

Regional Municipality of York

# Appendix 4A

## Changes in Criteria / Indicators from the *Alternatives to the Undertaking Stage to the Alternative Methods of Carrying out the Undertaking Stage*

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## Changes in Criteria / Indicators from the *Alternatives to the Undertaking Stage* to the *Alternative Methods of Carrying out the Undertaking Stage*

Final Criteria / Indicators for Alternatives to the Undertaking Stage <sup>1</sup>	Proposed Criteria / Indicators for Alternative Methods of Carrying out the Undertaking Stage	Rationale for Change from Draft Criteria / Indicators
<b>1. Transportation</b>		
<b>1.1. Potential effects on road transportation capacity within the Study Area in 2031</b> 1.1.1. Peak hour volume-to-capacity performance on arterial roads within the Study Area in 2031.	<b>1.1 Potential for Achieving Appropriate Design Standards</b> 1.1.1 Horizontal and vertical curves that meet appropriate design standards (Transportation Association of Canada's Geometric Design Guide for Canadian Roads, 1999). 1.1.2 Grades that meet appropriate design standards (Transportation Association of Canada's Geometric Design Guide for Canadian Roads, 1999).	1.1 There is no difference between alternatives with regard to effects on road transportation capacity. Therefore, the criterion and indicators were changed to reflect the ability to achieve appropriate design standards (Transportation Association of Canada's Geometric Design Guide for Canadian Roads, 1999) which are in place to ensure safety (see 1.4 below).
<b>1.2. Potential effects on transportation system efficiency within the Study Area in 2031</b> 1.2.1. Travel time to, from and within the Study Area for the AM peak hours in 2031. 1.2.2. Trip length to, from and within the Study Area for the AM peak hours in 2031. 1.2.3. <i>Total out-of-way travel (in vehicle-kilometres) for road and transit trips.</i> 1.2.4. <i>The number of major signalized intersections within the Study Area, which after being optimized with respect to configuration and operation would, nonetheless, be unable to achieve volume-to-capacity performance standards in the horizon year.</i>	<b>1.2 Potential for Providing Adequate Space to Meet the Needs of All Users of the Road Right-of-way in a Safe and Efficient Manner</b> 1.2.1 Number and width of through vehicular lanes that meet York Region's Road Design Guidelines. 1.2.2 Exclusive turn lanes and width of lanes at intersections that meet York Region's Road Design Guidelines. 1.2.3 HOV lanes that meet York Region's Road Design Guidelines 1.2.4 Cycling lanes that meet York Region's Road Design Guidelines. 1.2.5 Provision of sidewalks that meet York Region's Road Design Guidelines.	1.2 There is no difference between alternatives with regard to effects on transportation system efficiency. Therefore, the criterion and indicators were changed to reflect the ability to meet the needs of all road users through achieving York Region's Road Design Guidelines which are in place to ensure safety (see 1.4 below).
<b>1.3. Potential Effects on public transit, cycling and pedestrians</b> 1.3.1. Public transit usage for originating and destined travel in 2031. 1.3.2. Consistency with the public transit related objectives of the Regional Transportation Master Plan and with the Vaughan Pedestrian and Cycling Master Plan. 1.3.3. <i>Change in the number of dwelling units and businesses within 300 metres of transit services.</i> 1.3.4. <i>Change in transit access time to planned rapid transit service in the Highway 7 corridor.</i>	<b>1.3 Potential for Maintaining or Providing Appropriate Road Network Connections and Vehicular Accesses to Adjacent Land Uses</b> 1.3.1 Provision of municipal road connections. 1.3.2 Provision of private road and driveway connections.	1.3 Effects on public transit, cycling and pedestrians are addressed in indicators 1.2.3 to 1.2.5, respectively; the new criterion and indicators address changes in access resulting from the alignments.
<b>1.4. Potential effects on public safety</b> 1.4.1. Number of collisions within the Study Area in 2031. 1.4.2. Change in emergency services response times within the Study Area by 2031. 1.4.3. <i>The number of existing complex or unusual road design elements that will be subjected to significantly increased traffic volumes for the horizon year and the number of additional complex or unusual road design elements in the Study Area.</i>		1.4 Effects on public safety are addressed in criteria 1.1 and 1.2, which deal with Regional design standards.
<b>1.5. Potential approval requirements</b> 1.5.1. Local/regional approval and permit requirements. 1.5.2. Provincial approval and permit requirements. 1.5.3. Federal approval and permit requirements.		1.5 There is no difference between alternatives with regard to approval requirements. Therefore, the criterion and associated indicators were not considered further.
<b>2. Natural Environment</b>		
<b>2.1. Potential Effects on the Aquatic Environment</b> 2.1.1. Effects on aquatic habitats and functions. 2.1.2. Effects on wetland habitats and functions. 2.1.3. Effects on aquatic species at risk (according to COSSARO and COSEWIC), including endangered, concern/rare species and provincially rare species (S1-S3 NHIC). 2.1.4. Changes to surface water quality (increased pollutants) and quantity (flood levels and erosion).	<b>2.1 No Change</b> 2.1.1. Effects on sensitive or critical aquatic habitats and functions. 2.1.2. Effects on fish species at risk (according to COSSARO and COSEWIC), including endangered, threatened and special concern/rare species, provincially rare (S1-S3 NHIC). 2.1.3. Changes to surface water quality (increased pollutants) and quantity (flood levels and erosion).	<b>2.1 No rationale necessary</b> 2.1.1 The focus on "sensitive or critical" aquatic habitats and functions is intended to reflect the possibility of a harmful alteration, disruption, or destruction (HADD) of fish habitat. 2.1.2 Effects on wetland habitats and functions are addressed in 2.2.5 (see below). 2.1.3 "Effects on species at risk" has been renumbered as 2.1.2 and renamed to include "threatened and special concern" species. 2.1.4 "Effects on surface water quality" has been renumbered as 2.1.3.

1. *Italicized indicators were originally identified in the ToR and were not included in the Alternatives to the Undertaking stage. These indicators were deferred to the Alternative Methods stage.*

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<p><b>2.2. Potential Effects on the Terrestrial Environment</b></p> <p>2.2.1. Effects on wildlife habitats / forest cover.</p> <p>2.2.2. Effects on terrestrial species at risk (according to COSSARO and COSEWIC), including endangered, threatened and special concern/rare species, provincially rare (S1-S3 NHIC) and locally significant sensitive species (according to MNRs Significant Wildlife Habitat Manual).</p> <p>2.2.3. Effects on ANSIs, ESAs, or PSWs.</p> <p>2.2.4. <i>Indirect loss of wildlife habitats and functions through noise, dust, spray, air quality, etc.</i></p> <p>2.2.5. <i>Wildlife-vehicle accidents.</i></p> <p>2.2.6. <i>Effect of invasive plant species on vegetation communities.</i></p> <p>2.2.7. <i>Effects on biodiversity.</i></p>	<p><b>2.2 No Change</b></p> <p>2.2.1. No change.</p> <p>2.2.2. No change.</p> <p>2.2.3. No change.</p> <p>2.2.4. Indirect loss of wildlife habitats and functions through spray, etc.</p> <p>2.2.5. Effects on wetland habitats and functions.</p>	<p><b>2.2 No rationale necessary</b></p> <p>2.2.1 No rationale necessary.</p> <p>2.2.2 No rationale necessary.</p> <p>2.2.3 No rationale necessary.</p> <p>2.2.4 No rationale necessary.</p> <p>2.2.5 There is no difference between alternatives with regard to the likelihood of wildlife-vehicle accidents. Opportunities to minimize these accidents will be considered during preliminary design of the Preferred Undertaking.</p> <p>2.2.6 The effects of invasive plant species on vegetation communities is not attributable to the alternatives being considered, and was therefore not included in the assessment of the alternatives.</p> <p>2.2.7 Effects on biodiversity are being addressed indirectly through the assessment of effects on the Aquatic and Terrestrial Environments (2.1 and 2.2).</p>
<p><b>2.3. Potential Effects on Groundwater</b></p> <p>2.3.1. Effects on groundwater recharge areas.</p> <p>2.3.2. Effects on groundwater discharge areas.</p> <p>2.3.3. Effects on water supply and groundwater quantity in shallow wells.</p> <p>2.3.4. Changes to groundwater quality.</p>	<p><b>2.3 No Change</b></p> <p>2.3.1. Effects on water supply and groundwater quantity in shallow wells.</p>	<p><b>2.3 No rationale necessary</b></p> <p>2.3.1 Effects on groundwater recharge areas are not known given the lack of detail in the Alternative Methods stage regarding potential structures (i.e., bridges and grade separations) and the need for dewatering; the assessment of effects on groundwater recharge areas is therefore deferred until the Effects Assessment of the Preferred Undertaking stage.</p> <p>2.3.2 Effects on groundwater discharge areas are not known for the same reason identified in 2.3.1, and the assessment of effects on groundwater discharge areas is therefore deferred until the Effects Assessment of the Preferred Undertaking stage.</p> <p>2.3.3 "Effects on water supply and groundwater quantity in shallow wells" has been renumbered as 2.3.1.</p> <p>2.3.4 Changes to groundwater quality are not known for the same reason identified in 2.3.1, and the assessment of changes in groundwater quality is therefore deferred until the Effects Assessment of the Preferred Undertaking stage.</p>
<p><b>2.4. Potential effects on the broader regional Natural Heritage System</b></p> <p>2.4.1. Effects on ecological connectivity, within and outside of the Study Area.</p> <p>2.4.2. Effects on Natural Heritage System or open space.</p> <p>2.4.3. <i>Effects on habitat patch quality (i.e., size/shape).</i></p> <p>2.4.4. <i>Effects on the distribution of species and vegetation communities of concern within and outside of the Study Area.</i></p>	<p><b>2.4 No Change</b></p> <p>2.4.1. No change.</p>	<p><b>2.4 No rationale necessary</b></p> <p>2.4.1 No rationale necessary.</p> <p>2.4.2 Effects on the Natural Heritage System or open space are addressed in the discussion of effects on the Terrestrial Environment (2.2) and 2.4.1.</p> <p>2.4.3 Effects on habitat patch quality are addressed in the discussion of effects on the Terrestrial Environment (2.2).</p> <p>2.4.4 Effects on the distribution of species and vegetation communities of concern are addressed in 2.2.2.</p>
<p><b>3. Socio-Economic Environment</b></p>		
<p><b>3.1. Potential effects on existing land uses/resources</b></p> <p>3.1.1. Disturbance to residential communities, businesses, institutions, and/or recreational/community facilities.</p> <p>3.1.2. Disturbance to individual residences outside of residential communities.</p> <p>3.1.3. Loss of / disturbance to open space land uses.</p> <p>3.1.4. Loss of Class 1, 2, and 3 agricultural soils.</p> <p>3.1.5. Changes to noise levels.</p> <p>3.1.6. Changes to air quality.</p> <p>3.1.7. <i>Through traffic infiltration via local roads.</i></p> <p>3.1.8. <i>Disruption of infrastructure/services including rail lines and pipelines.</i></p> <p>3.1.9. <i>Encroachment upon waste disposal sites and contaminated property.</i></p>	<p><b>3.1 Potential effects on existing Land Uses/Resources</b></p> <p>3.1.1 No change.</p> <p>3.1.2 Loss of / disturbance to open space land uses.</p> <p>3.1.3 Loss of Class 1 to Class 3 Agricultural Soils.</p> <p>3.1.4 Disturbance to residential areas and sensitive institutional uses due to traffic.</p> <p>3.1.5 Through traffic infiltration via local roads.</p> <p>3.1.6 Encroachment upon waste disposal sites and contaminated property.</p>	<p><b>3.1 No rationale necessary</b></p> <p>3.1.1 No rationale necessary.</p> <p>3.1.2 Disturbance to individual residences are addressed as part of 3.1.1.</p> <p>3.1.3 "Loss of / disturbance to open space land uses" has been renumbered as 3.1.2.</p> <p>3.1.4 "Loss of Class 1, 2, &amp; 3 Agricultural Soils" has been renumbered as 3.1.3 and renamed to "Loss of Class 1 to Class 3 Agricultural Soils".</p> <p>3.1.5 Changes to noise levels are reflected in the indicator on "Disturbance to residential areas and sensitive institutional uses due to traffic".</p> <p>3.1.6 Changes in air quality are addressed in 3.3.</p> <p>3.1.7 Through traffic infiltration via local roads has been renumbered as 3.1.5.</p> <p>3.1.8 There is no difference between alternatives with regard to disruption of infrastructure / services. Therefore, this indicator was not included in the assessment of alternatives.</p> <p>3.1.9 Encroachment upon waste disposal sites and contaminated property has been renumbered as 3.1.6.</p>

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<b>3.2. Potential effects on approved/proposed land uses</b> 3.2.1. Effects on approved/proposed development plans.	<b>3.2 Potential effects on Approved/Proposed Land Uses</b> 3.2.1. Effects on approved/draft approved development plans.	<b>3.2 No rationale necessary</b> 3.2.1 No rationale necessary.
<b>3.3. Potential for conforming with approved local, regional and provincial plans and policies (City and Regional Official Plans, PPS, Growth Plan, Greenbelt Plan)</b> 3.3.1. Conformance with local plans and/or policies. 3.3.2. Conformance with regional plans and/or policies. 3.3.3. Conformance with provincial plans and/or policies.	<b>3.3 Potential Effects on Air Quality</b> 3.3.1. Effects of traffic congestion on regional air quality and greenhouse gas emissions. 3.3.2. Effects of change in local air quality on sensitive receptors	3.3 There is no difference between alternatives with regard to potential for conforming to plans and policies. Therefore, the criterion and indicators were not included in the assessment of alternatives.
<b>3.4. Potential effects on existing community character and sustainability</b> 3.4.1. Change in the perception of the community as a place to live, work or do business.		3.4 There is no difference between alternatives with regard to potential effects on existing community character and sustainability. Therefore, the criterion and indicator were not included in the assessment of alternatives.
		3.5 Renumbered from 3.1.6 to expand upon potential changes to air quality.
<b>4. Cultural Environment</b>		
<b>4.1. Potential effects on archaeological resources</b> 4.1.1. Loss or disturbance of known archaeological sites. 4.1.2. Loss or disturbance of lands with potential for archaeological sites.	<b>4.1 Potential Effects on Archaeological Resources</b> 4.1.1 No change. 4.1.2 No change.	<b>4.1 No rationale necessary</b> 4.1.1 No rationale necessary. 4.1.2 No rationale necessary.
<b>4.2. Potential effects on cultural/heritage resources</b> 4.2.1. Disturbance or removal of built heritage features. 4.2.2. Disturbance or removal of cultural landscape units. 4.2.3. Disturbance or removal of cemeteries.	<b>4.2 Potential effects on Cultural/Heritage Resources</b> 4.2.1 No change. 4.2.2 No change. 4.2.3 No change.	<b>4.2 No rationale necessary</b> 4.2.1 No rationale necessary. 4.2.2 No rationale necessary. 4.2.3 No rationale necessary.
<b>5. Cost/ Financial</b>		
<b>5.1. Potential implementation costs</b> 5.1.1. Capital costs. 5.1.2. Land acquisition costs. 5.1.3. Annual operating and maintenance costs.	<b>5.1 Potential Implementation Costs</b> 5.1.1 No change.	<b>5.1 No rationale necessary</b> 5.1.1 No rationale necessary. 5.1.2 This indicator is already captured under Socio-economic considerations. 5.1.3 There is no difference between alternatives at the operation and maintenance cost level. Therefore, the criterion and indicator were not included in the assessment of alternatives.