

## 9 Environmental Effects of Preferred Design Concept

## **Introduction**

- 9.1 The purpose of this chapter is to outline the potential environmental effects of the Preferred Design Concept and to identify the proposed mitigation actions that will be taken to eliminate or reduce those effects. During the development of this stage of the MCEA, the potential environmental effects of the natural, socio-economic, cultural and built environment have been considered and assessed proportionately to the level of design detail undertaken to date.

## **Evaluation of Project Environmental Impacts**

- 9.2 The Preferred Design Concept seeks to transform the portion of Yonge Street between College / Carlton Street and Queen Street through improvements to the streetscape and public realm on the Yonge Street right-of-way. The Preferred Design Concept seeks to realize net positive environmental, cultural and socio-economic objectives by increasing pedestrian space through various means, including sidewalk widening, traffic lane reductions, and diverting commercial loading activity, where possible.
- 9.3 As with many projects of this nature, which will result in changes to the physical design and operational strategy (to be completed during detailed design) for a main street within the City of Toronto, there are possible environmental interactions and impacts which require appropriate mitigation efforts to eliminate or reduce these effects where any have the potential to be net negative on the environment. These possible interactions and impacts are discussed in more detail in this chapter, along with a list of proposed mitigation actions and approaches to monitoring impacts.
- 9.4 These items serve as a reference for further refinement and development during detailed design and ultimately, implementation. These considerations and mitigations have been considered proportionately to the level of design developed as part of this stage of the MCEA. At the detailed design stage, these environmental impacts will be considered in further detail and associated mitigation and monitoring measures may be revised or enhanced accordingly.

## **Environmental Effects, Monitoring and Mitigation**

- 9.5 An evaluation of the potential environmental interactions and impacts (positive, negative and neutral) of the Preferred Design Concept has been undertaken in collaboration with specialists in the respective fields of assessment for projects of this nature. The evaluation process has been informed by City of Toronto policies, procedures and practices, guidance for the conducting of MCEAs for major transportation projects and specialist expertise using a combination of desk-based research and analysis, site survey and fieldwork, and transportation and associated modelling techniques. Full technical appendices on each of the environmental effects will be appended to the ESR under separate cover.
- 9.6 The potential environmental interactions and impacts have been split into the following categories considering an ecosystem approach to impact assessment, considering the natural, socio-economic, cultural and built environments within the Study Area. In particular, the following aspects have been considered as part of this evaluation:

**Natural environment** – which covers the possible environmental interactions and impacts of the Preferred Design Concept on the terrestrial and aquatic environments, soil and groundwater conditions, and air quality within the Study Area

**Socio-economic environment** – which covers the possible environmental interactions and impacts of the Preferred Design Concept on the social and economic environments within the Study Area, and particularly any noise and vibration considerations

**Cultural environment** – which covers the possible environmental interactions and effects of the Preferred Design Concept on cultural resources, built heritage and the archaeological environment within the Study Area

**Built environment** – which covers the possible environmental interactions and effects of the Preferred Design Concept on the transportation network in the Study Area, in particular impacts on road traffic, pedestrian and cycling environment, and utilities

9.7 The potential environmental interactions and effects are outlined in subsequent sections of this chapter along with an overview of the proposed policies, practices and protocols which are intended to be used to mitigate impacts where impacts have been identified, along with monitoring commitments for mitigation action(s) proposed.

9.8 Supervisory activities relating to the implementation of the Preferred Design Concept will be undertaken by the City of Toronto administrative staff as it relates to the administration of environmental controls, permits and approvals required to implement the Preferred Design Concept and shall be effectively applied in accordance with the Project Objectives of the Preferred Design Concept. Monitoring is intended to be undertaken in accordance with the appropriate mitigation actions outlined in Table 9-1, Table 9-2, Table 9-3 and Table 9-4.

## Natural Environment

9.9 The environmental interactions and effects on the natural environment and appropriate mitigations have been considered based on the following components:

- **Terrestrial environment**, including vegetation and vegetation communities (including trees), wildlife and wildlife habitats (including avian and terrestrial species) and designated natural areas
- **Aquatic environment**, including aquatic vegetation and vegetation communities, fish and fish habitats, aquatic wildlife and wildlife habitats, and designated natural aquatic areas
- **Soil and groundwater conditions**, including soil and sediments, and erosion
- **Air quality**, including particulates and emissions.

## Terrestrial Environment

9.10 The Study Area is heavily urbanized with the only natural heritage features in the Study Area associated with Ramsden Park and the Rosedale Ravine Lands, which are both located north of the College / Carlton Street (i.e. north of the Focus Area). The segment of Yonge Street from College / Carlton Street to Queen Street is highly urbanized and does not support any natural heritage features. There are no Provincially Significant Wetlands (PSWs) or Areas of Natural and Scientific Interest (ANSIs) within the Study Area. Two Environmentally Significant Areas (ESAs), Rosedale Valley ESA and Park Drive Ravine ESA are also located beyond the Study Area. There is also no prevalence of woodland habitat within the Study Area. As a result, there will be no significant

adverse effects on vegetation and vegetation communities, fish and fish habitat, wildlife and wildlife habitat and designated natural areas.

- 9.11 Trees and buildings located in the Study Area have low habitat capability, although birds and mammals will occupy this urban environment. Urban wildlife is typically acclimatized to human activity, including noise, light and vibration and human intrusion, and will continue to reside in the Study Area during and after construction, or leave the area during construction and return once construction is complete. It is anticipated that bird species listed under the Migratory Birds Convention Act (MBCA) are located in the Study Area. While migratory insectivorous and non-game birds are protected year-round, migratory game birds are only protected from March 10 to September 1.
- 9.12 The Study Area lands fall within Environment Canada's Nesting Zone C2, which has a nesting period of end of March to end of August. Consequently, to comply with the requirements of the MBCA, it is recommended that disturbance, clearing or disruption of vegetation where birds may be nesting should be completed outside the window of April 1 to August 31 to avoid the breeding bird season for the majority of the bird species protected under the MBCA. In the event that these activities must be undertaken from April 1 to August 31, a nest screening survey will be conducted by a qualified avian biologist. If an active nest is located, a mitigation plan shall be developed and provided to Environment Canada (Ontario Region) for review prior to implementation. If construction during this timing window is deemed necessary, a nest survey will be required, and the results may dictate consultation with Environment Canada.
- 9.13 Trees located along Yonge Street are protected under several City of Toronto Tree Protection By-laws including the Street Tree By-law; Private Tree By-law; and, Parks By-law. As part of this EA process, an ISA Certified Arborist conducted an inventory of tree resources within and immediately adjacent to the Yonge Street right-of-way.
- 9.14 Based on the Design Concept plans, extensive works are planned along Yonge Street between College / Carlton Street and Queen Street. This redevelopment is likely to have a significant impact on the existing tree resources including removal, physical injury, severing of roots and root compaction. During detail design, an assessment will be carried out to determine trees that can be retained, trees that require mitigation and trees that will be removed. Trees to be retained and trees that require mitigation will be identified and protected in accordance with the Tree Protection Policy and Specification for Construction Near Trees (City of Toronto 2016). Trees that will be removed or are injured during construction will require compensation in accordance with City of Toronto Urban Forestry policies.
- 9.15 During detail design, the Arborist Report completed as part of this EA will be updated to reflect existing conditions at the time of the survey; assess each tree for retention, mitigation and removal based on the detail design drawings; and determine the appropriate Tree Protection Zones (TPZs). For trees to be retained/protected, a detailed Tree Protection Plan will be prepared in discussions with Toronto Urban Forestry. The Arborist Report and Tree Protection Plan shall follow the City's Guidelines for the Completion of an Arborist Report and the Tree Protection Policy and Specification for Construction Near Trees. Compensation requirements will also be determined once the number of trees to be removed has been confirmed. A permit will be obtained from Toronto Urban Forestry prior to construction for all trees to be removed or injured.

### **Aquatic Environment**

- 9.16 The Study Area is located within the Lower Don River sub-watershed, which is regulated by the Toronto and Region Conservation Authority (TRCA). No open water sources traverse the Focus Area. One tributary of the Lower Don River, Castle Frank Brook, flows underground through a pipe along Rosedale Road, beyond the Focus Area. Yellow Creek, another tributary of the Lower Don River, is located beyond the Study Area. The Preferred Design Concept does not have any impact on these tributaries.
- 9.17 As a result of these factors, there will be no significant adverse effects on aquatic vegetation and vegetation communities, fish and fish habitat, aquatic wildlife and wildlife habitat and designated natural areas.

### **Soil and Groundwater Conditions**

- 9.18 Borehole investigations were carried out between June 2019 and October 2020. 31 locations were investigated, to establish engineering criteria for design, environmental data and sub-surface water conditions.
- 9.19 A comprehensive programme of laboratory testing was carried out on the recovered pavement layers and sub-soil. None of the tests showed any contamination that would classify the materials as hazardous. As such, any material that arises from the construction work is likely to require conventional disposal at a MECP licensed landfill or other approved destination. Supplemental testing during construction will be carried out in order to meet relevant legislation.
- 9.20 The soils in the Study Area are highly disturbed given the urban development that has occurred in the City of Toronto in the past century. The soils located along Yonge Street are susceptible to erosion and will be impacted during construction as a result of demolition, excavation and grading. This will take place during any reconstruction of this portion of Yonge Street including implementation of the Preferred Design Concept. Consequently, soil disturbance associated with ground disturbance may result in erosion of soils, and sedimentation to, catch basins, storm sewers and adjacent lands.
- 9.21 To mitigate these factors, standard erosion and sediment control measures will be followed during construction in accordance with Ontario Provincial Standard Specification (OPSS) 805 – Construction Specification for Temporary Erosion and Sediment Control Measures (2010) to minimize construction-related impacts on stormwater management facilities and adjacent lands. Site-specific erosion and sedimentation control measures to be implemented prior to construction will be identified during detailed design following management best practices recommended in the Erosion and Sediment Control Guideline for Urban Construction (Greater Golden Horseshoe Area Conservation Authorities 2006).
- 9.22 A detailed Erosion and Sediment Control Plan will be prepared at detailed design stage that includes construction mitigation protocols, including stormwater management during construction, erosion control products and use of materials. Temporary erosion and sediment controls shall be inspected on a regular basis in accordance with the Erosion and Sediment Control Inspection Guide (TRCA 2008); and Silt Smart: Erosion and Sediment Control Effectiveness Monitoring and Rapid Response Protocol for Large Urban Development Sites (CVC, MNRF, MECP and DFO 2012).

- 9.23 As a minimum, erosion and sediment control facilities shall be inspected on a daily basis during installation, prior to forecasted major storm events, during snowmelt and following significant storm events. Inspections for routine maintenance of erosion and sediment controls shall occur once per week unless maintenance/repairs are required upon inspection and after significant storm events. These environmental protection measures will greatly reduce the potential for soil erosion and impairment of surface water quality.
- 9.24 A shallow groundwater flow is inferred to flow to the southeast through the Study Area, based upon general topography and the proximity to Lake Ontario. The borehole investigations did not encounter water upon completion of drilling and therefore any significant seepage of groundwater into open excavations is not expected.

### **Air Quality**

- 9.25 The Preferred Design Concept promotes non-vehicular travel within the Focus Area by creating an attractive and vibrant pedestrian realm. The reduction in vehicular traffic is intended to have positive effects on local air quality conditions. Notwithstanding the long term benefit of this project with respect to air quality, construction activity will result in temporary adverse impacts for air quality in the Focus Area, which will be mitigated and monitored.
- 9.26 An air quality study has been conducted to assess the effects of the Preferred Design Concept. This entailed the selection of sensitive receptors relevant to the study area, an evaluation of background contaminant concentrations and an assessment of worst-case predicted contaminant concentrations.
- 9.27 Ten sensitive receptor locations were identified to be representative of potential impacts within the study area. Seven were selected within the main Yonge Street Corridor and three sensitive receptors were placed along Bay and Church Street where traffic volumes are expected to increase slightly as a result of the Preferred Design Concept.
- 9.28 In order to understand the existing conditions in the Study Area, ambient background concentrations of air quality components were compared to guidelines established by government agencies and organizations. These concentrations were mostly obtained from the Ministry of the Environment, Conservation and Parks Toronto Downtown monitoring station, which is approximately 500m from the northern extent of the study area. This is the closest monitoring station to the study area.
- 9.29 Background concentrations were then compared to the predicted concentrations in the assessment year of 2041 with and without the Preferred Design Concept. The modelling considered vehicle emissions from Yonge Street, major intersecting roadways as well as Bay Street and Church Street, together with historical meteorological data.
- 9.30 The maximum concentrations for the Preferred Design Concept were mostly below the guideline value, however, some air quality determinants exceeded the guidelines. In all cases of exceedance, the contribution from the Preferred Design Concept was small and only occurred on a small number of days in the year. Overall, worst-case predicted concentrations are similar in the future with or without the Preferred Design Concept and are insufficient to warrant mitigation measures.

- 9.31 A full assessment of the impacts on air quality conditions are provided in Appendix R.

*Air quality during construction*

- 9.32 Dust emissions from construction activity will be monitored during construction and mitigated by the use of dust control and suppression measures and by ensuring that all construction materials are in good working order. In addition, the project team shall follow City by-laws regarding vehicle idling and permissible construction hours, avoid excavation and other construction activities that may generate particulate matter (i.e. dust) during high winds and minimize vehicular traffic on exposed soils. These environmental protection measures will greatly reduce the potential for temporary negative air quality impacts caused during the construction phase.

## Summary of Natural Environment Impacts and Mitigation

- 9.33 A catalogue of environmental interactions and impacts on the natural environment, and their associated mitigations, is provided Table 9-1.

**Table 9-1: Natural Environment Environmental Interactions/Impacts and Mitigation Actions**

Environmental Sub-category	Environmental Interaction/Impact	Mitigation Action
Terrestrial Environment	1.1 No significant adverse effects on vegetation and vegetation communities	No mitigation required.
Terrestrial Environment	1.2 No significant adverse effects on fish and fish habitat	No mitigation required.
Terrestrial Environment	1.3 No significant adverse effects on designated natural areas	No mitigation required.
Terrestrial Environment	1.4 Removal or injury to protected trees	Tree removal and retention will be identified and protected in accordance with the Tree Protection Policy and Specification for Construction near Trees (City of Toronto) Trees removed and/or injured during construction will be compensated in accordance with the City of Toronto Urban Forestry policies Tree removals will be avoided between the bird breeding season to avoid disturbance to nests unless essential, at which point a nest survey will be undertaken in accordance with Environment Canada regulations During detailed design, the Arborist Report will be updated, and a detailed Tree Protection Plan will be prepared in discussion with Toronto Urban Forestry and enforced during implementation
Terrestrial Environment	1.5 Bird nest / avian disturbances during construction	Disturbance, clearing and/or disruption of bird nests will comply with requirements of MBCA Nest screening survey will be carried out by qualified avian biologist if nest disturbance is required and appropriate mitigation plan developed/provided to

Environmental Sub-category	Environmental Interaction/Impact	Mitigation Action
		Environment Canada for review prior to implementation
Aquatic Environment	1.6 No significant adverse effects on aquatic vegetation and vegetation communities	No mitigation required.
Aquatic Environment	1.7 No significant adverse effects on, fish and fish habitat	No mitigation required.
Aquatic Environment	1.8 No significant adverse effects on aquatic wildlife and wildlife habitat and designated natural areas	No mitigation required.
Aquatic Environment	1.9 No significant adverse effects on designated natural areas	No mitigation required.
Soil and groundwater conditions	2.0 Potential runoff and erosion of exposed soil due to construction activities	Preparation and execution of detailed Erosion and Sediment Control Plan developed in accordance with the MECP Guideline B-6 Standard erosion and sediment control measures will be followed during construction in accordance with OP33 805 Temporary erosion and sediment controls to be inspected daily during installation Routine maintenance of erosion and sediment controls to occur weekly
Soil and groundwater conditions	2.1 Potential to contaminate groundwater during construction	A strategy for protecting groundwater will be developed during the detailed design
	2.2 Potential to uncover contaminated soils during construction	Investigation work carried out for the project suggests that materials to be encountered during the construction work will be non-hazardous. As part of the detailed design phase, a soil management plan will be developed to address any contaminated soils within the right-of-way that must be removed in support of the corridor improvements. Testing will comply with MECP's soil quality standards for industrial / commercial or residential / parkland land use. If any soil is removed during construction and is determined to be contaminated, it will be disposed in a manner consistent with the Environmental Protection Act.
	2.3 Management of recyclable material and waste	During detailed design, a plan for recycling and disposing of hazardous materials should be developed and implemented at construction



Environmental Sub-category	Environmental Interaction/Impact	Mitigation Action
		Excess waste generated on-site that requires off-site removal to be performed in accordance with Ontario Regulation 347 under the Environmental Protection Act that provides for the transportation and processing of hazardous and non-hazardous waste
Air quality	2.4 Environmental effects on air quality through changes in motor vehicle use	No mitigation required.
Air quality	2.5 Reduced air quality due to airborne dust and migration during construction	Dust emissions to be monitored during construction and mitigated through the use dust controls and suppression measures including: Ensuring all machinery is in good working order Vehicle traffic on exposed soils to be minimized Excavation and other construction activities to be avoided during periods of high winds Vehicle idling will be reduced in line with City of Toronto by-laws

## Socio-Economic Environment

9.34 The environmental interactions and effects on the socio-economic environment and appropriate mitigations have been considered based on the following components:

- **Social environment**, including impacts to property and facilities, access to services and facilities and impacts to official City policies and plans
- **Economic environment**, including commercial and land use impacts
- **Noise and vibration** impacts

### Social and Economic Environment

- 9.35 The Preferred Design Concept is an opportunity for significant public realm enhancement and for downtown Yonge Street to become a premier urban destination for tourists and City residents. This type of investment may further catalyze significant economic and cultural investment in the Yonge Street corridor and may provide an opportunity for increased economic growth for the city.
- 9.36 The Preferred Design Concept consists of changes to the physical design within the segment of Yonge Street from College / Carlton Street to Queen Street and is located entirely within the rights-of-way of Yonge Street and adjacent streets within the City of Toronto. The operational plan will be developed during detailed design. The overall intention of the EA Study is to improve the physical environment and to foster a more dynamic community that prioritizes pedestrian access. The Preferred Design Concept improves accessibility and public space through widened sidewalks, safe road crossings, bike lanes, landscaping, and street furniture.
- 9.37 The Preferred Design Concept does not have to acquire any property and all of the proposed work will be contained within existing rights-of-way.
- 9.38 The Preferred Design Concept will have net positive impacts on the realization of relevant City policies and objectives, including City-wide policies for enhancing downtown life, including

adopting a complete streets approach to the design and operation of roads, supporting walking and cycling accessibility and safety as outlined in the City's Official Plan, Downtown Plan and Downtown Parks and Public Realm Plan among others.

- 9.39 The final result of the Preferred Design Concept is intended to significantly improve the socio-economic environment of the Focus Area by accommodating a greater number of visitors and enhancing the area as a destination for economic, social and cultural activity. The Preferred Design Concept intends to enhance the economic value of the area by providing enhancements to the public realm and streetscape that promote and encourage enhanced pedestrian movement.
- 9.40 The operational plans for the Preferred Design Concept will be subject to consultation and refinement throughout the detailed design process, including recommended by-law and traffic operations. As with all operational initiatives implemented by the City of Toronto, the changes would be monitored and further adjustments could continue to be made as needed to maintain effective street operations.

#### *Business Customer and Goods Movement Access*

- 9.41 Stakeholders from the business community have raised concerns through the Stakeholder Engagement process about the economic impacts of reduced driving access on Yonge Street. Concerns were focused on goods movement and customer access. The Project Team carried out numerous site walks, site observations, and over 60 individual interviews to understand property conditions.
- 9.42 The Preferred Design Concept has the following features to support goods movement and customer access on Yonge Street:
- Daytime driving access maintained to all parking garages, loading docks, driveways and rear lanes
  - Overnight driving access maintained on all sections of Yonge Street for goods movement
  - Provision of dedicated curbside activity areas
  - Provision of dedicated curbside activity areas at the ends of Elm Street and Edward Street that are adjacent to Yonge Street

#### *Access Impacts to Individual Properties and Facilities - Construction Phase*

- 9.43 Construction will cause disruption to users of the corridor and the numerous residential and business activities that front onto Yonge Street and its side streets. A comprehensive Traffic Management Plan will need to be developed as part of the overall Construction Management Plan (CMP) developed during the detailed design phase of the project, with the objective of accommodating the needs of stakeholders and minimizing disruption and adverse effects as far as is reasonably practicable.

#### *Noise*

- 9.44 The Preferred Design Concept promotes non-vehicular travel within the Focus Area by creating an attractive and vibrant pedestrian realm. The reduction in vehicular traffic is intended to have positive effects on local noise conditions.

- 9.45 A noise study has been conducted to assess the impact of implementing the Preferred Design Concept. The study identified noise sensitive areas within the study area and compared predicted sound levels for the situation with and without the project. Noise sensitive areas were chosen within 100m to the east and west of Yonge Street, as well as at two locations close to Bay Street and two locations close to Church Street. The locations on Bay Street and Church Street were included to assess changes as a result of changing travel patterns on the nearby roadways.
- 9.46 In accordance with standard practice, the noise study only assessed noise from roadway traffic. The ambient noise from other noise sources along the corridor is expected to be considerably higher than this. Road noise is not the dominant noise source unless the receptor is located next to a major roadway.
- 9.47 The study analysis found that all receptors in the vicinity of Yonge Street experience noise level reductions with the construction of the Preferred Design Concept, due to the reduction of vehicular traffic. Although east-west roadways in the vicinity of Yonge Street experience higher traffic volumes, the sensitive noise receptors are generally located some distance from these streets.
- 9.48 Sound levels in the vicinity of Bay Street and Church Street, which would be expected to receive additional traffic because of changes to Yonge Street, will remain largely unchanged. Traffic on these roads is already close to or at their maximum capacity both with and without the Preferred Design Concept.
- 9.49 The net noise impacts in the Study Area are anticipated to be negligible. A full assessment of the impacts on noise and vibration conditions are provided in Appendix S of this ESR.

#### *Noise - Construction Phase*

- 9.50 Notwithstanding the long term benefit of this project concerning noise, construction activity will result in temporary adverse impacts for the Focus Area, which will be mitigated and monitored. These impacts should be managed and mitigated through the Construction Management Plan, which should address impacts of noise within and adjacent to the Study Area.

#### *Vibration*

- 9.51 A vibration assessment has been conducted to assess the impact of implementing the Preferred Design Concept. This was accomplished by estimating site-specific vibration levels and comparing them with assessment criteria and guidelines. The site specific factors influencing vibration levels include the characteristics of the roadway traffic flow, the unevenness of pavement surface, the transmission path between the source and the receiver, and the surrounding building parameters.
- 9.52 In extreme circumstances, traffic-induced ground-borne vibration may be perceptible to residents living near roads. Because of the types of vehicles using Yonge Street ground-borne vibration is not usually generated by road traffic along roadways such as Yonge Street.
- 9.53 The net vibration impacts in the Study Area are anticipated to be negligible. A full assessment of the impacts of vibration are provided in Appendix S of this ESR.

### Vibration - Construction Phase

- 9.54 Construction activity will result in temporary adverse impacts for vibration in the Focus Area, which will be mitigated and monitored. These impacts should be managed and mitigated through the Construction Management Plan, which should address impacts of vibration within and adjacent to the Study Area.

## Summary of Socio-economic Environment Impacts and Mitigation

- 9.55 A catalogue of environmental interactions and impacts on the socio-economic environment, and their associated mitigations, is provided in Table 9-2.

**Table 9-2: Socio-Economic Environment Environmental Interactions/Impacts and Mitigation Actions**

Environmental Sub-category	Environmental Interaction/Impact	Mitigation Action(s) & Monitoring Processes
Socio-economic environment	2.6 Changes in access to residential properties	No mitigation required
Socio-economic environment	2.7 Changes in access to community facilities	No mitigation required
Socio-economic environment	2.8 Changes in access to recreational facilities	No mitigation required
Socio-economic environment	2.9 Changes in access to businesses	No mitigation required
Socio-economic environment	3.0 Changes in access to parking	No mitigation required
Socio-economic environment	3.1 Disruption during construction to: <ul style="list-style-type: none"> <li>– Residential properties</li> <li>– Community facilities</li> <li>– Businesses</li> <li>– Parking</li> </ul>	A comprehensive Construction Management Plan will be developed in conjunction with the community and stakeholders to maintain access as far as practicable.
Noise and vibration	3.2 Impact to noise and vibration	No mitigation required
Noise and vibration	3.3 Temporary impact to noise and vibration during construction phase	A Construction Management Plan will be prepared which will address temporary construction impacts on noise, vibration and dust during construction Municipal by-laws on hours of permissible construction operation will be adhered to Proper construction equipment will be maintained

## Cultural Environment

9.56 The environmental interactions and effects on the cultural environment and appropriate mitigations have been considered based on the following components:

- **Built Heritage & Cultural Resources**, including built and intangible features of heritage interest and other heritage resources
- **Archaeological Environment**, including sites of archaeological potential and significance
- **Indigenous Peoples**, including First Nations land and other areas of significance for Indigenous communities in the Study Area

### **Built Heritage & Cultural Resources**

9.57 The Preferred Design Concept does not involve the demolition or alteration of any municipally recognized heritage resources within or adjacent to the Study Area. The functional planning undertaken as a part of this EA did not identify any direct impacts to the heritage structures in the Study Area. The Preferred Design Concept will not negatively impact the attributes of the Study Area as defined in the Historical Context Statement prepared as part of this EA. The character and attributes of the Focus Area will be enhanced by the streetscape improvements which reinforce the area's evolving mixed uses, pedestrian activity, and public and semi-public gathering spaces.

9.58 The Preferred Design Concept does not involve the demolition of any heritage properties' cultural heritage. By conserving and maintaining municipally recognized heritage resources consistent with the Standards and Guidelines for the Conservation of Historic Places in Canada, and by ensuring that the integrity of these heritage properties' cultural heritage value and attributes will be retained, the Preferred Design Concept addresses the policy direction in the City of Toronto Official Plan. The Preferred Design Concept also supports policies related to the commemoration and interpretation of historic events, themes, and buildings or landscapes features that are no longer legible.

9.59 Proposed works are adjacent to resources of this nature and any impacts as a result of construction shall be mitigated through a Construction Management Plan, to be developed during detailed design. The Construction Management Plan shall address impacts to recognized cultural heritage resources within and adjacent to the Study Area. The Preferred Design Concept shall be reviewed during the detailed design phase to determine if plans have changed, resulting in any potential impacts to recognized cultural heritage resources. Accordingly, recommendations for further study, if required, shall be determined during the detailed design phase.

9.60 Overall, the Preferred Design Concept, specifically the widening of sidewalks, will enhance the streetscape and contribute to the experience and visibility of a diverse streetscape with multiple layers of development. These interventions have the potential to refocus an evolving commercial main street. The integration of cycling infrastructure and an enlarged pedestrian realm emphasizes the historic context of Yonge Street as a key transportation route within the City of Toronto while demonstrating sensitivity to adjacent heritage buildings. A full assessment of the impacts on built heritage and cultural resources conditions are provided in Appendix C.

### Archaeological environment

- 9.61 The Stage 1 Archaeological Assessment undertaken in the Study Area identified a total of 38 archaeological sites are located within a one-kilometre radius of the Study Area, including 6 of which are located within the Study Area – MacKenzie House, Elgin and Winter Garden Theatre Centre, John Bugg Stores, Squire, Michie-Stitt Site and The Sandhill. While there are six archaeological sites identified to be located within the Study Area, the archaeological assessment work undertaken as part of this EA has determined that there are no impacts brought about by the Preferred Design Concept and the physical or operational design changes proposed.
- 9.62 An assessment of the Preferred Design Concept with respect to the six sites identified confirmed there is no overlap between these sites, or any additional areas of archaeological potential, and the Preferred Design Concept. In addition, no areas within the existing road rights-of-way have been found to retain archaeological potential, given the deep and extensive disturbance various infrastructure and utilities related works would have caused to underlying deposits.
- 9.63 No mitigation is therefore required/expected, however, the Construction Management Plan will set out steps to be taken should any unexpected archeological resources be found during construction.

### Indigenous Peoples

- 9.64 The City of Toronto recognizes that the Study Area is located within the Mississaugas of the Credit First Nation treaty land. The Mississaugas of the Credit First Nation have been contacted by the Project Team at key milestones through the development of the Preferred Design Concept and given the downtown context, expressed a low level of concern with the project.

### Summary of Cultural Environment Impacts and Mitigation

- 9.65 A catalogue of environmental interactions and impacts on the cultural environment, and their associated mitigations, is provided in Table 9-3.

**Table 9-3: Cultural Environment Environmental Interactions/Impacts and Mitigation Actions**

Environmental Sub-category	Environmental Interaction/Impact	Mitigation Action
Built heritage/cultural resources	3.4 No direct impacts on built heritage or cultural landscape features.	No mitigation required.
Built heritage/cultural resources	3.5 Sensitivity of construction activity to adjacent heritage resources	A full Construction Management Plan will be developed which assesses any construction impacts to adjacent cultural heritage resources and implemented during construction.
Archaeological assessment	3.6 No impacts to/loss of archaeological resource(s) determined.	No mitigation required. However, the Construction Management Plan will set out steps to be taken should any unexpected archeological resources be found during construction.

Environmental Sub-category	Environmental Interaction/Impact	Mitigation Action
Indigenous Peoples' assessment	3.7 No identified impacts related to Indigenous Peoples through consultation.	No mitigation required.

## Built Environment

9.66 The environmental interactions and effects on the built environment and appropriate mitigations have been considered based on the following components:

- Road traffic impacts
- Pedestrian infrastructure impacts
- Cycling infrastructure impacts
- Transit impacts
- Accessibility impacts
- Utilities impacts

### Road Traffic Impacts

9.67 During the day, from College / Carlton Street to Queen Street, Yonge Street would be a place focused on the movement and experience of non-vehicular modes. Overnight (generally from 1:00 am to 6:00 am) Yonge Street would be open to two-way driving access to support TTC night bus service, deliveries, and general traffic.

9.68 Traffic modelling carried out for the EA considered the Preferred Design Concept with assumptions about the likely operational strategy (effectively Alternative Design Concept 4C) to assess potential environmental impacts and the potential impacts on the operation of the road network. Overall, the aggregate impacts on the operation of the road network were deemed to be acceptable to the City of Toronto, when balanced against the benefits of the project.

9.69 It should be noted that the traffic modelling was carried out to understand the overall impacts on the road network, rather than to examine and optimise the specific operations of each intersection or operational scenario. Nevertheless, the traffic modelling included some re-timing of traffic signals at intersections to mitigate the changes in traffic flow due to the Preferred Design Concept. In practice, any such mitigation measures at traffic signals would be introduced incrementally in response to actual changes in vehicular and pedestrian demand, background growth, the build-out of development sites and the operational strategy employed. The City of Toronto maintains signal timing plans to ensure they are up-to-date and responsive to the needs of all road users.

9.70 As part of the detailed design the City of Toronto will further develop the traffic modelling to determine in greater detail whether mitigation in the form of traffic signal changes or other measures is required at the opening date of the Preferred Design Concept.

### *Road Traffic Impacts – Construction Phase*

9.71 Construction will cause disruption to users of the corridor and the numerous residential and business activities that front onto Yonge Street and its side streets. A comprehensive Traffic

Management Plan will need to be developed as part of the overall Construction Management Plan (CMP) developed during the detailed design phase of the project, with the objective of accommodating the needs of the local community and stakeholders and minimizing disruption and adverse effects as far as is reasonably practicable.

#### **Impacts to Pedestrian Infrastructure**

- 9.72 As described above, the Preferred Design Concept would be a place focused on the movement and experience of non-vehicular modes, in particular pedestrians. No adverse environmental effects are anticipated, and no mitigation is therefore necessary.

##### *Impacts to Pedestrian Infrastructure – Construction Phase*

- 9.73 Construction will cause disruption to users of the corridor and the numerous residential and business activities that front onto Yonge Street and its side streets. A comprehensive Traffic Management Plan will need to be developed as part of the overall Construction Management Plan (CMP) developed during the detailed design phase of the project, with the objective of accommodating the needs of the local community and stakeholders and minimizing disruption and adverse effects as far as is reasonably practicable.

#### **Impacts to Cycling Infrastructure**

- 9.74 The Preferred Design Concept would encourage two-way cycling. People cycling would benefit from the reduced vehicle volumes and speeds. No adverse environmental effects on cycling are anticipated, and no mitigation is therefore necessary.

##### *Impacts to Cycling Infrastructure – Construction Phase*

- 9.75 Construction will cause disruption to users of the corridor and the numerous residential and business activities that front onto Yonge Street and its side streets. A comprehensive Traffic Management Plan will need to be developed as part of the overall Construction Management Plan (CMP) developed during the detailed design phase of the project, with the objective of accommodating the needs of the local community and stakeholders and minimizing disruption and adverse effects as far as is reasonably practicable.

#### **Transit Impacts**

##### *Buses along Yonge Street in the Focus Area*

- 9.76 The Preferred Design Concept will have a direct impact on the 97B bus service that runs along Yonge Street as it is proposed to be either discontinued or re-routed to enable the operational flexibility intended for the street. The 97B is a daytime, peak period service that runs Monday to Friday only. TTC staff have been fully involved in this proposal and have suggested that they may discontinue the service altogether or to mitigate the reduced provision in public transport by providing a re-routed alternative.
- 9.77 The 320 night bus is fully accommodated by the Preferred Design Concept and bus stops mirror those currently served by the service. No mitigation is therefore necessary.



- 9.78 Line 1 subway replacement bus services that are employed during unplanned outages and major maintenance of the subway are similarly accommodated by the Preferred Design Concept, although it is accepted that this will require the opening of any potential pedestrian priority zones to bus services and for buses to access these zones as an ‘exceptional circumstance’.

*East-west Transit within the Focus Area*

- 9.79 As described earlier, traffic modelling carried out for the EA predicts that the Preferred Design Concept would cause a redistribution of traffic across the area, which in turn creates some increases in travel times on north-south streets that run parallel to Yonge Street and on east-west streets that pass through the Focus Area. These increases in travel time will affect bus and streetcar services.
- 9.80 As part of the detailed design the City of Toronto will further develop the traffic modelling to determine in greater detail whether mitigation in the form of traffic signal changes or other measures is required at the opening date of the Preferred Design Concept.

*Subway*

- 9.81 The Preferred Design Concept does not impact the subway and no mitigation is therefore necessary.

*Impacts to Transit – Construction Phase*

- 9.82 Construction will cause disruption to transit services in the Focus Area. A comprehensive Traffic Management Plan will need to be developed as part of the overall Construction Management Plan (CMP) developed during the detailed design phase of the project, with the objective of accommodating the needs of the local community and stakeholders and minimizing disruption and adverse effects as far as is reasonably practicable.

**Emergency Access**

- 9.83 The Preferred Design Concept has been developed in full consultation with Fire, Police, and Paramedic Services to ensure access would be maintained for emergency services. Emergency service vehicles would be permitted to enter potential pedestrian priority zones as required. The Preferred Design Concept does not impact emergency services and no mitigation is therefore necessary. The Project Team will continue to engage Emergency Services during the detailed design stage and development of the operational plan to ensure access is maintained.

*Impacts to Emergency Access – Construction Phase*

- 9.84 Construction will cause disruption to emergency access in the Focus Area. A comprehensive Traffic Management Plan will need to be developed as part of the overall Construction Management Plan (CMP) developed during the detailed design phase of the project, with the objective of accommodating the needs of the local community and stakeholders and minimizing disruption and adverse effects as far as is reasonably practicable.

**Accessibility Impacts**

- 9.85 The Preferred Design Concept has been developed in consultation with the Stakeholder Advisory Group, the Toronto Accessibility Advisory Committee (TAAC) and the TTC Advisory Committee on

Accessibility Transit (ACAT) and is not considered to adversely impact accessibility. TAAC also expressed its support for the design concept on 1 December 2020 prior to its hearing at Council in early 2021. No mitigation is therefore necessary. During the development of the operational plan accessibility requirements will be considered to ensure compliance with the AODA.

### Utility Impacts

9.86 Utility providers have been consulted during the EA process to determine their current and future needs in the Focus Area and carry out any necessary works in advance of, or as part of, the Preferred Design Concept implementation. Section 5 of this report describes the alterations required to utility apparatus for the Preferred Design Concept, which in summary are:

- Sewer pipe relining to extend lifespan
- Relocation of catch basins to new curb alignment
- Renewal and relocation of watermain, including laterals
- Relocate hydrants and valve chambers
- Relocate or protect electricity conduits
- Renew and relocate street lighting
- Minor adjustments to relocate or protect telecommunication conduits

9.87 The net result of the alterations (principally the watermain renewals) will be to extend the construction period and hence localized disruption. Impacts will be mitigated through the development of the Construction Management Plan.

### Summary of Built Environment Impacts and Mitigation

9.88 A catalogue of environmental interactions and impacts on the built environment, and their associated mitigations, is provided in Table 9-4.

**Table 9-4: Built Environment Environmental Interactions/Impacts and Mitigation Actions**

Environmental Sub-category	Environmental Interaction/Impact	Mitigation Action
Traffic impacts	3.8 Increased travel time for vehicles	As part of the detailed design the City of Toronto will further develop the traffic modelling to determine in greater detail whether mitigation in the form of traffic signal changes or other measures is required at the opening date of the Preferred Design Concept.
Traffic impacts – construction phase	3.9 Increased travel time for vehicles	A full Construction Management Plan will be developed which assesses any construction impacts
	4.0 No negative impacts to pedestrians and cyclists	No mitigation required
Impacts to Pedestrian & Cycling Infrastructure – construction phase	4.1 General disruption	A full Construction Management Plan will be developed which assesses any construction impacts

Environmental Sub-category	Environmental Interaction/Impact	Mitigation Action
Transit Impacts – 97B bus	4.2 Reduced accessibility to public transport by removal of the 97B bus along Yonge Street	TTC to investigate the need for the 97B service and potential options to re-route.
Transit Impacts – general	4.3 Increased journey times and changes to reliability	As part of the detailed design, the City of Toronto will further develop the traffic modelling to determine in greater detail whether mitigation in the form of traffic signal changes or other measures is required at the opening date of the Preferred Design Concept.
Transit Impacts – construction phase	4.4 Increased journey times and changes to reliability	A full Construction Management Plan will be developed which assesses any construction impacts
Emergency Access	4.5 General disruption	No mitigation required
Emergency Access – construction phase	4.6 General disruption	A full Construction Management Plan will be developed which assesses any construction impacts
Accessibility Impacts	4.7 General disruption	No mitigation required
Accessibility Impacts – construction phase	4.8 Localized disruption during construction	A full Construction Management Plan will be developed which assesses any construction impacts
Utility Impacts	4.9 Localized disruption during construction	A full Construction Management Plan will be developed