              | <b>Indicators</b>                                                                                                                                                                                                                                                                                           | <b>Data Sources</b>                                                                                                                                                      |
| <b>Transportation Service</b>                |                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                          |
| Change in level of transportation service    | <ul style="list-style-type: none"> <li>• Composite volume to capacity ratio at screenlines</li> </ul>                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Model results</li> </ul>                                                                                                        |
| Supportiveness of other transportation modes | <ul style="list-style-type: none"> <li>• Qualitative assessment of supportiveness of other transportation modes (e.g. walking, cycling, transit)</li> <li>• Connectivity/continuity</li> </ul>                                                                                                              | <ul style="list-style-type: none"> <li>• Durham TMP and Transit</li> <li>• Air photo mapping</li> </ul>                                                                  |
| Efficiency of use of existing infrastructure | <ul style="list-style-type: none"> <li>• Use of transportation system capacity</li> </ul>                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Durham TMP and Transit</li> <li>• Air photo mapping</li> <li>• Official Plan Schedule D</li> </ul>                              |
| Network connectivity                         | <ul style="list-style-type: none"> <li>• Connectivity to adjacent municipalities</li> </ul>                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Road map</li> </ul>                                                                                                             |
| The accommodation of access                  | <ul style="list-style-type: none"> <li>• Ability to access properties</li> </ul>                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>• Air photo mapping</li> </ul>                                                                                                    |
| <b>Natural Environment</b>                   |                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                          |
| Potential for impact on terrestrial features | <ul style="list-style-type: none"> <li>• Length of corridor through protected environmental areas (e.g. provincially significant wetland, ANSI, Greenbelt)</li> <li>• Qualitative assessment of potential for impact (e.g. recognizing difference in impact between a new corridor and widening)</li> </ul> | <ul style="list-style-type: none"> <li>• Natural Environment constraints map (2005)</li> <li>• Social Environment Constraints Map (2005)</li> <li>• Air photo</li> </ul> |
| Potential for impact on aquatic features     | <ul style="list-style-type: none"> <li>• Number and type of watercourse crossings</li> </ul>                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Natural Environment constraints map (2005)</li> <li>• Social Environment Constraints Map (2005)</li> <li>• Air photo</li> </ul> |

| <b>Table G.1 – Evaluation Criteria</b>                        |                                                                                                                                                                                                                                            |                                                                                                          |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Criteria</b>                                               | <b>Indicators</b>                                                                                                                                                                                                                          | <b>Data Sources</b>                                                                                      |
| Potential for improvement to cross area of known rare species | <ul style="list-style-type: none"> <li>Known areas where rare species have been identified</li> </ul>                                                                                                                                      | <ul style="list-style-type: none"> <li>Natural Environment constraints map (2005)</li> </ul>             |
| <b>Social Environment</b>                                     |                                                                                                                                                                                                                                            |                                                                                                          |
| Potential for impact on residences                            | <ul style="list-style-type: none"> <li>Approximate number of residential properties potentially impacted</li> <li>Qualitative assessment of potential for impact (including consideration of proximity to road, frontage, etc.)</li> </ul> | <ul style="list-style-type: none"> <li>Social Environment Constraints Map (2005)</li> </ul>              |
| Potential for impact to community features                    | <ul style="list-style-type: none"> <li>Length of corridor through community use area or institutional area</li> </ul>                                                                                                                      | <ul style="list-style-type: none"> <li>Social Environment Constraints Map (2005)</li> </ul>              |
|                                                               | <ul style="list-style-type: none"> <li>Presence of major recreational/community features (including municipal park spaces)</li> </ul>                                                                                                      | <ul style="list-style-type: none"> <li>Input from Town staff</li> </ul>                                  |
| Potential impact on community character                       | <ul style="list-style-type: none"> <li>Potential for improvement to result in a barrier to community</li> </ul>                                                                                                                            | <ul style="list-style-type: none"> <li>Number of roadway lanes</li> <li>Air photo mapping</li> </ul>     |
| <b>Economic Environment</b>                                   |                                                                                                                                                                                                                                            |                                                                                                          |
| Potential for impact on businesses                            | <ul style="list-style-type: none"> <li>Length of corridor through business area</li> <li>Qualitative assessment of potential for impact (including consideration of proximity to road; potential access impacts or benefits)</li> </ul>    | <ul style="list-style-type: none"> <li>Air photo mapping</li> </ul>                                      |
| Potential for impact on planned land uses                     | <ul style="list-style-type: none"> <li>Presence of major municipal land use initiatives</li> </ul>                                                                                                                                         | <ul style="list-style-type: none"> <li>Approved land use plans</li> <li>Input from Town staff</li> </ul> |
| <b>Cost</b>                                                   |                                                                                                                                                                                                                                            |                                                                                                          |
| Estimated cost                                                | <ul style="list-style-type: none"> <li>Estimated capital cost (construction only)</li> </ul>                                                                                                                                               | <ul style="list-style-type: none"> <li>Unit cost data for roads and significant structures</li> </ul>    |

## 2 RATIONALIZATION OF PREFERRED OPTIONS

The following sections present the results of the evaluation process by Sub-Area. The detailed evaluation results for each Sub-Area are presented in **Tables G.4, G.6 and G.8**.

## 2.1 South West Whitby

### *Identification of Alternatives and Preliminary Assessment*

This area consists of Sub-Area 1 (Lakeshore Whitby), Sub-Area 2 (South Whitby) and Sub-Area 4 (West Whitby). Based on the results of the 2031 demand forecasting model for the p.m. peak hour, the areas of volume to capacity deficiency include:

- Screenline 1 eastbound (east of Lake Ridge Road between Taunton Road and Victoria Street)
- Screenline 2 eastbound (west of Brock Street between Taunton Road and Victoria Street)
- There is a concentrated capacity deficiency near the 407 West Durham Link between Dundas Street and Rossland Road.

The following alternatives were considered as potential solutions to the above noted deficiencies and were evaluated in the 2031 demand forecasting model to assess whether the additional lane capacity would solve the screenline deficiencies.

1. Widen Rossland Road from 4 to 6 lanes between Lake Ridge Road and Brock Street. Extend Twin Streams Road between current terminus and Lake Ridge Road.
2. Extend Bonacord Avenue to Lake Ridge Road and connect Bonacord Avenue to Manning Road between Cochrane Street and Brock Street. Extend Twin Streams Road between current terminus and Lake Ridge Road.
3. Widen Dundas Street from 4 to 6 lanes between Audley Road and Cochrane Street, and between Cochrane Street and Brock Street provide 4 basic lanes (at 1000 vplph) which will require the removal of on-street parking and some road improvements to accommodate the additional travel lane.
4. Widen Victoria Street from 4 to 6 lanes between Lake Ridge Road and Brock Street.
5. Widen Rossland Road from 4 to 6 lanes between Lake Ridge Road and Brock Street. Extend Bonacord Avenue at 2 lanes from current terminus to Lake Ridge Road.
6. Extend Bonacord Avenue from current terminus to Lake Ridge Road. Connect Bonacord Avenue to Manning Road between Cochrane Street and Brock Street.

Based on the results from the demand forecasting model, it was determined that just extending Bonacord Avenue (Alternative 6) did not as stand alone solutions solve the screenline capacity problem. Therefore, this alternative was removed from further consideration.

### Sub-Area 4 (West Whitby) Supplemental Note

As part of the 407 West Durham Link, parts of Halls Road will be removed from the network, thus eliminating a secondary north-south link in Whitby. The Province has committed to replacing this north-south link with the realignment, improvement and extension of Coronation Road between Taunton Road and Dundas Street. Therefore, only one north-south roadway alternative was considered in this Sub-Area:

1. Extend Coronation Road from the existing alignment north of Taunton Road through the West Whitby Secondary Planning Area to Dundas Street).

Since no alternatives to this Sub-Area were required, this alternative was not evaluated, however, was included as part of the final 2031 network.

### *Evaluation of Alternatives*

Provided in **Table G.3** is a summary of the relative ranking of alternatives for the five criteria groups with ranking from first (preferred) to fifth (least preferred) being noted. More detailed evaluation information is contained within **Table G.4**

**Table G.3 – Evaluation Ranking Summary – South West Whitby**

|                        | <b>Alternative 1:<br/>Widen<br/>Rossland Rd<br/>&amp; Extend<br/>Twin Streams<br/>Rd.</b> | <b>Alternative 2:<br/>Extend<br/>Bonacord<br/>Ave. &amp;<br/>Extend Twin<br/>Streams Rd.</b> | <b>Alternative 3:<br/>Widen<br/>Dundas St.</b> | <b>Alternative 4:<br/>Widen<br/>Victoria St.</b> | <b>Alternative 5:<br/>Widen<br/>Rossland Rd.<br/>&amp; Extend<br/>Bonacord<br/>Ave.</b> |
|------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------|
| Transportation Service | 3                                                                                         | 1                                                                                            | 3                                              | 5                                                | 2                                                                                       |
| Natural Environment    | 4                                                                                         | 1                                                                                            | 1                                              | 5                                                | 1                                                                                       |
| Social Environment     | 2                                                                                         | 4                                                                                            | 4                                              | 1                                                | 2                                                                                       |
| Economic Environment   | 1                                                                                         | 4                                                                                            | 5                                              | 3                                                | 1                                                                                       |
| Cost                   | 4                                                                                         | 1                                                                                            | 2                                              | 2                                                | 4                                                                                       |
|                        |                                                                                           |                                                                                              |                                                |                                                  | <b>Preferred<br/>Alternative</b>                                                        |

\*Where alternatives are ranked the same level (i.e. Alternative 1 and Alternative 3 are ranked 3<sup>rd</sup> for Transportation Service) the rankings will skip the next rank (i.e. two rankings of 3<sup>rd</sup> will result in no 4<sup>th</sup> ranked alternative).

### Overall Ranking:

Based on the findings of the evaluation, it has been concluded that Alternative 5, the widening of Rossland Road from 4 to 6 lanes between Brock Street and Lake Ridge Road combined with an extension of Bonacord Avenue from its current terminus to Lake Ridge Road is considered the preferred solution to resolving the projected 2031 screenline deficiency for South West Whitby.

Significant elements of the comparison of Alternative 5 to the other alternatives is as follows:

Compared to Alternative 1

- Alternative 5 is preferred over or equal to Alternative 1 for all five criteria groups.

Compared to Alternative 2

- Alternative 5 is equal to Alternative 2 from a natural environment perspective in that both alternatives have the potential to impact approximately 750 m of protected environmental features (ESA and wooded area); Alternative 2 introduces new road crossings and thus new impacts whereas Alternative 5 involves more watercourse crossings (7 watercourse crossings compared to 2).
- The disadvantage of Alternative 5 when compared to Alternative 2 relates to transportation service. Alternative 5 does not have the same ability to increase alternative modes of

transportation (i.e. transit) as in Alternative 2. Alternative 2 (the combination of the completion of Bonacord Avenue and the extension of Twin Streams Road) also completes missing links in the Town's transportation network. Alternative 2 also costs less to construct than Alternative 5.

- The advantages of Alternative 5 when compared to Alternative 2, as noted above, are considered to outweigh the disadvantages and thus, Alternative 5 was selected as preferred.

Compared Alternative 3:

- Alternative 5 is ranked equal to or preferred over Alternative 3 for all criteria groups except for cost. The cost difference is approximately \$10 million dollars. The advantages of Alternative 5 compared to Alternative 3 include:
- Less impact on residences – there are only approximately 8 residences with direct access that will be impacted in Alternative 5 compared to approximately 38 in Alternative 3; and Alternative 3 widens Dundas Street to 6 lanes through the community of Almond Village.
- Impact on businesses – There are business properties along Alternative 5 (Rossland Road) but the businesses are generally well set back from the road and impacts are expected to be minimal. On the other hand, Alternative 3 involves improvements through downtown Whitby where businesses are quite close to the existing road and will likely result in loss of on-street parking which could have a greater potential impact on the business area.
- The advantages of Alternative 5 when compared to Alternative 3 are considered to outweigh the approximately 5 million dollar cost difference. Thus, Alternative 5 was selected as preferred.

Compared to Alternative 4:

- Alternative 5 is preferred over Alternative 4 for natural environment, economic environment and transportation service. Alternative 4 is preferred for social environment and cost criteria. The key advantages of Alternative 5 when compared with Alternative 4 include:
- Less potential for impact on the natural environment – Victoria Street (Alternative 4) passes more natural areas than Alternative 5 including going through an area identified as a Provincially Significant Wetland (PSW).
- Less impacts on businesses – There are a few businesses and farm businesses on Victoria Street, thus there is a greater potential for impact on businesses for this alternative compared to Alternative 5 where there are no business areas.
- Improvement to transportation service – Alternative 4 does little to improve transit when compared to Alternative 5, which creates another east-west corridor (Bonacord Avenue) thus improving the ability to provide an integrated and connected transit network. Alternative 5 also provides roadway capacity improvements in a more central area in the Town, focused on new population growth in West Whitby, and thus is more likely to be used than additional capacity on Victoria Street.
- The disadvantages of Alternative 5 when compared to Alternative 4 include:
- Impact on residences – while the alternatives have a similar number of residences fronting on the roads to be improved, Alternative 4 is slightly preferred as the residences are well set back from the road decreasing their potential for impact.
- Cost – The approximate construction cost for Alternative 5 is approximately \$12 million dollars greater than Alternative 4.
- The advantages of Alternative 5 when compared to Alternative 4 are considered to outweigh the approximately \$7 million dollar cost difference.

TABLE G.4 Detailed Evaluation of Sub-area: South West Whitby

| Criteria               |                                              | 1. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                                                                                              | 2. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) Connect Bonacord Avenue to Manning Road between Cochrane Street and Brock Street (1 lane per direction at a capacity of 550 vplph). Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 3. Widen Dundas Street by one lane (to 3 lanes per direction) between Audley Road and Cochrane Street and by one lane (to 2 lanes per direction) between Cochrane Street and Brock Street (1000 vplph)                                                                                                                                                                                                                                                                                                                                                                                                                                            | 4. Widen Victoria Street by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                                                                                                                                                                                                                                                                     |
|------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transportation Service | Change in level of transportation service    | <p><b>Composite volume to capacity ratio at screenlines from model</b></p> <p><i>Ranked Equally:</i> All options provide the same general level of service.</p> <p>East of Lake Ridge Road Screenline EB – v/c = 0.88<br/>                     West of Brock Street Screenline EB – v/c = 0.87</p> | <p><i>Ranked Equally:</i> All options provide the same general level of service.</p> <p>East of Lake Ridge Road Screenline EB – v/c = 0.88<br/>                     West of Brock Street Screenline EB – v/c = 0.88</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><i>Ranked Equally:</i> All options provide the same general level of service.</p> <p>East of Lake Ridge Road Screenline EB – v/c = 0.90<br/>                     West of Brock Street Screenline EB – v/c = 0.89</p>                                                                                                                                                                                                                                                                                                                                                                                                                           | <p><i>Ranked Equally:</i> All options provide the same general level of service.</p> <p>East of Lake Ridge Road Screenline EB – v/c = 0.89<br/>                     West of Brock Street Screenline EB – v/c = 0.86</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p><i>Ranked Equally:</i> All options provide the same general level of service.</p> <p>East of Lake Ridge Road Screenline EB – v/c = 0.88<br/>                     West of Brock Street Screenline EB – v/c = 0.87</p>                                                                                                                                                                                                                                                 |
|                        | Supportiveness of other transportation modes | <p><b>Qualitative assessment of supportiveness of other transportation modes (e.g. walking, cycling, transit)</b></p> <p><b>Existing / Planned Transit</b></p> <p><b>Connectivity/continuity</b></p> <p><b>Pedestrian Environment</b></p>                                                          | <p><i>Ranked Third:</i> This option creates another east-west corridor (Twin Streams Road) which provides greater ability to service the area by transit and encourage cycling on a local east-west route. The widening of Rossland Road to 6 lanes could accommodate HOV lanes, Rapid Transit, etc, however the widening may discourage pedestrian activity.</p> <p>Notes:<br/>                     Durham Region Transit Regional Route 916 runs along Rossland Road connecting Durham College/ University of Ontario Institute of Technology with the Town of Whitby and Region of Durham Headquarters and the Ajax GO Station. It is also identified as a minor transit corridor in the Durham Transportation Master Plan.</p> <p>Twins Streams Road does not have transit service.</p> | <p><i>Ranked First:</i> This option creates two additional east-west corridors (with Bonacord Avenue providing an east-west service throughout Whitby). This provides a greater ability to service the area by transit and encourage cycling on two local east-west routes.</p> <p>Notes:<br/>                     Durham Region Transit Route 301 runs along a portion of Bonacord Avenue between McQuay Boulevard and Cochrane Street connecting Whitby GO Station with the West Whitby. Route 301 intersects Twin Streams Road twice at Cochrane Street and Country Lane.</p> <p>Bonacord Avenue provides access to the Lynde Creek Trail.</p> | <p><i>Ranked First:</i> Dundas Street has been identified by Durham and Metrolinx as a rapid transit corridor. The widening of Dundas Street provides an opportunity to use the lane as a semi-exclusive transit lane, giving transit priority, particularly through the downtown area. However, there is limited opportunity to improve cycling in the downtown area and the 6 lane cross section west of Cochrane Street may not be pedestrian friendly.</p> <p>Durham Region Transit Route 306 runs along Dundas Street from roughly the western urban boundary to Thickson Road connecting to east of Whitby. GO Transit also provides service along Highway 2 connecting the urban municipalities along Highway 2 to Toronto.</p> <p>Highway 2 (Dundas Street) is identified as part of the Rapid Transit Network in Metrolinx’s 15 year plan, through Whitby, as a major transit corridor and the Region’s “Main Street” in the Durham Transportation Master Plan.</p> | <p><i>Ranked Fifth:</i> The widening of Victoria Street to 6 lanes could accommodate HOV lanes, Rapid Transit, etc, however the widening may discourage pedestrian activity.</p> <p>Notes:<br/>                     Durham Region Transit Route 308 and 318 runs along a portion of Victoria Street between the western urban boundary and Brock Street connecting Whitby GO Station with the south western residential community along the Lake Ontario shoreline.</p> |

TABLE G.4 Detailed Evaluation of Sub-area: South West Whitby

| Criteria                                     |                                       | 1. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                                                                                                                                                                                                                                                                                                                                                                 | 2. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) Connect Bonacord Avenue to Manning Road between Cochrane Street and Brock Street (1 lane per direction at a capacity of 550 vplph). Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                                                                                                                | 3. Widen Dundas Street by one lane (to 3 lanes per direction) between Audley Road and Cochrane Street and by one lane (to 2 lanes per direction) between Cochrane Street and Brock Street (1000 vplph)                                                                                                                                                                                                                                                                                     | 4. Widen Victoria Street by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street.                                                                                                                                                                                                                                                                                                                                     | 5. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Efficiency of use of existing infrastructure | Use of transportation system capacity | <p><b>Ranked Third:</b> An additional traffic lane on Rossland Road can increase overall lane capacity and flow. The implementation of these a missing link on Twin Streams Road will provide an additional option for travel between Lake Ridge Road and Cochrane Street.</p> <p>The model output identifies that the widened facility (Rossland Road) will be fully utilized (v/c = 0.94 east of Lake Ridge Road and 0.84 west of Brock Street). The extension of Twin Steams Road, however, will not draw as much demand (v/c = 0.65 east of Lake Ridge Road).</p> | <p><b>Ranked First:</b> The implementation of these two missing links on Bonacord Avenue will provide an additional option for travel between Lake Ridge Road and Thickson Road. The model output identifies that Bonacord Avenue will be fully utilized (v/c = 0.85 east of Lake Ridge Road and 0.92 west of Brock Street). The extension of Twin Steams Road, however, will not draw as much demand (v/c = 0.66 east of Lake Ridge Road).</p> | <p><b>Ranked Fourth:</b> The widening will improve the bottleneck in downtown Whitby; however, a congested point may still occur where the corridor narrows from 6 lanes to four lanes (at Brock Street).</p> <p>The model output identifies that the widened facility (Dundas Street) will be fairly utilized (v/c = 0.84 east of Lake Ridge Road and 0.76 west of Brock Street). However, the widening near Brock Street is likely to be a removal of peak period on-street parking.</p> | <p><b>Ranked Fifth</b> Additional traffic lane focused will increase overall lane capacity and flow.</p> <p>However, Victoria Street is not central to traffic demand and therefore will likely not be utilized to the same degree as other streets in the north. The model output identifies that the widened facility (Victoria Street) will not be highly utilized (v/c = 0.53 east of Lake Ridge Road and 0.79 west of Brock Street).</p> | <p><b>Ranked Second:</b> Additional traffic lane on Rossland Road focused on a medium speed regional corridor (700 vplph) which can increase overall lane capacity and flow.</p> <p>The Bonacord Avenue extension can provide an additional access into the neighbourhood that it serves from the west as well as provide an alternate route to Rossland Road and/or Dundas Street.</p> <p>The model output identifies that the widened facility (Rossland Road) will be fully utilized (v/c = 0.93 east of Lake Ridge Road and 0.82 west of Brock Street). The extension of Bonacord Avenue, however, will not draw as much demand (v/c = 0.78 east of Lake Ridge Road).</p> |
|                                              | Network Connectivity                  | <p><b>Connectivity of the network to adjacent municipalities and other transportation systems</b></p> <p><b>Ranked Second:</b> Rossland Road is proposed to have an interchange with the 407 West Durham Link connecting to the 407 East Transportation Corridor and Highway 401. It also provides connection into Oshawa and Ajax.</p> <p>Twin Streams Road is contained within Whitby and would not contribute much to connectivity with adjacent municipalities.</p>                                                                                               | <p><b>Ranked Second:</b> These extensions would create additional links to Oshawa and Ajax.</p>                                                                                                                                                                                                                                                                                                                                                 | <p><b>Ranked First:</b> Highway 2 (Dundas Street) is the only road that runs through the urban centres in the Region and serves as a vital connector between the Region’s urban municipalities and beyond.</p> <p>Dundas Street is proposed to have a partial interchange with the 407 West Durham Link connecting to the 407 East Transportation Corridor and Highway 401.</p>                                                                                                            | <p><b>Ranked Second:</b> Victoria Street runs through the urban municipalities terminating at the east end of Oshawa. It is the southern terminus of many of the Region’s north-south streets.</p> <p>Runs parallel and (for some stretches) alongside Highway 401 providing an alternate route in congested situations. However, it does not connect to the 407 West Durham Link.</p>                                                        | <p><b>Ranked Second:</b> Rossland Road is proposed to have an interchange with the 407 West Durham Link connecting to the 407 East Transportation Corridor and Highway 401. It also provides connection into Oshawa and Ajax.</p> <p>Bonacord Avenue is contained within Whitby and would not contribute much to connectivity with adjacent municipalities.</p>                                                                                                                                                                                                                                                                                                               |

TABLE G.4 Detailed Evaluation of Sub-area: South West Whitby

| Criteria                    |                                                                                  | 1. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                                                                                      | 2. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) Connect Bonacord Avenue to Manning Road between Cochrane Street and Brock Street (1 lane per direction at a capacity of 550 vplph). Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                                                                                                                                                                                                                                                                                                                                                                                                                     | 3. Widen Dundas Street by one lane (to 3 lanes per direction) between Audley Road and Cochrane Street and by one lane (to 2 lanes per direction) between Cochrane Street and Brock Street (1000 vplph)                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 4. Widen Victoria Street by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street.                                                                                                                                                                                                                 | 5. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| The accommodation of access | Ability to access residential, commercial, industrial and institutional property | <p><b>Ranked Second:</b> Limited access points on Rossland Road that are not signalized. Additional signals may need to be put in place.</p> <p>There is no impact on access on Twin Streams Road. This area is undeveloped with no indication of access onto this road.</p>               | <p><b>Ranked First:</b> There is no impact on access on Twin Streams Road and Bonacord Avenue near Lake Ridge Road. This area is undeveloped with no indication of access onto this road. Future access can be controlled as necessary.</p> <p>The extension of Bonacord Avenue to Manning Road does pass some residential frontage, but this would not likely impact flow of traffic.</p>                                                                                                                                                                                                                                                                                                                                                           | <p><b>Ranked Fifth:</b> There are some residential accesses east of Jeffery Street that may be impacted by a 6-lane cross section and increase conflict points on the road. There are some commercial accesses, but spacing seems appropriate. A signal may need to be put in place.</p>                                                                                                                                                                                                                                                                                                                                                                         | <p><b>Ranked Fourth:</b> There are limited access points on Victoria Street that are not signalized. May consider putting in a signal at the Iroquois Sports Centre to accommodate access.</p>                                                                                                                            | <p><b>Ranked Second:</b> Limited access points on Rossland Road that are not signalized. Additional signals may need to be put in place.</p> <p>There is no impact on access on Bonacord Avenue. This area is undeveloped with no indication of access onto this road.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                             | <b>Summary of Transportation Ranking</b>                                         |                                                                                                                                                                                                                                                                                            | <b>Ranked Third</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Ranked First</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Ranked Third</b>                                                                                                                                                                                                                                                                                                       | <b>Ranked Fifth</b>                                                                                                                                                                                                                                                        | <b>Ranked Second</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Natural Environment         | Potential for impact on terrestrial features                                     | <p><b>Length of corridor through protected environmental areas (e.g. provincially significant wetland, ANSI, Greenbelt, ESA, wooded area)</b></p> <p><b>Qualitative assessment of potential for impact (e.g. recognizing difference in impact between a new corridor and widening)</b></p> | <p><b>Ranked Fourth:</b> Approximately 650m of the existing Rossland Road would cross ESA primarily associated with watercourse crossings. This also includes approximately 350m of wooded areas primarily on the south side. The wooded areas on the south can likely be avoided by shifting road alignment.</p> <p>Approximately 650m of the new extension of Twin Streams Road will cross ESA. There is a possibility for this extension to cross ~250m of wooded areas; however, through alignment to the south, wooded areas can easily be avoided.</p> <p>It is noted that a section of this combination is an existing road where the impact is expected to be less. Whereas, the new Twin Streams Road extension will have more impacts.</p> | <p><b>Ranked Second:</b> Approximately 150m of the future Bonacord Avenue extension to Lake Ridge Road would cross ESA.</p> <p>Approximately 650m of the new extension of Twin Streams Road will cross ESA. There is possibility for this extension to cross ~250m of wooded areas; however, through alignment to the south, wooded areas can easily be avoided.</p> <p>Both components of this alternative are new corridors. Generally new corridors are considered to have more potential for impact on the environment compared to widening of an existing corridor as they involve the introduction of roadway traffic to previously undisturbed areas.</p> | <p><b>Ranked First:</b> Approximately 450m of the Dundas Street would cross ESA. There is also approximately 150m of the road that passes next to a provincially significant wetland on the south side of Dundas Street east of Lake Ridge Road. Impact to the PSW can likely be avoided by a shift in the alignment.</p> | <p><b>Ranked Fifth:</b> Approximately 1200m of the road would cross ESA and provincially significant wetlands.</p> <p>Although this is an existing road, it crosses through a provincially significant wetland and impacts to the wetland may be hard to avoid.</p>        | <p><b>Ranked Second:</b> Approximately 650m of the existing Rossland Road would cross ESA primarily associated with watercourse crossings. This also includes approximately 350m of wooded areas primarily on the south side. The wooded areas on the south can likely be avoided by changing road alignment.</p> <p>Approximately 150m of the future Bonacord Avenue would cross ESA.</p> <p>It is noted that a section of this combination is an existing road where the impact is expected to be less. Whereas, the new Bonacord Avenue extension will have more impacts.</p> |

TABLE G.4 Detailed Evaluation of Sub-area: South West Whitby

| Criteria                                      |                                                        | 1. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                    | 2. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) Connect Bonacord Avenue to Manning Road between Cochrane Street and Brock Street (1 lane per direction at a capacity of 550 vplph). Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) | 3. Widen Dundas Street by one lane (to 3 lanes per direction) between Audley Road and Cochrane Street and by one lane (to 2 lanes per direction) between Cochrane Street and Brock Street (1000 vplph) | 4. Widen Victoria Street by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. | 5. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                     |
|-----------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Potential for impact on aquatic features      | Number and type of watercourse crossings               | <i>Ranked Fifth:</i> The existing road crosses 5 tributaries of Lynde Creek. (3 coldwater, 1 warmwater, and 1 unassessed stream). The new extension will cross 3 additional tributaries of Lynde Creek, thus 8 in total. | <i>Ranked First:</i> The future road would cross 2 warmwater tributaries of Lynde Creek.                                                                                                                                                                                                                                         | <i>Ranked Third:</i> The existing road crosses 4 tributaries of Lynde Creek. (3 warmwater, and 1 coldwater stream)                                                                                     | <i>Ranked First:</i> The existing road crosses 2 warmwater tributaries of Lynde Creek.                    | <i>Ranked Fourth:</i> The existing road crosses 5 tributaries of Lynde Creek. (3 coldwater, 1 warmwater, and 1 unassessed stream). The future road would cross 2 warmwater tributaries of Lynde Creek, thus 7 in total. |
|                                               | Potential for improvement to impact known rare species | <i>Ranked First:</i> The existing road does not cross areas with rare species.                                                                                                                                           | <i>Ranked First:</i> The future road will not cross areas with rare species.                                                                                                                                                                                                                                                     | <i>Ranked First:</i> The future road will not cross areas with rare species.                                                                                                                           | <i>Ranked Fourth:</i> The existing road crosses an area where threatened species have been identified.    | <i>Ranked First:</i> This road will not cross areas with rare species.                                                                                                                                                  |
| <i>Summary of Natural Environment Ranking</i> |                                                        | <i>Ranked Fourth</i>                                                                                                                                                                                                     | <i>Ranked First</i>                                                                                                                                                                                                                                                                                                              | <i>Ranked First</i>                                                                                                                                                                                    | <i>Ranked Fifth</i>                                                                                       | <i>Ranked First</i>                                                                                                                                                                                                     |

TABLE G.4 Detailed Evaluation of Sub-area: South West Whitby

| Criteria           |                                            | 1. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) Connect Bonacord Avenue to Manning Road between Cochrane Street and Brock Street (1 lane per direction at a capacity of 550 vplph). Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                                                                                                                                                                                                                                                                                                                                                                                                            | 3. Widen Dundas Street by one lane (to 3 lanes per direction) between Audley Road and Cochrane Street and by one lane (to 2 lanes per direction) between Cochrane Street and Brock Street (1000 vplph)                                                                                                                                                                                                                                                                                                       | 4. Widen Victoria Street by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 5. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Social Environment | Potential for impact on residences         | <p><b>Number of residential properties potentially impacted</b></p> <p><b>Qualitative assessment of potential for impact (including consideration of proximity to road, frontage, etc.)</b></p> <p><i>Ranked Second:</i> There are a number of residential subdivisions on both sides of Rossland Road. The impact of lane extension on the north will be minimal as the residences all back on to the road and there is no driveway access to Rossland Road.</p> <p>There are 5-6 residences with direct access to Rossland Road near Brock Street on the south that are approximately 5-10m away from the road that have a greater potential to be affected by the widening.</p> <p>There are no residences on the future extension of Twin Streams Road to Lake Ridge Road.</p> | <p><i>Ranked Fifth:</i> There are approximately 2 residences near the intersection of Lake Ridge Road and the future Bonacord Avenue. It is likely that the residences can be avoided through road alignment. It is also noted that these residences are within the West Whitby area and may be removed as a result of future development.</p> <p>The extension of Bonacord Avenue to Manning Road brings a new road behind approximately 18+ homes. Although it appears that residential property may not be required for the extension, the addition of a road through what is now parkland would be considered a significant impact.</p> <p>There are no residences on the future extension of Twin Streams Road to Lake Ridge Road.</p> | <p><i>Ranked Fourth:</i> There are between 20-30 residences with driveway access to Dundas Street that are approximately 10-25m away from the road. Due to their distance to the road, the impact of the lane extension is expected to be minimal.</p> <p>There are between 5-8 residences with driveway access to Dundas Street (near Cochrane Street) that are only 5-10m away from the road. The impact on these residences is expected to be more (see Southwest-Dundas Street affected residences).</p> | <p><i>Ranked First:</i> There are approximately 4 residences with driveway access to Victoria Street near Lake Ridge Road that are ~20-30m away from the road. Due to their distance, the impact of the road widening is expected to be minimal.</p> <p>The impact of the widening on residential subdivisions on the south will be minimal as there is no driveway access to Victoria Street. The pedestrian pavement in this southern side, however, is only 5m away from the road and may be impacted (see Southwest-Victoria Street near Gordon-pedestrian). It is likely that pedestrian pavement can be avoided through road alignment.</p> | <p><i>Ranked Second:</i> Ranked There are a number of residential subdivisions on both sides of Rossland Road. The impact of lane extension on the north will be minimal as the residences all back on to the road and there is no driveway access to Rossland Road.</p> <p>There are 5-6 residences with direct access to Rossland Road near Brock Street on the south that are approximately 5-10m away from the road that will be affected by the lane extension.</p> <p>There are approximately 2 residences near the intersection of Lake Ridge Road and the future Bonacord Avenue. It is likely that the residences can be avoided through road alignment. It is also noted that these residences are within the West Whitby area and may be removed as a result of future development.</p> |
|                    | Potential for impact to community features | <p><b>Institutional features (i.e. schools, hospitals, etc)</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p><i>Ranked Fourth:</i> There are two schools west of Cochrane Street on both sides of Rossland Road potentially affected as a result of increased traffic caused by this road widening.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p><i>Ranked First:</i> There seem to be no institutional features on this corridor.</p>                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><i>Ranked Second:</i> There is one institution (Whitby Public Library) at 405 Dundas Street West that might be affected as a result of increased traffic caused by this road widening.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><i>Ranked Second:</i> There is one large institution (Iroquois Sports Centre) at 500 Victoria Street West that might be affected as a result of increased traffic caused by this road widening.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

TABLE G.4 Detailed Evaluation of Sub-area: South West Whitby

| Criteria                                       |                                                                                      | 1. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) | 2. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) Connect Bonacord Avenue to Manning Road between Cochrane Street and Brock Street (1 lane per direction at a capacity of 550 vplph). Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) | 3. Widen Dundas Street by one lane (to 3 lanes per direction) between Audley Road and Cochrane Street and by one lane (to 2 lanes per direction) between Cochrane Street and Brock Street (1000 vplph)                                                           | 4. Widen Victoria Street by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street.                                                                                                                                                                 | 5. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) |
|------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                | Presence of major recreational/ community features (including municipal park spaces) | <i>Ranked First:</i> A soccer dome is located on the south side of Rossland at Country Lane, however no impacts are anticipated.                                                                      | <i>Ranked Fifth:</i> The Bonacord Avenue to Manning Road extension will result in significant impacts to Palmerston Park.                                                                                                                                                                                                        | <i>Ranked First:</i> There are no recreational/community features on this road.                                                                                                                                                                                  | <i>Ranked First:</i> There is a community/recreation centre on Victoria Street. While additional right-of way will be required, no significant impact is anticipated.                                                                                                     | <i>Ranked First:</i> A soccer dome is located on the south side of Rossland at Country Lane, however no impacts are anticipated.                                                                    |
|                                                | Potential impact on community character                                              | <i>Ranked First:</i> Widening of a roadway to 6/7 lanes will result in increased crossing difficulty for some road users.                                                                             | <i>Ranked First:</i> Widening of a roadway to 6/7 lanes will result in increased crossing difficulty for some road users.                                                                                                                                                                                                        | <i>Ranked Fifth:</i> The rural character of the Almond Village near Lake Ridge Road may be affected.                                                                                                                                                             | <i>Ranked First:</i> Widening of a roadway to 6/7 lanes will result in increased crossing difficulty for some road users.                                                                                                                                                 | <i>Ranked First:</i> Widening of a roadway to 6/7 lanes will result in increased crossing difficulty for some road users.                                                                           |
| <b>Summary of Social Environment Ranking</b>   |                                                                                      | <b>Ranked Second</b>                                                                                                                                                                                  | <b>Ranked Fourth</b>                                                                                                                                                                                                                                                                                                             | <b>Ranked Fourth</b>                                                                                                                                                                                                                                             | <b>Ranked First</b>                                                                                                                                                                                                                                                       | <b>Ranked Second</b>                                                                                                                                                                                |
| Economic Environment                           | Potential for impact on businesses                                                   | <i>Ranked First:</i> There are no existing businesses areas                                                                                                                                           | <i>Ranked Fourth:</i> The Bonacord Avenue to Manning Road extension will bisect the outdoor storage area of an existing business.                                                                                                                                                                                                | <i>Ranked Fifth:</i> Due to close proximity and direct access to the road, some businesses near the intersection of Dundas Street and Brock Street may be affected.<br><br>There is also potential for loss of parking spaces as a result of this road widening. | <i>Ranked Third:</i> There are some businesses (including farms) along Victoria Street<br><br>Businesses are generally well placed back from the road. Due to the suburban character of the area, the effects will be minimal (see Southwest-Victoria Street businesses). | <i>Ranked First:</i> There are no existing business areas.                                                                                                                                          |
|                                                | Potential for impact on planned land uses                                            | <i>Ranked First:</i> Alternatives 1, 2, 3 and 5 all provide additional capacity directly serving the West Whitby Area.                                                                                | <i>Ranked First:</i> Alternatives 1, 2, 3 and 5 all provide additional capacity directly serving the West Whitby Area.                                                                                                                                                                                                           | <i>Ranked First:</i> Alternatives 1, 2, 3 and 5 all provide additional capacity directly serving the West Whitby Area.                                                                                                                                           | <i>Ranked Fifth:</i> This alternative is considered less supportive of the West Whitby development as it is south of highway 401 outside of the West Whitby area.                                                                                                         | <i>Ranked First:</i> Alternatives 1, 2, 3 and 5 all provide additional capacity directly serving the West Whitby Area.                                                                              |
| <b>Summary of Economic Environment Ranking</b> |                                                                                      | <b>Ranked First</b>                                                                                                                                                                                   | <b>Ranked Fourth</b>                                                                                                                                                                                                                                                                                                             | <b>Ranked Fifth</b>                                                                                                                                                                                                                                              | <b>Ranked Third</b>                                                                                                                                                                                                                                                       | <b>Ranked First</b>                                                                                                                                                                                 |

**TABLE G.4 Detailed Evaluation of Sub-area: South West Whitby**

| Criteria    |                               | 1. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) | 2. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) Connect Bonacord Avenue to Manning Road between Cochrane Street and Brock Street (1 lane per direction at a capacity of 550 vplph). Extend Twin Streams Road to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) | 3. Widen Dundas Street by one lane (to 3 lanes per direction) between Audley Road and Cochrane Street and by one lane (to 2 lanes per direction) between Cochrane Street and Brock Street (1000 vplph) | 4. Widen Victoria Street by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. | 5. Widen Rossland Road by one lane (to 3 lanes per direction) between Lake Ridge Road and Brock Street. Extend Bonacord Avenue to Lake Ridge Road (1 lane per direction at a capacity of 700 vplph) |                                       |
|-------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| <i>Cost</i> | <i>Estimated capital cost</i> | <b>Net Construction Cost</b>                                                                                                                                                                          | <i>Ranked Fourth:</i> ~\$32 Million                                                                                                                                                                                                                                                                                              | <i>Ranked First:</i> ~\$17 Million                                                                                                                                                                     | <i>Ranked Second:</i> ~ \$22 Million                                                                      | <i>Ranked Second:</i> ~ \$19 Million                                                                                                                                                                | <i>Ranked Fourth:</i> ~\$32.5 Million |

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## 2.2 East Central Whitby

### *Identification of Alternatives and Preliminary Assessment*

This area consists of Sub-Area 3 East Whitby and Sub-Area 5 Central Whitby. Based on the results of the 2031 demand forecasting model for the p.m. peak hour, the areas of volume to capacity deficiency include:

- Screenline 9 northbound (north of Taunton Road between Cochrane Street and Garrard Road)
- Screenline 10 southbound (south of Taunton Road between Cochrane Street and Garrard Road)
- The capacity deficiency is concentrated in the area east of Baldwin Street and west of Thickson Road.

In developing the screenline capacity alternatives within the area, the following was considered:

- The screenlines are deficient by at least two lanes of capacity in each direction
- The screenlines shows a higher demand for travel east of Garden Street than on Baldwin/Brock Street and Cochrane Street.
- There is a high demand for southbound travel; however, there is no capacity deficiency on a new screenline developed “North of Rossland Road” (southbound direction) indicating that a number of trips are destined to the residential area between Taunton Road and Rossland Road. Some additional capacity on this screenline also exists on collector/local roads that intersect with Taunton Road.
- The Garden Street link north of Taunton Road is a four lane arterial and is at capacity during the 2031 base case. Extending the link north directly to Baldwin Street may not resolve capacity deficiencies on the screenline – this model result is not unexpected given the constraining capacity connecting to Baldwin Street.
- Extending Garden Street north may require to be connected to an east-west facility to obtain maximum network utilization and efficiencies by providing a new link to redistribute travel patterns within area, thereby providing more localized improvements and service options. The capacity and benefit of a Garden Street extension will be governed by the capacity of its connection.

The following alternatives were considered as potential solutions to the above noted deficiencies and were evaluated in the 2031 demand forecasting model to assess whether the additional lane capacity would solve the screenline deficiencies.

1. Widen Brock/Baldwin Street by from 4 to 6 lanes between the 407 East Transportation Corridor and just south of Taunton Road. Widen Thickson Road from 4 to 6 lanes between the 407 East Transportation Corridor and just south of Taunton Road.
2. Widen Thickson Road from 4 to 6 lanes between the 407 East Transportation Corridor and just south of Taunton Road. Widen Anderson Street from 2 to 4 lanes between the 407 East Transportation Corridor and south of Taunton Road.
3. Widen Thickson Road from 4 to 6 lanes between the 407 East Transportation Corridor and Taunton Road. Widen Anderson Street from 2 to 4 lanes between the 407 East Transportation Corridor and south of Taunton Road. Widen Garden Street from 2 to 4 lanes between Taunton Road and south of Taunton Road.

4. Widen Brock/Baldwin Street from 4 to 6 lanes between the 407 East Transportation Corridor and Taunton Road. Widen Anderson Street by from 2 to 4 lanes between the 407 East Transportation Corridor and south of Taunton Road. Widen Garden Street from 2 to 4 lanes between Taunton Road and south of Taunton Road.
5. Widen Thickson Road from 4 to 6 lanes between the 407 East Transportation Corridor and just south of Taunton Road.
6. Widen Anderson Street from 2 to 4 lanes between the 407 East Transportation Corridor and just south of Taunton Road.
7. Widen Brock/Baldwin Street from 4 to 6 lanes between the 407 East Transportation Corridor and just south of Taunton Road.
8. Extend Garden Street (4 lanes) from existing terminus north of Taunton Road to Baldwin Street. Widen Garden Street by from 2 to 4 lanes between Taunton Road and just south of Taunton Road. Widen Baldwin Street from 4 to 6 lanes between Garden Street connection and the 407 East Transportation Corridor.
9. Widen Brock/Baldwin Street from 4 to 6 lanes between the 407 East Transportation Corridor and just south of Taunton Road. Extend Garden Street (4 lanes) from existing terminus north of Taunton Road to Baldwin Street. Widen Garden Street from 2 to 4 lanes between Taunton Road and just south of Taunton Road.

Based on the results from the demand forecasting model, Alternatives 5 through 9 did not result in stand alone solutions to solve the screenline capacity problems. A more detailed review was undertaken on the remaining alternatives to better understand opportunities that they would present and to assist in further developing the recommended transportation plan.

While Alternatives 5 to 9 were not ruled out as individual improvement choices in the development of the transportation plan for their respective Sub-Area to address network connectivity and local service and capacity needs, the remaining alternatives were carried forward to a more detailed assessment to better understand the integrated opportunities that they would present and to assist in refining the screenline solutions and implementation timing.

In addition, even with a widening of Garden Street south of Taunton Road, capacity deficiencies exist on the screenline and further local improvements and/or methods to reduce auto trips to Taunton Road and adjacent commercial zone may be required to mitigate in the longer term impacts. The following in this regard should also be noted:

- There is additional capacity on this screenline with a number of collector/local roads providing access to the local neighbourhoods. A number of trips also appear to be destined to destinations between Taunton Road and Rossland Road and would likely use this capacity. This may create “traffic infiltration” concerns.
- The entire screenline from Lake Ridge Road and Garrard Street will operate at a good level of service which presents further diversion opportunities and/or “traffic infiltration” concerns.
- The addition of Coronation Road will add capacity to this screenline providing new opportunities in the network for rebalancing of trips and the level of service.

*Evaluation of Alternatives*

Provided in **Table G.5** is a summary of the relative ranking of alternatives for the five criteria groups with ranking from first (preferred) to fourth (least preferred) being noted. More detailed evaluation information is contained within **Table G.6**

**Table G.5 – Evaluation Ranking Summary –East Central Whitby**

|                        | <b>Alternative 1:<br/>Widen<br/>Brock/Baldwin<br/>and Thickson</b> | <b>Alternative 2:<br/>Widen Thickson<br/>and Anderson</b> | <b>Alternative 3:<br/>Widen Thickson,<br/>Anderson and<br/>Garden</b> | <b>Alternative 4:<br/>Widen Brock/<br/>Baldwin,<br/>Anderson and<br/>Garden</b> |
|------------------------|--------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Transportation Service | 2                                                                  | 3                                                         | 3                                                                     | 1                                                                               |
| Natural Environment    | 2                                                                  | 3                                                         | 3                                                                     | 1                                                                               |
| Social Environment     | 1                                                                  | 3                                                         | 3                                                                     | 2                                                                               |
| Economic Environment   | 1                                                                  | 1                                                         | 1                                                                     | 1                                                                               |
| Cost                   | 1                                                                  | 1                                                         | 1                                                                     | 1                                                                               |
|                        |                                                                    |                                                           |                                                                       | <b>Preferred<br/>Alternative</b>                                                |

\*Where alternatives are ranked the same level (i.e. Alternative 2 and Alternative 3 are ranked 3<sup>rd</sup> for Transportation Service) the rankings will skip the next rank (i.e. two rankings of 3<sup>rd</sup> will result in no 4<sup>th</sup> ranked alternative).

The evaluation indicates that Alternatives 2 and 3 are less preferred than Alternatives 1 and 4. Thus, Alternatives 1 and 4 were carried forward for further consideration, specifically in regard to the environment as the rankings for economic and cost are equal for all each of the alternatives evaluated.

**Overall Ranking:** It is difficult to trade off the potential impacts on the natural and social environments for these two alternatives and it is noted that the impacts are likely minor in both cases. However, with the transportation benefits that Alternative 4 provides, it is identified as preferred overall for the Taunton Screenline Sub-Area. The rationale for this conclusion is noted below:

Compared to Alternative 1:

- The combination of Brock/Baldwin Street, Anderson Street and Garden Street (Alternative 4) is preferred for two of the three criteria groups - transportation service and natural environment:
- Alternative 4 provides better connectivity for transit within Whitby. The widening of Brock/Baldwin Streets provides an opportunity to develop a semi-exclusive transit lane on the regionally identified major transit corridor. The widening of Anderson Street can complete a four lane cross section between the 407 East Transportation Corridor and Dundas Street (currently two lanes just south of Winchester Road and Glen Dhu Court). This could potentially increase transit reliability on the corridor (creating passing lanes) and reduce the number of ‘pinch points’ in the network. The widening of Thickson Road to a six lane cross section may not improve alternative modes of travel and is not consistent with the four lane cross section to the north and south of this widening.

- Alternative 4 also has less impact on the natural environment as the combination of roads involved cross fewer metres of significant natural areas (approximately 1,950 metres for Alternative 1 compared to approximately 1,350 metres for Alternative 4) and one fewer watercourse.
- Alternative 1 is preferred over Alternative 4 for the social environment. Alternative 4 involves approximately 7-10 residences with direct access on Anderson Street south of Taunton Road which are relatively close to the road (approximately 5-10 m) compared to Alternative 1 which has only 1 residence with direct access.

TABLE G.6 Detailed Evaluation of Sub-area: East Central Whitby

| Criteria              |                                                  | 1. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road.                                  | 2. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road. | 3. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road. | 4. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road. |
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| <i>Transportation</i> | <i>Change in level of transportation service</i> | <p><b>Composite volume to capacity ratio at screenlines from model</b></p> <p><i>Ranked Equally:</i><br/>                     All options provide the same general level of service.</p> <p>North of Taunton Road Screenline NB – v/c = 0.86<br/>                     South of Taunton Road Screenline SB – v/c = 0.99</p> | <p><i>Ranked Equally:</i><br/>                     All options provide the same general level of service.</p> <p>North of Taunton Road Screenline NB – v/c = 0.85<br/>                     South of Taunton Road Screenline SB – v/c = 0.96</p>                                 | <p><i>Ranked Equally:</i><br/>                     All options provide the same general level of service.</p> <p>North of Taunton Road Screenline NB – v/c = 0.85<br/>                     South of Taunton Road Screenline SB – v/c = 1.05</p>                                                                                                                                     | <p><i>Ranked Equally:</i><br/>                     All options provide the same general level of service.</p> <p>North of Taunton Road Screenline NB – v/c = 0.86.<br/>                     South of Taunton Road Screenline SB – v/c = 1.01</p>                                                                                                                                           |

TABLE G.6 Detailed Evaluation of Sub-area: East Central Whitby

| Criteria                                                               |                                                                                                                | 1. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Thicksen Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2. Widen Thicksen Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 3. Widen Thicksen Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 4. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| Transportation Service<br>Supportiveness of other transportation modes | <b>Qualitative assessment of supportiveness of other transportation modes (e.g. walking, cycling, transit)</b> | <p><b>Ranked Second:</b> The widening of Thicksen Road to 6 lanes could accommodate HOV lanes, Rapid Transit, etc, however the widening may discourage pedestrian activity.</p> <p>Baldwin/Brock Street has been identified by Durham major transit corridor. The widening of Baldwin/Brock Street provides an opportunity to use the lane as a semi/fully exclusive transit lane, giving transit priority.</p> <p>There seems to be adequate ROW for a cycling lane to be built in conjunction with the widening.</p> <p>Notes:<br/>                     Durham Region Transit Route 305 runs along Thicksen Road for a portion of the corridor between Rossland Road and Taunton Road connecting Durham College (Whitby) and the Whitby GO Station with the neighbourhoods in eastern Whitby. Durham Region Transit Route 302 runs along Brock Street from the Whitby GO Station to Brooklin.</p> <p>GO Transit also provides service along Brock Street between the Whitby GO Station and Brooklin as part of its Port Perry GO Bus service.</p> <p>Thicksen Road has been identified as a minor transit corridor, therefore no plans for exclusive or semi-exclusive ROW. Brock Street is identified as a major transit which could lead to a semi/fully exclusive transit lane.</p> | <p><b>Ranked Third:</b> The widening of Thicksen Road to 6 lanes could accommodate HOV lanes, Rapid Transit, etc, however the widening may discourage pedestrian activity.</p> <p>Widening Anderson Street to 4 lanes would likely improve reliability and or speed of transit service, however, the low density character along the corridor would likely not see significant improvements in level of transit service or ridership. There seems to be adequate ROW for a cycling lane to be built in conjunction with the widening.</p> <p>Notes:<br/>                     Durham Region Transit Route 305 runs along Thicksen Road for a portion of the corridor between Rossland Road and Taunton Road connecting Durham College (Whitby) and the Whitby GO Station with the neighbourhoods in eastern Whitby. Durham Region Transit Route 304 runs along Anderson Street for the majority of the corridor between Consumers Drive and Taunton Road connecting the Whitby GO Station with the communities along Anderson Street.</p> <p>Thicksen Road is identified as a minor transit corridor in the Durham Transportation Master Plan, therefore no plans for exclusive or semi-exclusive ROW.</p> | <p><b>Ranked Third:</b> The widening of Thicksen Road to 6 lanes could accommodate HOV lanes, Rapid Transit, etc, however the widening may discourage pedestrian activity.</p> <p>Widening Anderson Street (north of Taunton Road) and Garden Street (south of Taunton Road) to 4 lanes would likely improve reliability and or speed of transit service, however, the low density character along the corridor would likely not see significant improvements in level of transit service or ridership. There seems to be adequate ROW for a cycling lane to be built in conjunction with the widening.</p> <p>Notes:<br/>                     Durham Region Transit Route 305 runs along Thicksen Road for a portion of the corridor between Rossland Road and Taunton Road connecting Durham College (Whitby) and the Whitby GO Station with the neighbourhoods in eastern Whitby. Durham Region Transit Route 304 runs along Anderson Street for the majority of the corridor between Consumers Drive and Taunton Road connecting the Whitby GO Station with the communities along Anderson Street. Durham Region Transit Route 303 runs along Garden Street from Burns Street to just north of Taunton Road connecting the Whitby GO Station to the communities along Garden Street.</p> <p>Thicksen Road is identified as a minor transit corridor in the Durham Transportation Master Plan, therefore no plans for exclusive or semi-exclusive ROW.</p> | <p><b>Ranked First:</b> Baldwin/Brock Street has been identified by Durham major transit corridor. The widening of Baldwin/Brock Street provides an opportunity to use the lane as a semi-exclusive transit lane, giving transit priority.</p> <p>The lack of development restrictions with ROW widening along Baldwin Street provide separated bike lane opportunities.</p> <p>Widening Anderson Street (north of Taunton Road) and Garden Street (south of Taunton Road) to 4 lanes would likely improve reliability and or speed of transit service, however, the low density character along the corridor would likely not see significant improvements in level of transit service or ridership. There seems to be adequate ROW for a cycling lane to be built in conjunction with the widening.</p> <p>Notes:<br/>                     Durham Region Transit Route 302 runs along Brock Street from the Whitby GO Station to Brooklin. Durham Region Transit Route 304 runs along Anderson Street for the majority of the corridor between Consumers Drive and Taunton Road connecting the Whitby GO Station with the communities along Anderson Street. Durham Region Transit Route 303 runs along Garden Street from Burns Street to just north of Taunton Road connecting the Whitby GO Station to the communities along Garden Street.</p> <p>GO Transit also provides service along Brock Street between the Whitby GO Station and Brooklin as part of its Port Perry GO Bus service.</p> <p>Brock Street is identified as a major transit corridor in the Durham Transportation Master Plan, which could lead to a semi-exclusive transit lane.</p> |
|                                                                        | <b>Existing / Planned Transit</b>                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| <b>Connectivity/continuity</b>                                         |                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| <b>Pedestrian/ Cycling Environment</b>                                 |                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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TABLE G.6 Detailed Evaluation of Sub-area: East Central Whitby

| Criteria                                            |                                              | 1. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road.                                                                                                                                                                                                                                                                                                | 2. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road.                                                                                                                                                                                                                    | 3. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road.                                                                                                                                                                                                                                                                                     | 4. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road.                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <i>Efficiency of use of existing infrastructure</i> | <b>Use of transportation system capacity</b> | <p><b>Ranked Third:</b> These widened facilities will improve inter-regional movement within the Region and make effective use of the north-south corridors. The model output identified that this widening will be effectively utilized on Thickson Road (both screenlines), however, Baldwin/Brock Street is not fully utilized with the widening.</p> <p>Both roads are high capacity north-south arterials. Brock Street runs through Downtown Whitby and Brooklin and therefore getting from one end of Whitby to the other could take longer than on other parallel corridors.</p> | <p><b>Ranked Fourth:</b> The widening of Thickson Road will improve inter-regional movement within the Region and make effective use of the north-south capacity. The widening of Anderson Street will not make full use of capacity north of Taunton Road, however, will make full use of capacity (according to the model) south of Taunton Road. The widening of Anderson Street also completes a 4 lane cross section between Winchester Road to the north and Rossland Road to the south.</p> | <p><b>Ranked First:</b> The widening of Thickson Road will improve inter-regional movement within the Region and make effective use of the north-south capacity. The widening of Anderson Street will not make full use of capacity north of Taunton Road, however, will make full use of capacity (according to the model) south of Taunton Road. The widening of Anderson Street also completes a 4 lane cross section between Winchester Road to the north and Rossland Road to the south.</p> <p>The widening of Garden Street south of Taunton Road also completes a 4 lane cross section between Taunton Road to the north and Dryden Boulevard to the south.</p> | <p><b>Ranked Second:</b> The widening of Baldwin/Brock Street will improve inter-regional movement within the Region and make effective use of the north-south capacity. However, the model output identified that this widening will not be effectively utilized on Baldwin/Brock Street. The widening of Anderson Street will not make full use of capacity north of Taunton Road, however, will make full use of capacity (according to the model) south of Taunton Road. The widening of Anderson Street also completes a 4 lane cross section between Winchester Road to the north and Rossland Road to the south. The widening of Garden Street south of Taunton Road also completes a 4 lane cross section between Taunton Road to the north and Dryden Boulevard to the south.</p> |

TABLE G.6 Detailed Evaluation of Sub-area: East Central Whitby

| Criteria                                 |                                                                                         | 1. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road.                                                                                                                                                                                                                                           | 2. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road.                                                                                                                                                                                                                                                                                                                            | 3. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| Network Connectivity                     | Connectivity of the network to adjacent municipalities and other transportation systems | <p><b>Ranked First:</b> Brock/ Baldwin Street extends through the whole Town and beyond up to Lake Simcoe. Thickson Road connects to Baldwin Street north of Brooklin. They are the two primary north-south routes through the Region and also provide connections to the 407 East Transportation Corridor and Highway 401 via interchanges.</p> <p>Downtown Whitby and Brooklin are considered points of congestion and Brock/ Baldwin Street widening between the two downtowns may increase overall travel on this corridor.</p> | <p><b>Ranked Second:</b> Thickson Road connects to Baldwin Street north of Brooklin. It is one of the primary north-south routes through the Region and also provides connections to the 407 East Transportation Corridor and Highway 401 via interchanges.</p> <p>Anderson Street extends through the urban portion of Whitby to Brooklin in the north and currently terminates just north of Highway 401 in the south. The Region’s Official Plan identifies an Anderson Street/Hopkins Street overpass of Highway 401. It is not connected to Highway 401 or the 407 East Transportation Corridor .</p> | <p><b>Ranked Second:</b> Thickson Road connects to Baldwin Street north of Brooklin. It is one of the primary north-south routes through the Region and also provides connections to the 407 East Transportation Corridor and Highway 401 via interchanges.</p> <p>Anderson Street extends through the urban portion of Whitby to Brooklin in the north and currently terminates just north of Highway 401 in the south. The Region’s Official Plan identifies an Anderson Street/Hopkins Street overpass of Highway 401 It is not connected to Highway 401 or the 407 East Transportation Corridor.</p> <p>Garden Street extends through the urban portion of Whitby and terminates roughly at Highway 401 in the south and at Baldwin Street (just south of the 407 East Transportation Corridor) in the north. It is not connected to Highway 401 or the 407 East Transportation Corridor. However, Baldwin Street is connected to the 407 East Transportation Corridor via a proposed interchange.</p> | <p><b>Ranked Second:</b> Brock/ Baldwin Street runs through the whole Town and beyond up to Lake Simcoe. Downtown Whitby and Brooklin are considered points of congestion and Brock/ Baldwin Street widening between the two downtowns may increase overall travel on this corridor.</p> <p>Anderson Street extends through the urban portion of Whitby to Brooklin in the north and currently terminates just north of Highway 401 in the south. The Region’s Official Plan identifies an Anderson Street/Hopkins Street overpass of Highway 401 It is not connected to Highway 401 or the 407 East Transportation Corridor.</p> <p>Garden Street runs through the urban portion of Whitby and terminates roughly at Highway 401 in the south and at Baldwin Street (just south of the 407 East Transportation Corridor) in the north. It is not connected to Highway 401 or the 407 East Transportation Corridor. However, Baldwin Street is connected to the 407 East Transportation Corridor via a proposed interchange.</p> |
|                                          | The accommodation of access                                                             | <p><b>Ability to access residential, commercial, industrial and institutional property.</b></p> <p><b>Ranked Second:</b> Some access issues may need to be resolved between Conlin Road and Taunton Road along Thickson Road.</p> <p>Signalization may need to be implemented at a few intersections along Brock/ Baldwin Street.</p>                                                                                                                                                                                               | <p><b>Ranked First:</b> Some access issues may need to be resolved between Conlin Road and Taunton Road along Thickson Road.</p> <p>Some access issues may need to be resolved at Anderson Street and Taunton Road (NW corner at Sinclair Secondary School) with signals.</p>                                                                                                                                                                                                                                                                                                                              | <p><b>Ranked Fourth:</b> Some access issues may need to be resolved between Conlin Road and Taunton Road along Thickson Road.</p> <p>Some access issues may need to be resolved at Anderson Street and Taunton Road (NW corner at Sinclair Secondary School) with signals.</p> <p>Signalized intersection would likely need to be put in at Robert Attersley Drive on Garden Street.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p><b>Ranked Third:</b> Signalization may need to be implemented at a few intersections along Brock/ Baldwin Street.</p> <p>Some access issues may need to be resolved at Anderson Street and Taunton Road (NW corner at Sinclair Secondary School) with signals.</p> <p>Signalized intersection would likely need to be put in at Robert Attersley Drive on Garden Street.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Summary of Transportation Ranking</b> |                                                                                         | <b>Ranked Third</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Ranked First</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Ranked Third</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Ranked Fifth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

TABLE G.6 Detailed Evaluation of Sub-area: East Central Whitby

| Criteria                                      |                                              | 1. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road.  | 2. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road.                                                                                         | 3. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road.                        | 4. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road. |
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| Natural Environment                           | Potential for impact on terrestrial features | <p><b>Length of corridor through protected environmental areas (e.g. provincially significant wetland, ANSI, Greenbelt, ESA, wooded area)</b></p> <p><b>Qualitative assessment of potential for impact (e.g. recognizing difference in impact between a new corridor and widening)</b></p> | <p><b>Ranked Second:</b> Approximately 250m of the road would cross ESA and another 200m crosses wooded areas.</p> <p>Approximately 1500m of the road would cross wooded areas, 450m of which crosses ESA and provincially significant wetlands.</p> <p>It is noted that as this is an existing road, the impact is expected to be less than new road construction.</p> | <p><b>Ranked Third:</b> Approximately 1500m of the road would cross wooded areas, 450m of which crosses ESA and provincially significant wetlands.</p> <p>Approximately 900m of the road would cross wooded areas and ESA which includes 200m of provincially significant wetlands.</p> <p>It is noted that as this is an existing road, the impact is expected to be less than new road construction.</p> | <p><b>Ranked Third:</b> Approximately 1500m of the road would cross wooded areas, 450m of which crosses ESA and provincially significant wetlands.</p> <p>Approximately 900m of the road would cross wooded areas which includes 200m of provincially significant wetlands and ~500m of ESA.</p> <p>Garden Street does not cross any natural environmental features.</p>                   |
|                                               | Potential for impact on aquatic features     | <p><b>Number and type of watercourse crossings</b></p>                                                                                                                                                                                                                                     | <p><b>Ranked Second:</b> This alternative crosses 4 watercourses (3 tributaries of Pringle Creek and 1 tributary of Lynde Creek). There is a potential for the road to cross 3 locations identified with aquatic species at risk.</p>                                                                                                                                   | <p><b>Ranked Third:</b> This alternative crosses 5 watercourses (all tributaries of Pringle Creek, 2 of which identified with aquatic species at risk).</p>                                                                                                                                                                                                                                                | <p><b>Ranked First:</b> This alternative crosses 3 watercourses (2 tributaries of Pringle Creek, and one tributary of Lynde Creek), all locations identified with aquatic species at risk.</p>                                                                                                                                                                                             |
|                                               | Potential for impact on rare species         | <p><b>Potential for improvement to impact known rare species</b></p>                                                                                                                                                                                                                       | <p><b>Ranked Equally:</b> All alternatives cross streams with identified aquatic species at risk.</p>                                                                                                                                                                                                                                                                   | <p><b>Ranked Equally:</b> All alternatives cross streams with identified aquatic species at risk.</p>                                                                                                                                                                                                                                                                                                      | <p><b>Ranked Equally:</b> All alternatives cross streams with identified aquatic species at risk.</p>                                                                                                                                                                                                                                                                                      |
| <b>Summary of Natural Environment Ranking</b> |                                              | <b>Ranked Second</b>                                                                                                                                                                                                                                                                       | <b>Ranked Third</b>                                                                                                                                                                                                                                                                                                                                                     | <b>Ranked Third</b>                                                                                                                                                                                                                                                                                                                                                                                        | <b>Ranked First</b>                                                                                                                                                                                                                                                                                                                                                                        |

TABLE G.6 Detailed Evaluation of Sub-area: East Central Whitby

| Criteria           |                                                                                                   | 1. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road.                                                                                                                                                                                                                                                                                                                                               | 3. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road.                                                                                                                                                                                                                                                                                                                                                                                                                              | 4. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road.                                                                                                                                                                                                                                                                                                                                                                      |
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| Social Environment | Potential for impact on residences                                                                | <p><b>Number of residential properties potentially impacted</b></p> <p><b>Qualitative assessment of potential for impact (including consideration of proximity to road, frontage, etc.)</b></p> <p><i>Ranked First:</i> This alternative has the potential to impact approximately 15-20 residences:<br/>                     There are approximately 15-20 residences north of Taunton Road with direct driveway access to Brock/Baldwin may be affected by the lane extension.</p> <p>There is one residence near the intersection of Taunton Road with direct driveway access to Thickson Road that is ~10-20 away from the road. It is likely that the residence can be avoided through road alignment.</p> <p>The impact of lane widening on residential subdivision section will be minimal as the residences all back on to the road and there is no driveway access to Thickson Road.</p> | <p><i>Ranked Second:</i> This alternative has the potential to impact 18-25 residences:<br/>                     There is one residence north of Taunton Road with direct driveway access to Thickson Road that is ~10-20 away from the road. It is likely that the residence can be avoided through road alignment.</p> <p>There are approximately 10-15 houses with direct access to Anderson north of Taunton Road. There are approximately 7-10 residences south of Taunton Road with direct driveway access to Anderson Street that are between 5-15m away from the road that may be affected by the lane extension.</p> | <p><i>Ranked Second:</i> This alternative has the potential to impact 18-25 residences:<br/>                     There is one residence north of Taunton Road with direct driveway access to Thickson Road that is ~10-20 away from the road. It is likely that the residence can be avoided through road alignment.</p> <p>There are approximately 10-15 houses with direct access to Anderson north of Taunton Road. There are approximately 7-10 residences south of Taunton Road with direct driveway access to Anderson Street that are between 5-15m away from the road that may be affected by the lane extension.</p> <p>The impact of lane extension on residential subdivision section will be minimal as the residences all back on to the road and there is no driveway access to Garden Street.</p> | <p><i>Ranked Fourth:</i> This alternative has the potential to impact 30-45 residences:<br/>                     There are approximately 15-20 residences north of Taunton Road with direct driveway access to Brock/Baldwin may be affected by the lane extension.</p> <p>There are approximately 10-15 houses with direct access to Anderson north of Taunton Road. There are approximately 7-10 residences south of Taunton Road with direct driveway access to Anderson Street that are between 5-15m away from the road that may be affected by the lane extension.</p> <p>The impact of lane extension on residential subdivision section will be minimal as the residences all back on to the road and there is no driveway access to Garden Street.</p> |
|                    | Potential for impact to community features                                                        | <p><b>Institutional features (i.e. schools, hospitals, etc)</b></p> <p><i>Ranked First:</i> This alternative will result in increased traffic volume around one school situated near Baldwin Street just north of Taunton Road.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p><i>Ranked First:</i> This alternative will result in increased traffic volume around one institution (Region of Durham EMS located at 4040 Anderson Street).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p><i>Ranked First:</i> This alternative will result in increased traffic volume around one institution (Region of Durham EMS located at 4040 Anderson Street).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p><i>Ranked Fourth:</i> This alternative will result in increased traffic volume around one school situated near Baldwin Street just north of Taunton Road and one institution (Region of Durham EMS located at 4040 Anderson Street).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                    | <p><b>Presence of major recreational/community features (including municipal park spaces)</b></p> | <p><i>Ranked Third:</i> Approximately 200m of the existing road crosses through Lyndebrook Golf Club.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p><i>Ranked First:</i> There appears to be no major recreational/community features in this area.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p><i>Ranked First:</i> There seem to be no major recreational/community features in this area.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p><i>Ranked Third:</i> Approximately 200m of the existing road crosses through Lyndebrook Golf Club.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

TABLE G.6 Detailed Evaluation of Sub-area: East Central Whitby

| Criteria                                       |                                                                       | 1. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road.                                                                                                                                                                                                                                                                                                                                                              | 3. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road.                                                                                                                                                                                                                                                                                                                                           | 4. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road.                                                                                                                                                  |
|------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Potential impact on community character</i> | <b>Potential for modification to result in a barrier to community</b> | <i>Ranked Equally:</i> None of the road improvements result in a road width uncharacteristic of an urban/suburban area. It is not anticipated that any of the alternatives will create a barrier within the community.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <i>Ranked Equally:</i> None of the road improvements result in a road width uncharacteristic of an urban/suburban area. It is not anticipated that any of the alternatives will create a barrier within the community.                                                                                                                                                                                                                                                                                                                                                                                                                       | <i>Ranked Equally:</i> None of the road improvements result in a road width uncharacteristic of an urban/suburban area. It is not anticipated that any of the alternatives will create a barrier within the community.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <i>Ranked Equally:</i> None of the road improvements result in a road width uncharacteristic of an urban/suburban area. It is not anticipated that any of the alternatives will create a barrier within the community.                                                                                                                                                                                                                                                                                                                      |
|                                                | <b>Summary of Social Environment Ranking</b>                          | <b>Ranked First</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Ranked First</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Ranked First</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Ranked Fourth</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <i>Economic Environment</i>                    | <b>Potential for impact on businesses</b>                             | <i>Ranked Equally:</i> Limited impact to businesses is expected as businesses are generally well removed from the road. Businesses on the roads associated with this alternative include: <ul style="list-style-type: none"> <li>Commercial businesses at the intersection of Brock/Baldwin Street and Taunton Road</li> <li>Commercial businesses at Thickson Road and Taunton Road</li> <li>Construction businesses (Miller Paving, Hard-Co) on Thickson Road</li> </ul> The northern section of Thickson Road just south of the 407 East Transportation Corridor is designated as future employment area. The rural sections of Anderson Street between Winchester Road and Lyndbrook Road are designated as future employment areas. | <i>Ranked Equally:</i> Limited impact to businesses is expected as businesses are generally well removed from the road. Businesses on the roads associated with this alternative include: <ul style="list-style-type: none"> <li>Commercial businesses at Thickson Road and Taunton Road</li> <li>Construction businesses (Miller Paving, Hard-Co) on Thickson Road</li> </ul> The northern section of Thickson Road just south of the 407 East Transportation Corridor is designated as future employment area. The rural sections of Anderson Street between Winchester Road and Lyndbrook Road are designated as future employment areas. | <i>Ranked Equally:</i> Limited impact to businesses is expected as businesses are generally well removed from the road. Businesses on the roads associated with this alternative include: <ul style="list-style-type: none"> <li>Commercial businesses at Thickson Road and Taunton Road</li> <li>Construction businesses (Miller Paving, Hard-Co) on Thickson Road</li> <li>The southeast quadrant of Garden Street and Taunton Road is commercial.</li> </ul> The northern section of Thickson Road just south of the 407 East Transportation Corridor is designated as future employment area. The rural sections of Anderson Street between Winchester Road and Lyndbrook Road are designated as future employment areas. | <i>Ranked Equally:</i> Limited impact to businesses is expected as businesses are generally well removed from the road. Businesses on the roads associated with this alternative include: <ul style="list-style-type: none"> <li>Commercial businesses at the intersection of Brock/Baldwin Street and Taunton Road</li> <li>The southeast quadrant of Garden Street and Taunton Road is commercial.</li> </ul> The rural sections of Anderson Street between Winchester Road and Lyndbrook Road are designated as future employment areas. |
|                                                | <b>Potential for impact on planned land uses</b>                      | <i>Ranked Equally:</i> The alternatives are all similar in their potential to service the future employment lands south of Brooklin.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <i>Ranked Equally:</i> The alternatives are all similar in their potential to service the future employment lands south of Brooklin.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <i>Ranked Equally:</i> The alternatives are all similar in their potential to service the future employment lands south of Brooklin.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <i>Ranked Equally:</i> The alternatives are all similar in their potential to service the future employment lands south of Brooklin.                                                                                                                                                                                                                                                                                                                                                                                                        |

**TABLE G.6 Detailed Evaluation of Sub-area: East Central Whitby**

| Criteria                                       |                               | 1. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road. | 2. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and just south of Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road. | 3. Widen Thickson Road by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road. | 4. Widen Brock/Baldwin Street by 1 lane (to 3 lanes per direction) between the 407 East Transportation Corridor and Taunton Road; and Widen Anderson Street by 1 lane (to 2 lanes per direction) between the 407 East Transportation Corridor and south of Taunton Road; and Widen Garden Street by 1 lane (to 2 lanes per direction) between Taunton Road and just south of Taunton Road. |                                       |
|------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| <i>Summary of Economic Environment Ranking</i> |                               | <i>All Equal</i>                                                                                                                                                                                                                                                                          | <i>All Equal</i>                                                                                                                                                                                                                                                                | <i>All Equal</i>                                                                                                                                                                                                                                                                                                                                                                    | <i>All Equal</i>                                                                                                                                                                                                                                                                                                                                                                           |                                       |
| <i>Cost</i>                                    | <i>Estimated capital cost</i> | <b>Net Construction Cost</b>                                                                                                                                                                                                                                                              | <i>Ranked Equally: ~\$40 Million</i>                                                                                                                                                                                                                                            | <i>Ranked Equally: ~ \$38 Million</i>                                                                                                                                                                                                                                                                                                                                               | <i>Ranked Equally: ~ \$38 Million</i>                                                                                                                                                                                                                                                                                                                                                      | <i>Ranked Equally: ~ \$39 Million</i> |

## 2.3 North Central Whitby

### *Identification of Alternatives and Preliminary Assessment*

This area consists of Sub-Area 5 Central Whitby and part of Sub-Area 6 North Whitby (Brooklin). Based on the results of the 2031 demand forecasting model for the p.m. peak hour, the areas of volume to capacity deficiency include:

1. Screenline east of Brock Street (eastbound) between Winchester Road and Taunton Road
2. Screenline west of Brock Street (eastbound) between Winchester Road and Taunton Road

The following alternatives were considered as potential solutions to the above noted deficiencies and were evaluated in the 2031 demand forecasting model to assess whether the additional lane capacity would solve the screenline deficiencies:

1. Widen Winchester Road from 2 to 4 lanes between Baldwin Street and Thickson Road.
2. Extend Conlin Road (2 lanes) between Anderson Street and Ashburn Road.
3. Construct a new mid-block east-west arterial between Conlin Road and the 407 East Transportation Corridor from Garrard Road to Ashburn Road.
4. Widen Taunton Road by one lane (to 3 lanes per direction) between Brock Street and Thickson Road.

These alternatives were evaluated in the transportation model and identified to solve the capacity deficiency at the screenline and carried forward to a more detailed assessment to better understand the integrated opportunities that they would present and to assist in refining the solutions and implementation timing.

### *Evaluation of Alternatives*

Provided in **Table G.7** is a summary of the relative ranking of alternatives for the five criteria groups with ranking from first (preferred) to fourth (least preferred) being noted. More detailed evaluation information is contained within **Table G.8**

#### Overall Ranking:

Based on the findings of the evaluation and since a new road is likely required to service east-west travel through development in this area, it has been concluded that Alternative 3, the provision of a Mid-block arterial (approximately midway between Conlin Road and the 407 East Transportation Corridor) from Thickson Road to Ashburn Road is considered the preferred solution to resolving the projected 2031 screenline deficiency for East Central Whitby. While a widening of Taunton Road (to 6 lanes) may create an oversupply within the 2031 time horizon; it may be required at a future point.

Compared to Alternative 2:

- Alternative 2 and Alternative 3 are equal from the perspective of their potential to impact the Natural, Social, and Economic Environments.
- Alternative 2 is considered preferred over Alternative 3 for transportation service primarily due to the fact that it connects Whitby to the east on an existing roadway (Conlin Road) whereas

Alternative 3 connects Whitby to the east via the mid-block which is included in the Durham Official Plan but not yet committed to or build.

**Table G.7 – Evaluation Ranking Summary –Central North Whitby**

|                        | <b>Alternative 1:<br/>Widen<br/>Winchester Rd</b> | <b>Alternative 2:<br/>Extend Conlin<br/>Rd</b> | <b>Alternative 3:<br/>Extend mid-<br/>block arterial</b> | <b>Alternative 4.:<br/>Widening<br/>Taunton Rd</b> |
|------------------------|---------------------------------------------------|------------------------------------------------|----------------------------------------------------------|----------------------------------------------------|
| Transportation Service | 3                                                 | 2                                              | 3                                                        | 1                                                  |
| Natural Environment    | 2                                                 | 3                                              | 3                                                        | 1                                                  |
| Social Environment     | 4                                                 | 1                                              | 1                                                        | 3                                                  |
| Economic Environment   | 3                                                 | 1                                              | 1                                                        | 3                                                  |
| Cost                   | 2                                                 | 4                                              | 1                                                        | 2                                                  |
|                        |                                                   |                                                | <b>Preferred<br/>Alternative</b>                         |                                                    |

\*Where alternatives are ranked the same level (i.e. Alternative 1 and Alternative 3 are ranked 3<sup>rd</sup> for Transportation Service) the rankings will skip the next rank (i.e. two rankings of 3<sup>rd</sup> will result in no 4<sup>th</sup> ranked alternative).

- Alternative 2 involves a greater cost (approximately \$17 M for Alternative 2 compared to approximately \$8 for Alternative 3).
- There is uncertainty of connectivity to the east provided by Alternative 2 (Conlin Road) due to the Heber Down Conservation Area conflicts. Thus Alternative 3 is considered preferred over Alternative 2.

Compared to Alternative 4:

- Alternative 3 and Alternative 4 are equal from the perspective of cost. Each of the Alternatives is preferred for two of the remaining four criteria groups. Alternative 3 is preferred for Social and Economic Environment and Alternative 4 is preferred for Natural Environment and Transportation Service. Thus, if all criteria groups are considered equal either of these two alternatives could be preferred. It is noted that to provide appropriate access to planned development of the area it is likely that a road would be constructed at the same location as the proposed mid-block arterial. This would essentially result in the impacts to the environment (natural, social and economic) identified for both Alternatives 3 and 4. Thus, it was considered appropriate to identify Alternative 3 as the preferred alternative overall.
- In recognition of the significant costs and environmental considerations in undeveloped area bounded by Conlin Road and Winchester Road, a detailed analysis of alternative alignments was undertaken by Town staff. The evaluation considered functional alignments, environmental impacts, cost analysis and transportation servicing considerations. The results of this analysis verified the identified that the mid arterial was the preferred over Conlin Road for addressing capacity and servicing needs in this area.
- The evaluation also considered various alignment configurations for Garden Street which verified an extension northerly to connect with the mid arterial was the preferred alternative for improvements to Garden Street,
- The extension of the mid arterial also provides the opportunity to extend west of Baldwin Street and provide access service to future 407 East Transportation Corridor amenities and connect into Highway 7.

TABLE G.8 Detailed Evaluation of Sub-area: Central North Whitby

| Criteria               |                                              | 1. Widen Winchester Road by one lane (to 2 lanes per direction) between Baldwin Street and Thickson Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2. Extend Conlin Road between Thickson Road and Ashburn Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3. Extend mid-block arterial (between Conlin Road and the 407 East Transportation Corridor) from Thickson Road to Ashburn Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 4. Widening Taunton Road by one lane (to 3 lanes per direction) between Brock Street and Thickson Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transportation Service | Change in level of transportation service    | <p><b>Ranked Equally:</b><br/>                     All options provide the same general level of service.</p> <p>East of Brock Street Screenline EB – v/c = 0.84</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p><b>Ranked Equally:</b><br/>                     All options provide the same general level of service.</p> <p>East of Brock Street Screenline EB – v/c = 0.87</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p><b>Ranked Equally:</b><br/>                     All options provide the same general level of service.</p> <p>East of Brock Street Screenline EB – v/c = 0.88</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p><b>Ranked Equally:</b><br/>                     All options provide the same general level of service.</p> <p>East of Brock Street Screenline EB – v/c = 0.85</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                        | Supportiveness of other transportation modes | <p><b>Qualitative assessment of supportiveness of other transportation modes (e.g. walking, cycling, transit)</b></p> <p><b>Existing / Planned Transit</b></p> <p><b>Connectivity/continuity</b></p> <p><b>Pedestrian/Cycling Environment</b></p> <p><b>Ranked Fourth:</b> This widening would likely improve reliability and or speed of transit service, however, the low density character along the corridor would likely not see significant improvements in level of transit service or ridership. There is also limited opportunity to support increased walking and cycling with this widening. This is partially due to the limited ROW, which would not facilitate the introduction of bike lanes.</p> <p>Note:<br/>                     Winchester Road is served by Durham Transit Route 302, which connects to the Whitby GO Station via Brock/ Baldwin Street.</p> <p>This section of Winchester Road runs through a stable residential area and parkland. It is fairly pedestrian friendly due to relatively low vehicle speeds and narrow cross section.</p> | <p><b>Ranked Second:</b> The extension of Conlin Road would provide a continuous corridor through a newly developing area (with connections to Oshawa). This would allow transit to expand into this area and potentially increase ridership. Since the corridor is in a greenfield area, there is also the potential to add bicycle lanes and thus influence the attractiveness of cycling.</p> <p>Notes:<br/>                     Conlin Road is served by Durham Region Transit in Oshawa by Regional Route 916 between Simcoe Street and Ritson Road. Extending Conlin Road provides an opportunity to extend transit service into Whitby as the area develops. However, there are limited major destinations along Conlin Road that would attract significant ridership.</p> | <p><b>Ranked Second:</b> The development of a mid-block arterial would provide a continuous corridor through a newly developing area (with connections to Oshawa). This would allow transit to expand into this area and potentially increase ridership. Since the corridor is located centrally to the new development, it has a higher ability to provide access to residents/employment opportunities. Since the corridor is in a greenfield area, there is also the potential to add bicycle lanes and thus influence the attractiveness of cycling.</p> <p>Notes:<br/>                     There is no existing transit service on this corridor.</p> | <p><b>Ranked First:</b> The widening of this section of Taunton Road provides an opportunity to improve the level of service on this regional transit corridor. The corridor has been identified by Durham Region and Metrolinx as a future rapid transit corridor. This may involve the conversion of a lane to a semi-exclusive transit lane, which would improve speed and reliability of the service and thus increase ridership. While a six-lane cross section would be less pedestrian friendly, there are a number of land uses within proximity of the corridor that would still be able to access this corridor service.</p> <p>With the wide ROW, cycling lanes could also be accommodated to access a number of potential destinations along the corridor</p> <p>Notes:<br/>                     Durham Region Transit Regional Route 915 runs along Taunton Road connecting Durham College/ University of Ontario Institute of Technology with the Ajax and Pickering GO Station. The corridor is identified as part of the Rapid Transit Network in Metrolinx’s 25 year plan, connecting Milliken GO Station to Oshawa and as a major transit corridor in the Durham Transportation Master Plan. There is potential to convert widened facility to a semi-exclusive transit lane.</p> |

TABLE G.8 Detailed Evaluation of Sub-area: Central North Whitby

| Criteria                                     |                                                                                         | 1. Widen Winchester Road by one lane (to 2 lanes per direction) between Baldwin Street and Thickson Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2. Extend Conlin Road between Thickson Road and Ashburn Road.                                                                                                                                                                                                                                                                                                                                                                                                        | 3. Extend mid-block arterial (between Conlin Road and the 407 East Transportation Corridor) from Thickson Road to Ashburn Road.                                                                                                                                                                                                                                                                            | 4. Widening Taunton Road by one lane (to 3 lanes per direction) between Brock Street and Thickson Road.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Efficiency of use of existing infrastructure | Use of transportation system capacity                                                   | <p><b>Ranked Fourth:</b> The widened road is not anticipated to be effectively utilized.</p> <p>Widening to four lanes would improve overall flow (i.e. create passing lanes), however, the additional traffic lane will be on a lower capacity corridor (700 vplph) due to the ROW constraints (residential frontage along much of the corridor with driveway access). The model output identifies that the widened facility will not be fully utilized (v/c = 0.54 on Winchester Road east of Brock Street).</p> <p>The opening of the 407 East Transportation Corridor immediately south of this corridor will also reduce the demand on Hwy 7 / Winchester Road as a major east-west corridor.</p> | <p><b>Ranked Third:</b> This extended facility should make effective use of existing and new capacity. The existing road (east of Thickson Road) is a low capacity (500 vplph) corridor.</p> <p>The extension will better utilize existing capacity on Conlin Road in Oshawa and effectively service the developing area. The model output identified that this extended facility will be effectively utilized (v/c = 0.84 on Conlin Road east of Brock Street).</p> | <p><b>Ranked Second:</b> This new facility should effectively service local and interregional traffic in this developing area. Its location just south of the 407 East Transportation Corridor extension provides a parallel arterial to accommodate local traffic. The model output identified that this new facility will be effectively utilized (v/c = 0.80 on mid-arterial east of Brock Street).</p> | <p><b>Ranked First:</b> This widened facility will improve interregional movement within the Region and make effective use of this east-west corridor. The corridor is already 6 lanes west of Brock Street and the widening simply extends this cross section. The model output identified that this widening will be effectively utilized (v/c = 0.78 on Taunton Road east of Brock Street). While it provides a lower utilization than the other options, the lane capacity is higher (900vplph) and carries a higher volume of vehicles.</p> |
|                                              | Connectivity of the network to adjacent municipalities and other transportation systems | <p><b>Ranked Second:</b> Road improvement occurs on a major east-west corridor running from Toronto through Whitby to Oshawa. The widening would also reduce the pinch-point through Brooklin.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p><b>Ranked Third:</b> Provides an extension of an existing east-west road, including connections into Clarington. Environmental constraints may prevent this road from extending further westerly.</p>                                                                                                                                                                                                                                                             | <p><b>Ranked Fourth:</b> The Durham Official Plan identifies this corridor extending east into Oshawa, however, the corridors has not been committed. Environmental constraints may prevent this road from extending further westerly.</p>                                                                                                                                                                 | <p><b>Ranked First:</b> Road improvement occurs on a major east-west corridor Connecting the Region of Durham with the City of Toronto and the Region of York.</p>                                                                                                                                                                                                                                                                                                                                                                               |
|                                              | Ability to access residential, commercial, industrial and institutional property        | <p><b>Ranked Third:</b> The widening will have limited impact on access. There is a sparse residential area with front vehicle access onto Winchester Road, however this should not impact access or slow through volumes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p><b>Ranked First:</b> There is no impact on access. This area is undeveloped with no indication of access onto this road. Future development access can be controlled as necessary.</p>                                                                                                                                                                                                                                                                            | <p><b>Ranked First:</b> There is no impact on access. This area is undeveloped with no indication of access onto this road. The corridor also in a strategic location at the centre of the proposed development, which will improve overall access to the north and south. Future development access can be controlled as necessary.</p>                                                                   | <p><b>Ranked Third:</b> The widening will have limited impact on access, as there are only some institutional and commercial uses along this corridor. It may result in signalization of these points, which would slightly reduce vehicle flow along the corridor.</p>                                                                                                                                                                                                                                                                          |
| <b>Summary of Transportation Ranking</b>     |                                                                                         | <b>Ranked Third</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Ranked Second</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Ranked Third</b>                                                                                                                                                                                                                                                                                                                                                                                        | <b>Ranked First</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

TABLE G.8 Detailed Evaluation of Sub-area: Central North Whitby

| Criteria                                      |                                              | 1. Widen Winchester Road by one lane (to 2 lanes per direction) between Baldwin Street and Thickson Road.                                                       | 2. Extend Conlin Road between Thickson Road and Ashburn Road.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3. Extend mid-block arterial (between Conlin Road and the 407 East Transportation Corridor) from Thickson Road to Ashburn Road.    | 4. Widening Taunton Road by one lane (to 3 lanes per direction) between Brock Street and Thickson Road.                                                                                                        |
|-----------------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Natural Environment                           | Potential for impact on terrestrial features | <b>Ranked First:</b> Approximately 150m of the road would cross wooded areas on both sides but mainly on the south side.                                        | <b>Ranked Third:</b> Approximately 200m of the future road would cross wooded areas and/or ESA. The provincially significant wetlands north of Conlin Road can likely be avoided by changing road alignment. The new corridor will have more impact on the environment compared to widening of an existing corridor. There are ~30m of provincially significant wetlands south of Conlin Road east of Thickson Road that can likely be avoided by changing road alignment. Urbanizing Anderson Street to Thickson Road portion of Conlin Road may have some impacts on the natural environment. | <b>Ranked Third:</b> Approximately 200m of the future road would cross ESA and wooded areas.                                       | <b>Ranked First:</b> There are sporadic wooded areas on both sides of the existing road. There is approximately 250m of ESA on the north. It is likely that road can be aligned to avoid ESA and wooded areas. |
|                                               | Potential for impact on aquatic features     | <b>Ranked Second:</b> The existing road crosses 2 tributaries of Lynde Creek. There is a potential for the road to cross one of the tributaries in 2 locations. | <b>Ranked Second:</b> The future road will cross 2 streams (one tributary of Lynde Creek and one tributary of Pringle Creek). There is a potential for the road to cross Lynde Creek in 2 locations.                                                                                                                                                                                                                                                                                                                                                                                            | <b>Ranked Fourth:</b> The future road will cross 3 streams (Lynde Creek, its tributary as well as one tributary of Pringle Creek). | <b>Ranked First:</b> The existing road is crossing 2 streams (Pringle Creek and its tributary).                                                                                                                |
|                                               | Potential impact on rare species             | <b>Ranked Equally:</b> All alternatives cross streams with identified aquatic species at risk.                                                                  | <b>Ranked Equally:</b> All alternatives cross streams with identified aquatic species at risk.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Ranked Equally:</b> All alternatives cross streams with identified aquatic species at risk.                                     | <b>Ranked Equally:</b> All alternatives cross streams with identified aquatic species at risk.                                                                                                                 |
| <b>Summary of Natural Environment Ranking</b> |                                              | <b>Ranked Second</b>                                                                                                                                            | <b>Ranked Third</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Ranked Third</b>                                                                                                                | <b>Ranked First</b>                                                                                                                                                                                            |

TABLE G.8 Detailed Evaluation of Sub-area: Central North Whitby

| Criteria                                     |                                                   | 1. Widen Winchester Road by one lane (to 2 lanes per direction) between Baldwin Street and Thickson Road.                                                                                       | 2. Extend Conlin Road between Thickson Road and Ashburn Road.                                                                                                                                                                                                                | 3. Extend mid-block arterial (between Conlin Road and the 407 East Transportation Corridor) from Thickson Road to Ashburn Road.                                                                                               | 4. Widening Taunton Road by one lane (to 3 lanes per direction) between Brock Street and Thickson Road.                                                                                                                       |                                                                                                                                                                                                                                                                                          |
|----------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Social Environment</b>                    | <b>Potential for impact on residences</b>         | <p><b>Number of residential properties potentially impacted</b></p> <p><b>Qualitative assessment of potential for impact (including consideration of proximity to road, frontage, etc.)</b></p> | <p><b>Ranked Fourth:</b> There are approximately 20 homes with direct access to Winchester Road on the north and 5 on the south.</p> <p>Homes on the north are approximately 5-10m<sup>1</sup> away from the road, compared to homes on the south which are 10-20m away.</p> | <p><b>Ranked Second:</b> There are approximately 3-4 residences near the future road.</p> <p>It is likely that the residences can be avoided through road alignment.</p>                                                      | <p><b>Ranked Second:</b> There appear to be 2-3 residences .</p> <p>Residences can be avoided through road alignment.</p>                                                                                                     | <p><b>Ranked First:</b> There are approximately 4 residential subdivisions on the south side.</p> <p>However, the impact of the lane extension on residences will be minimal as the residences all back on to the road and there is no driveway access to Taunton Road.</p>              |
|                                              | <b>Potential for impact to community features</b> | <p><b>Institutional features (i.e. schools, hospitals, etc)</b></p>                                                                                                                             | <p><b>Ranked Third:</b> This alternative will result in widening of an existing road that passes one school near St. Thomas street on the south side; therefore, the traffic volume may increase around this area.</p>                                                       | <p><b>Ranked First:</b> There are no institutional features.</p>                                                                                                                                                              | <p><b>Ranked First:</b> There are no institutional features.</p>                                                                                                                                                              | <p><b>Ranked Fourth:</b> This alternative will result in widening of an existing road that passes three schools north of Taunton Road; one at the intersection of McKinney Drive and two at Anderson Street. This alternative may result in increased traffic volume around schools.</p> |
|                                              | <b>Potential for impact to community features</b> | <p><b>Presence of major recreational/community features (including municipal park spaces)</b></p>                                                                                               | <p><b>Ranked Third:</b> Approximately 200m of the existing road crosses through Brooklin Memorial Park on the south side.</p>                                                                                                                                                | <p><b>Ranked First:</b> There are no recreational/community features on this new corridor.</p>                                                                                                                                | <p><b>Ranked First:</b> There seem to be no recreational/community features on this new corridor.</p>                                                                                                                         | <p><b>Ranked Fourth:</b> Approximately 320m of the future road would cross through Resurrection Cemetery on the south.</p>                                                                                                                                                               |
|                                              | <b>Potential impact on community character</b>    | <p><b>Potential for modification to result in a barrier to community</b></p>                                                                                                                    | <p><b>Ranked Equally:</b> None of the road improvements result in a road width uncharacteristic of an urban/suburban area. It is not anticipated that any of the alternatives will create a barrier within the community.</p>                                                | <p><b>Ranked Equally:</b> None of the road improvements result in a road width uncharacteristic of an urban/suburban area. It is not anticipated that any of the alternatives will create a barrier within the community.</p> | <p><b>Ranked Equally:</b> None of the road improvements result in a road width uncharacteristic of an urban/suburban area. It is not anticipated that any of the alternatives will create a barrier within the community.</p> | <p><b>Ranked Equally:</b> None of the road improvements result in a road width uncharacteristic of an urban/suburban area. It is not anticipated that any of the alternatives will create a barrier within the community.</p>                                                            |
| <b>Summary of Social Environment Ranking</b> |                                                   | <b>Ranked Fourth</b>                                                                                                                                                                            | <b>Ranked First</b>                                                                                                                                                                                                                                                          | <b>Ranked First</b>                                                                                                                                                                                                           | <b>Ranked Third</b>                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                          |

<sup>1</sup> General assumption is that one lane has a footprint of approximately 5m.

TABLE G.8 Detailed Evaluation of Sub-area: Central North Whitby

| Criteria                                       |                                           | 1. Widen Winchester Road by one lane (to 2 lanes per direction) between Baldwin Street and Thickson Road.                                                                                                                 | 2. Extend Conlin Road between Thickson Road and Ashburn Road.                                                                                                                                                                                                                                                          | 3. Extend mid-block arterial (between Conlin Road and the 407 East Transportation Corridor) from Thickson Road to Ashburn Road. | 4. Widening Taunton Road by one lane (to 3 lanes per direction) between Brock Street and Thickson Road.     |
|------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Economic Environment                           | Potential for impact on businesses        | <p><b>Length of corridor through employment area/mixed use area</b></p> <p><b>Qualitative assessment of potential for impact (including consideration of proximity to road; potential access impacts or benefits)</b></p> | <p><b>Ranked Third:</b> Approximately 550m of the existing road crosses through employment areas primarily on the south side including some mixed use areas on both sides.</p> <p>Businesses are generally well placed back from the road. Due to the suburban character of the area, the effects will be minimal.</p> | <p><b>Ranked First:</b> There are no existing businesses in this area.</p>                                                      | <p><b>Ranked First:</b> There are no existing businesses in this area.</p>                                  |
|                                                | Potential for impact on planned land uses | <p><b>Presence of major municipal land use initiatives</b></p>                                                                                                                                                            | <p><b>Ranked Third:</b> Alternatives 1 and 4 are less preferred than alternatives 2 and 3 from the perspective of their ability to serve the local needs of the future employment lands.</p>                                                                                                                           | <p><b>Ranked First:</b> Alternatives 2 and 3 better serve the future employment lands south of Brooklin</p>                     | <p><b>Ranked First:</b> Alternatives 2 and 3 better serve the future employment lands south of Brooklin</p> |
| <b>Summary of Economic Environment Ranking</b> |                                           | <b>Ranked Third</b>                                                                                                                                                                                                       | <b>Ranked First</b>                                                                                                                                                                                                                                                                                                    | <b>Ranked First</b>                                                                                                             | <b>Ranked Third</b>                                                                                         |
| Cost                                           | Estimated Capital cost                    | <p><b>Net Construction cost</b></p>                                                                                                                                                                                       | <p><b>Ranked First:</b> ~\$7 Million</p>                                                                                                                                                                                                                                                                               | <p><b>Ranked Fourth:</b> ~\$17 Million</p>                                                                                      | <p><b>Ranked First:</b> ~\$8 Million</p>                                                                    |
|                                                |                                           |                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                        |                                                                                                                                 | <p><b>Ranked Second:</b> ~\$12 Million</p>                                                                  |

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### 3 SUMMARY OF EVALUATION AND 2031 MODEL RESULTS

Based on the assessment and comparative evaluation work as described in the previous sections of this report, the following road improvements were identified as best satisfying the 2031 demand forecasting model screenline deficiencies within the Town.

It is important to note that other network improvements may be warranted to address network connectivity requirements, local transportation issues and Sub-Area servicing and capacity needs.

1. Widen Rossland Road from 4 to 6 lanes between Lake Ridge Road and Brock Street.
2. Extend Bonacord Avenue at 2 lanes from its current terminus to Lake Ridge Road.
3. New mid-block arterial road at 2 lanes south of the planned 407 East Transportation Corridor between Thickson Road and Ashburn Road.
4. Widen Baldwin Street to 6 lanes between the 407 East Transportation Corridor and Taunton Road.
5. Widen Anderson Street to 4 lanes between the 407 East Transportation Corridor and Glen Dhu Court.
6. Widen Garden Street to 4 lanes between Taunton Road and Dryden Boulevard.
7. Extend Coronation Road from Taunton Road through the West Whitby Secondary Planning Area to Dundas Street.

The above noted preferred road plan is shown on **Exhibit G.4**. With each of these improvements, the exact limits of the road widenings/extensions would need to be determined through Phase 3 and 4 of the Class EA Process. The updated screenline deficiencies with the road improvements in place are presented below in **Table G.9**.

**Table G.9 – 2031 Screenline Deficiencies**

|                                                                                                        | 2031 Modelled Capacity | 2031 Modelled Volume | v/c  |
|--------------------------------------------------------------------------------------------------------|------------------------|----------------------|------|
| <b>Critical Lakeshore Whitby/South Whitby/West Whitby East-West Screenlines</b>                        |                        |                      |      |
| Screenline #1 (East of Lake Ridge Road) between Taunton Road and Victoria Street – Eastbound direction | 18,400                 | 16,199               | 0.88 |
| Screenline #2 (West of Brock Street) between Taunton Road and Victoria Street – Eastbound direction    | 16,900                 | 14,740               | 0.87 |
| <b>Critical Central Whitby East-West Screenlines</b>                                                   |                        |                      |      |
| Screenline #3 (East of Brock Street) between Winchester Road and Taunton Road – Eastbound direction    | 6,800                  | 6,074                | 0.89 |
| <b>Critical Central Whitby/East Whitby North-South Screenlines</b>                                     |                        |                      |      |
| Screenline #9 (North of Taunton Road) between Cochrane Street and Garrard Road – Northbound direction  | 7,400                  | 6,909                | 0.93 |
| Screenline #10 (South of Taunton Road) between Cochrane Street and Garrard Road – Southbound direction | 6,850                  | 6,570                | 0.96 |

Shown on **Exhibit G.5** are the 2031 screenline volume to capacity results with the preferred road solutions that have been identified to resolve the 2031 screenline deficiencies.

With the above improvements in place, it is expected that the screenline deficiencies will be resolved. The exception is the Screenline #9 and #10 for north-south traffic at Taunton Road. The transportation solution proposes two additional travel lanes added to this Sub-Area, however, the model run still indicates a slight deficiency.

Instead of identifying alternatives with a third lane of capacity added, it was determined that two lanes of additional capacity are sufficient for the following reasons:

1. Other Sub-Area transportation network solutions can be developed to assist in resolving/mitigating the capacity deficiency.
2. There is additional capacity on this screenline with a number of collector roads providing access to the local neighbourhoods south of Taunton Road. A number of trips also appear to be destined to destinations between Taunton Road and Rossland Road and would likely use this capacity.
3. The entire screenline (from Lake Ridge Road and Garrard Street) will operate at a good level of service, and some demand may be diverted to the west (where there is additional capacity), or to the east (in Oshawa).

To resolve this localized congestion issue, it is recommended that TSM solutions are implemented to help mitigate the problem and the area is regularly monitored.