Appendix N

SUMMARY OF EVALUATION OF ALTERNATIVE DESIGNS

EVALUATION OF ALTERNATIVE DESIGNS

Interchange Way

Factor / Indicator	Alternative Design - Do Nothing	Interchange Way Alternative Design - Option 1	Interchange Way Alternative Design - Option 2	Interchange Way Alternative Design - Option 3
Natural Environment				
1. Vegetation and Natural Heritage Features	No impacts/changes. 	Will impact a small number of street trees as well as a small section of forested area east of Jane Street – a young Cultural Woodlot dominated by Crack Willow with evidence of disturbance. Will also impact a small portion of a mineral meadow marsh displaying some tree snags and fallen logs/wind throw. There is no significant difference between options 1, 2 and 3.		
2. Wildlife and Species of Concern ○ Impacts to wildlife habitats and movement corridors.	No impacts/changes. 	No impact to movement corridors - no large sections of natural habitat that would support wildlife outside of typical urban adjusted small mammals such as squirrels, skunks and raccoons. May require a small number of tree removals that support bat day roosting habitat and woodpecker cavity trees in the marsh feature. There is no significant difference between options 1, 2 and 3.		
3. Watercourses ○ Impacts to watercourses, fish and fish habitat, including the Black Creek	No impacts/changes. 	Will require the realignment of Black Creek which supports fish use and ground water inputs east of Jane Street. The watercourse will be realigned by others (Black Creek Renewal Project) and will be completed independent of the proposed works to Interchange Way. . There is no significant difference between options 1, 2 and 3.		
4. Groundwater	No impacts/changes. 	Temporary construction period ground water dewatering will be required. There is no significant difference between options 1, 2 and 3. 		
5. Stormwater Management ○ Impacts to stormwater run-off (water quantity)	No impacts/changes. 	Minimal increase in imperviousness/stormwater runoff. There is no significant difference between options 1, 2 and 3.		
6. Air Quality & Greenhouse Gas Emissions ○ Impacts to local sustainability and greenhouse gases. ○ Impacts to air quality through exhaust and dust	Operational -Air emissions (Air pollutants and Greenhouse Gases) are expected to increase with expected population growth in the area; more vehicles on the road. - Do Nothing Scenario could see gradual increase in idling vehicles over time (resulting in an increase in air emissions) due to congested traffic on the existing	Operational -Roadway improvements are unlikely to increase air emissions any more than would be anticipated with population growth -The closest (existing) residential receptors is the condominium development currently under construction at 55 Interchange Way. In all three options, a new intersection will be introduced immediately opposite this development, which would likely increase air quality concentrations at this location but there is no significant change in impact predicted between options 1-3. During Construction -Construction activities will lead to combined effects of construction emissions plus existing vehicle traffic emissions. -Potential road closure/detours during construction increases emissions in the vicinity of the construction zone.		

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	surrounding roadways as population (and vehicles) increase. During Construction -No change option, no construction, no combined effects air emission impact. 	There is no significant difference between options 1, 2 and 3. 		
7. Potentially Contaminated Lands	No impacts/changes. 	Based on the result from the Contaminant Overview Study, there are further Phase Two ESAs to be completed for all options, to characterize soil and groundwater conditions that may impact soil management and disposal, dewatering and other aspects related to options. There is no significant difference between options 1, 2 and 3. 		
8. Floodplain	No impacts/changes. 	No impacts to floodplain considering ultimate plan. Black Creek re-alignment is being done under a separate study. If Interchange Way works are completed ahead of the BCR, interim measures will need to be implemented to reduce the likelihood of impacts to the floodplain. Assuming interim measures are implemented, there is no significant difference between options 1,2 and 3. 		
Evaluation	 ✓ **Preferred**			
Summary	**Do nothing option is preferred from a natural environment perspective** since it does not have any additional environmental impacts, although this option could see a gradual increase in idling vehicles over time (resulting in an increase in air emissions) due to congested traffic on the existing surrounding roadways as population (and vehicles) increase. Options 1,2,3 are equally preferred. There are no environmental impacts between the three options that would make one more acceptable over another.			
Socio-Economic Environment				
1. Property ○ Property requirements ○ Property access - impacts to private driveways and maintaining access are also important as changes to access will impact properties being	No impacts to property. 	Option 1 has a greater impact to the properties to the north of the alignment east of Jane Street. The total amount of property requirement is 28,125 m^2 	Option 2 has smaller impacts to properties to the north and south of the alignment, than options 1 and 3, east of Jane Street. The total amount of property requirement is 28,189 m^2 	Option 3 has a greater impact to the properties to the south of the alignment east of Jane Street. The total amount of property requirement is 28,278 m^2 

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affected and potentially adjacent properties.				
2. Noise and Nuisance ○ Impacts to Noise Sensitive Areas (NSAs)	There are no NSAs located within 500 m of the study area as the entire area is primarily industrial land uses (and any new residential development will be subject to carrying out their own noise impact study as part of development application). 			
3. Compliance with Federal, Provincial, Regional and City Policies and Guidelines	Not able to accommodate intensification of land uses per Federal, Provincial, Regional and City Policies and Guidelines. 	Enables redevelopment for additional housing and jobs in VMC. There is no significant difference between options 1, 2 and 3. 		
4. Ability to Provide Streetscape Amenities and Landscape Elements	No opportunity for Streetscape Amenities, Planted Boulevards, Low-Impact-Development (LID) Measures, Hardscape Features or Interchange Way / Millway Ave. / Jane St. Intersection Design 	Softscape Boulevard with LID features • Opportunity for large green planted boulevards with Low-Impact-Development (LID) features such as rain gardens, vegetated filter strips and bioswales • Opportunity for planted boulevards to have naturalized, low-maintenance planting beds Hardscape Boulevard with LID Features • Opportunity for hardscaped areas to incorporate LID features such as permeable paving and small rain gardens • Opportunity for tree grates and soil cells to support healthy tree and plant growth Enhanced Public Realm • Opportunity to prioritize walkability and pedestrian experience using amenities such as bus shelters, bicycle racks, benches, waste receptacles, and widened sidewalks and amenity spaces • Opportunity to establish a cohesive identity using street furnishings, signage, and unique pavement treatments There is no significant difference between options 1, 2 and 3. 		
5. Future Public Park(s) and/or Facilities as Identified in the VMC Secondary Plan	No impact to future public park (s) and/or facilities, but also does not support future parks.	• Vegetation for future park around Black Creek may be impacted, which consists of a variety of native introduced, and invasive species. The Black Creek riparian corridor should be protected and enhanced. • Where Interchange Way meets future Millway Ave. and Jane St., additional intersection enhancements should be considered to communicate the hierarchy and importance of these streets (e.g., changes in paving materials / paint marking). • There is no significant difference between options 1, 2 and 3.		

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Evaluation			✓ **Preferred**	
Summary	**Option 2 is preferred from a socio-economic perspective** since it has divides smaller property impacts amongst the north and south property owners, than options 1 and 3, east of Jane Street.			
Cultural Environment				
1. Built Heritage Resources and Cultural Heritage Landscapes	No Built Heritage Resources and/or Cultural Heritage Landscapes were identified in the study area, thus no impacts are anticipated.			
2. Archeological Resources	No impacts to archaeological resources are anticipated.	Potential impacts to archaeological resources. Stage 2 archaeological assessment recommended east of Peelar Road. Area between Creditstone Road and Maplecrete Road requires Stage 1 archaeological assessment (not covered in previous report) There is no significant difference between options 1, 2 and 3.		
Evaluation	✓ **Preferred**			
Summary	**Do nothing is preferred from a Cultural Environment perspective** since it does not impact archaeological resources or built or cultural resources. Options 1,2,3 all have further Stage 2 archaeology work require.			
Transportation				
1. Promotion of Comfortable Cycling and Walking Routes ○ Opportunities for transportation choices other than vehicle use ○ Address the challenges associated with new growth in the City	No additional cycling and walking routes provided.	Improves walking and cycling in the southeast sector of VMC through the addition of separated cycle tracks and sidewalk facilities along the new corridor – including improved active transportation access to subway and BRT stations. New corridor is specifically identified in Vaughan's Transportation Plan (2023). There is no significant difference between options 1, 2 and 3.		

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○ Provide a multi-modal vision of "sustainable mobility" that can accommodate vehicles, transit, cyclists and pedestrians in a healthy community ○ Considerations for the City Active Transportation Plan				
2. Safety for All Modes of Travel	The growth in population and road users could result in increased safety concerns for all modes of travel as no additional infrastructure is being provided.	New road will improve safety for all modes of travel by providing additional multi-modal facilities. There is no significant difference between options 1, 2 and 3.		
3. Accessible Network for All Ages and Abilities	Limited internal access between Jane Street and Creditstone Road for all modes.	Improved internal access between Jane Street and Creditstone Road for all modes. New road will improve accessibility for all ages and abilities through the addition of multi-modal transportation facilities. There is no significant difference between options 1, 2 and 3.		
4. Provide Equitable, Safe and Reliable Access to High Quality, Efficient Transit	Properties adjacent to Highway 7 and Jane St maintain good access to transit, properties not adjacent to Highway 7 and Jane St have less connectivity to transit.	New road will improve site access to transit services along Highway 7 and Jane Street as well as provide a potential new link for an internal transit circulator. There is no significant difference between options 1, 2 and 3.		
5. Road Capacity and/or Traffic Flow	Development would result in high levels of traffic congestion.	Provides additional roadway capacity to help improve traffic flow. There is no significant difference between options 1 and 3.		
6. Network Resiliency for Emergency Services ○ Potential to improve response time/accessibility for emergency vehicles due to changes in travel time.	No potential to improve response times, response times likely to increase due to added congestion.	Provides an additional through network link, which provides an alternative to Highway 7 and could improve emergency response times. There is no significant difference between options 1, 2 and 3.		
7. Protect for Future Transportation Trends ○ Promotes autonomous vehicles ○ Promotes micromobility ○ Promotes drone technology	No protection for future transportation trends offered.	New connection improves opportunities for circulation, which may indirectly support Autonomous Vehicle movement. Safe micro-mobility movement enabled in cycle track facilities. There is no significant difference between options 1, 2 and 3.		

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Evaluation		✓ **Preferred**	✓ **Preferred**	✓ **Preferred**
Summary	**Options 1,2,3 are equally preferred from a Transportation perspective** as they all improve safety, cycling, future transportation trends, network resiliency etc. The do nothing option does not improve these transportation aspects and increases traffic and emergency response times etc.			
Constructability and Cost				
1. Construction Costs	No costs.	Approximately $8.5M, includes Black Creek Bridge Structure. There is no significant difference between options 1, 2 and 3.		
2. Existing Utilities	No utility impacts.	Similar utility impacts for all options. There is no significant difference between options 1, 2 and 3.		
3. Construction Phasing	No construction.	Same construction phasing applicable to all options. There is no significant difference between options 1, 2 and 3.		
4. Constructability Complexity ○ Construction of soil conditions, geometrics etc.	No constructability.	Similar constructability complexity between all options. There is no significant difference between options 1, 2 and 3.		
Evaluation	✓ **Preferred**			
Summary	**Do nothing is preferred from constructability and cost perspective** since it has no additional costs or construction. Options 1,2,3 are all equal in constructability and cost comparison.			
Overall Evaluation	✗ **Not Preferred**	✗ **Not Preferred**	✓ **Preferred**	✗ **Not Preferred**
PREFERRED SUMMARY	**Option 2 is the preferred alternative** since it has divides smaller property impacts amongst the north and south property owners, than options 1 and 3, east of Jane Street. Do nothing is preferred in a number of factors but does not support the vision of the VMC, which is to accommodate mobility needs, supportive policies and a phasing strategy to 2051 with a focus on street connectivity, accessibility and support			

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	for multi-modal mobility, and integration of Transportation Demand Management (TDM)(for example, walking, cycling, micromobility, transit, ride share) with parking management. Option 2 does support the vision of the VMC.			

Legend

Not Preferred **Preferred**