

## 11. IMPLEMENTATION PROCESS

### 11.1 CONTEXT

**Chapter 1** of this report has described the Regional Municipality of York's commitment to put in place a comprehensive network of rapid transit services linking the four designated regional centres. The Plan has as its focus, the early provision of a viable alternative to increasing automobile dependence for mobility in the Region.

The Highway 7 Corridor and Vaughan North-South Link Transitway undertaking, described in **Chapter 9**, is the primary east-west corridor and secondary north-south corridor, respectively, in York Region's proposed four-corridor Rapid Transit Plan. In addition, travel demand modelling has indicated that rapid transit service on the Highway 7 Corridor will attract some of the highest transit ridership on the network. Consequently, the Region's plans for the evolution of the network place a high priority on early implementation of facilities and service in this corridor.

This Environmental Assessment Study constitutes the first step in the implementation process which will include all the traditional phases of preliminary and detailed design, construction, testing and commissioning of systems and installations and finally operation of rapid transit service.

### 11.2 PROJECT IMPLEMENTATION PLAN

In support of the Environmental Assessment studies, the preferred transitway design has been developed to a Functional Planning level of detail including both horizontal and vertical alignment of the preferred transitway alternative. Also, preferred locations for the at-grade stations have been identified and conceptual layouts for insertion of prototypical station facilities developed at each station site.

#### 11.2.1 The Design Phase

The infrastructure planning undertaken during the study is considered adequate to identify the effects of implementation and operation of the undertaking and establish whether any mitigation is needed and what form it should take. Following approval of the EA by both provincial and federal agencies, further preliminary design and subsequently, detailed design will constitute the first stage of the Region's implementation plan.

Selection of bus rapid transit (BRT) as the preferred initial technology allows the facilities to be constructed and the service to be operated in stages along the length of the corridor. The timing and extent of each stage

implemented and operated will depend on the availability of funding and the period required for construction of each stage.

Once these factors have been determined, a work plan to carry out the detailed design will be developed. This plan must recognize that the Region has decided to implement rapid transit featured services with new buses in mixed traffic in the corridors prior to and during construction of the dedicated lanes. Consequently, the Maintenance and Storage Facility (MSF) at Langstaff will be the first component to be designed for early approval and construction as soon as land acquisition is complete.

It is likely that the design phase for transitway infrastructure will be completed sequentially in three segments along the route, each timed to allow sufficient time for post-EA approvals prior to the scheduled start of construction in each segment. Besides the MOE and CEAA approvals of the EA itself, examples of these approvals are:

- Municipal Building Permits, mainly for the Maintenance Facility;
- TRCA permits;
- Federal DFO authorization;
- If required, EPA approvals for waste disposal at the MSF;
- Permits under the Lakes and Rivers Improvement Act for alternations to the watercourses and/or stream crossings; and
- Any Ontario MNR approvals.

#### 11.2.2 The Construction Phase

##### 11.2.2.1 The Surface Transitway and Stations

Implementation of the transitway by segment was introduced in the discussion on design approach above. Assuming continuity in the availability of funding for construction, it is anticipated that construction of the transitway and associated station facilities will commence in year 2008 in the segment between Yonge Street and Markham Centre. Work in this 9 km segment will continue through the 2009 and 2010 construction seasons.

Prior to commencing construction in the Highway 7 Corridor right-of-way, a comprehensive, detailed Traffic Management Plan will be prepared in consultation with regional and local municipal traffic operations staff, emergency services personnel and owners of businesses generating major traffic movements. The plan will include

- traffic signal modifications to control left and U-turns;
- distribution of available roadway width for traffic lane diversions;
- sequencing of shifts of construction and traffic between sides of Highway 7 and other routes;

- measures to preserve vehicle and pedestrian access to adjacent properties;
- measures to maintain access for emergency vehicles;
- locations and details of signage and barriers; and
- methods to permit transit operations during construction.

Within each of the segments discussed above, road-widening works, to develop the median right-of-way for transit, will be staged to minimize the temporary disruption due to traffic lane diversions and narrowing.

##### 11.2.2.2 Vaughan North-South Link Ultimate Subway Extension Phase

The timing of construction of the extension of the Spadina Subway into York Region will depend on decisions on the timing and extent of the project to expand the system in Toronto between Downsview Station and Steeles Avenue Station. If subway expansion into York Region can be funded as part of this project, the construction along the Vaughan North-South Link would be integrated with the schedule for the overall expansion project. In the event that the Toronto project is terminated at Steeles Avenue, the timing of the VNSL subway segment will be predicated on availability of funding and the need to support Vaughan's regional centre development growth.

### 11.3 ENVIRONMENTAL COMMITMENTS

The purpose of this section is to outline commitments made by York Region to undertake environmental mitigation measures to ensure compliance with the requirements of the government agencies responsible for the review of this Environmental Assessment. Refer to **Table 11.3-1**.

Table 11.3-1  
Summary of Environmental Concerns and Commitments

Environmental Issue/ Concern/ Effect			Environmental Commitments		
I.D. #	Details	Potentially Interested Group/ Agency	I.D.#	Details	Comments
1	Fisheries and Aquatic Habitat	EC, MNR, DFO, MOE, TRCA	1.1	All culverts/ bridge modifications regarding potential Harmful Alterations, Disruption or Destruction of fish habitat, compensation under the Fisheries Act and identification of additional watercourses during the detailed design phase will be reviewed and approved by TRCA to ensure the compliance to their requirements.	Appendix D (NSR)
			1.2	For the proposed crossing at Rouge River between Town Centre Boulevard and	Appendix D

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Summary of Environmental Concerns and Commitments

Environmental Issue/ Concern/ Effect			Environmental Commitments		
I.D. #	Details	Potentially Interested Group/ Agency	I.D.#	Details	Comments
				Warden Avenue, a meander belt analysis will be carried out and a 100-year erosion limit will be determined during the preliminary & detailed design phases to meet TRCA's approval in determining the sizing of the bridge span.	
			1.3	Discussion with TRCA will be carried out during the detail design phase to determine if a HADD will occur at new water crossing; and if so, to secure a Fisheries Act authorization.	Appendix D
			1.4	Any proposed in-stream work and site-specific mitigation measures will be carried out as outlined in Table 8 of the Natural Science Report ( <b>Appendix D</b> ).	Appendix D
2	Wildlife Habitat	MNR, TRCA, DOE, EC	N/A	N/A	N/A
3	Vegetation and Wetlands	MNR, MOE, TRCA, DOE, EC	3.1	Edge Management Plan and Tree Preservation Plans will be prepared during the detailed design to mitigate impacts to adjacent natural features, as well as the preparation of detailed compensation and restoration plans to strive to provide for a net improvement to existing condition. TRCA guidelines for Forest Edge Management Plans and Post-Construction Restoration will be followed.	Appendix D (NSR)
4	Groundwater Resources	MOE, TRCA	4.1	In the event the shallow or upward groundwater movement becomes an issue due to the construction of subway during the detailed design stage, TRCA's hydrogeologist will be consulted.	Chapter 12
			4.2	For wells that remain in use, if any, a well inspection will be conducted prior to construction to establish baseline conditions and to confirm the relationship of the widened roadway to existing active water well will not have an adverse affect on water quality. If it does, a contingency plan will be developed. In the event that wells are required to be closed, closure will proceed in accordance with O.Reg.903 of the Ontario Water Resource Act. If the widened roadway has adverse effects on the active well on water quality, a contingency plan will be developed.	Appendix D

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Summary of Environmental Concerns and Commitments

Environmental Issue/ Concern/ Effect			Environmental Commitments		
I.D. #	Details	Potentially Interested Group/ Agency	I.D.#	Details	Comments
			4.3	For subway extension, a subsurface investigation will be conducted during preliminary and detail design to identify groundwater and soil conditions. Impact assessment and mitigation measures will be performed at that time to address any issues related to groundwater quality and quantity	Appendix D
5	Surface Water Resources	MOE, MNR, DOE, TRCA	5.1	A detailed Storm Water Management Plan (SWMP) will be developed in accordance with the MOE's <i>Stormwater Management Planning and Design Manual (2003)</i> and <i>Guidelines for Evaluating Construction Activities Impacting on Water Resources</i> . This SWMP will outline monitoring & maintenance commitments for SWM facilities constructed as part of this undertaking.	Section 9.5, Appendices D & G
			5.2	Water quality controls up to the MOE water quality guideline of Enhanced Level (80% total suspended solids removal) will be required for areas where an increase in impervious surface is observed.	Appendices D & G
			5.3	An Erosion and Sediment Control Plan will be developed to manage the flow of sediment into storm sewers and watercourses and to monitor erosion and sedimentation control measures during construction.	Section 9.5
6	Air Quality & Energy	MOE, EC	N/A	N/A	N/A
7	Contaminated Soil	MOE	7.1	In the event contaminated sites are identified after construction activities begin, a contingency plan will be prepared to outline the steps that will be taken to ensure that contaminant release will be minimized and appropriate clean-up will occur. The site clean-up procedure of the plan is subject to the MOE's <i>Brownfield's legislation</i> and the <i>Record of Site Condition Regulation (O.Reg. 153/04)</i>	Appendix F
		Heath Canada	7.2	Health Canada's Federal Contaminated Site Risk Assessment in Canada will be obtained.	
8	Noise and Vibration	MOE	N/A	N/A	N/A
9	Effects on Businesses and Other Land Uses	MOE	9.1	A parking need assessment and management study to be performed.	Section 9.1.8

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Summary of Environmental Concerns and Commitments

Environmental Issue/ Concern/ Effect			Environmental Commitments		
I.D. #	Details	Potentially Interested Group/ Agency	I.D.#	Details	Comments
10	Archaeological Resources	MTCR, Municipal Agencies, Municipal Heritage Planners, LACAC, TRCA	10.1	Findings of future archaeological assessment will be forwarded to the Ministry of Culture.	Appendix J
11	Subway Extension	City of Toronto, TTC	11.1	City of Toronto/ TTC will be consulted for the EA Amendment for the VNSL subway extension.	Chapter 12
12	Agriculture	MAF	12.1	A policy to protect agricultural lands during construction will be developed during the detailed design phase.	
13	Others	MTO	13.1	MTO will be consulted and their approval will be sought in any medications to the CAH bridges, and the grade separated option (C-B2) through Hwy 404 Interchange when required.	Section 9.1.5
			13.2	The Highway 427 Extension Preliminary Study will be obtained during detailed design once they are finalized. MTO will be consulted in the design of Highway 7 structure over Highway 427.	Section 9.1.5
		Public	13.3	Public concerns/ complaints will be address through public consultation centres during detailed design phase. As well, public relation stuff will address complaints regarding construction and operations of the transitway. The received concerns/ complaints will be circulated to appropriate department for action.	
		Markham, CPAC	13.4	During the preliminary and detailed design phases, the Cycling and Pedestrian Advisory Committee (CPAC) will be consulted regarding the cyclist and pedestrian treatments.	Section 13.9.4

## 11.4 MONITORING

The purpose of this section is to outline commitments made by York Region to monitor the project activities to ensure compliance with the requirements of the government agencies responsible for the review of this EA.

### 11.4.1 Construction Monitoring

During the construction of the transitway, the Region will carry out monitoring activities in accordance with a comprehensive **Monitoring Program** to be finalized during the detailed design phase. The plan will set out the purpose, method and frequency of all monitoring activities and provide the framework for recording and documenting their results.

The outline of the plan, shown in **Table 11.4-1**, documents York Region's commitment to measure the effects of transitway construction activities on the elements of the environment listed.

**Table 11.4-1  
Construction Monitoring**

Environment Element	Purpose of Monitoring	Monitoring Method	Monitoring Frequency
Noise generated by construction activities	To ensure noise levels comply with Municipal by-laws	Site measurements of levels produced by representative equipment/activities	At time of introduction of equipment/ activities producing significant noise level with potential to disturb sensitive areas.
Effect of construction activities on air quality(dust, odour,.)	To confirm that local air quality is not being adversely affected by construction activity	Regular inspections of site dust control measures and of construction vehicle exhaust emissions	Monthly during construction seasons.
Condition of heritage homes adjacent to transitway alignment	To determine if any damage/deterioration is due to construction activity	Pre-construction inspection to obtain baseline condition and monitoring during nearby construction	As required by construction schedule for work adjacent to heritage features.
Effect of construction on water quality and quantity in watercourses	To confirm that water quality is not being adversely affected by construction activity	Monitor sediment accumulation after rain events during construction to ensure that the proposed mitigation measures in the Erosion and Sediment Control Plan have been satisfied.	After first significant rain event
Effect of construction on boulevard trees	To ensure the survival of boulevard trees	Inspection of protective measures and monitoring of work methods near trees	Prior to commencement of work and bi-weekly during work activities.

Environmental protection measures will be stipulated in all appropriate construction specifications that will form the contractual basis for carrying out the works. The **Monitoring Program** will include procedures for implementation of mitigation of any adverse effects identified as well as contingency measures to respond to unexpected adverse impacts. In addition, the plan will set out the responsibilities of inspection staff assigned

to carry out the monitoring program described above. The staff will report to an independent Environmental Compliance Manager who will have overall responsibility for execution of the **Monitoring Program**.

### 11.4.2 Operations Monitoring

The **Monitoring Program**, described above, will also include a methodology and associated procedures to continue the necessary monitoring during revenue operations to confirm compliance with the commitments documented in the EA Report. The Program will include regular monitoring activities as well as the procedure to be adopted in the event that adverse effects are identified between regular inspections. Monitoring activities during rapid transit operations are shown in **Table 11.4-2**.

**Table 11.4-2  
Monitoring Activities During Rapid Transit Operations**

Environment Element	Purpose of Monitoring	Monitoring Method	Monitoring Frequency
Noise generated by operation and maintenance activities	To ensure noise levels comply with Municipal by-laws	Pass-by and idling measurements of levels produced by representative vehicles /activities	Initially after revenue service is introduced and in response to concerns or after any major increase in service frequency.
Effect of rapid transit operations on local air quality (pollutants, odour,.)	To confirm that local air quality is not being adversely affected by transit vehicle activity at terminals/facilities	Regular inspections of measures and of transit vehicle exhaust emissions	Initially after facilities are placed into service and at five-year interval during vehicle life.
Condition of heritage homes adjacent to transitway alignment	To determine if any damage/deterioration is due to vibrations produced by transit vehicles	Post-construction inspection to obtain baseline condition and monitoring during pass-by operations	Initially after revenue service is introduced and in response to concerns or after any major increase in service frequency.
Traffic Operation	To confirm that the traffic operation is not adversely affected.	Post-construction traffic study	Initially after revenue service is introduced and at a regular interval afterward.
Effect of snow and ice removal on water quality in corridor watercourses	To confirm that water quality is not being adversely affected by transitway and vehicle maintenance activities	Monitor sediment accumulation in storm water management facilities.	During major storm events up to five times per year
Effect of operations and maintenance on boulevard trees	To ensure the survival of boulevard trees	Inspection of protective measures and monitoring of work methods near trees	Annually

### 11.4.3 Vehicle Conversion from BRT to LRT

The **Monitoring Program** will involve a methodology for reviewing the timing for conversion in vehicle technology from BRT to LRT. Ridership will be monitored between 2007 and 2011, and by 2012 a major review of the YRTP project will be undertaken to determine if the underlying assumptions about growth (population, employment and other activities) in York Region have taken place. This review will determine if the ridership response to the YRTP service has also met expectations. The traffic operations within the Corridor and at intersections will be reviewed to determine the level of service (LOS). The advantages of technology conversion to LRT technology will be assessed before making a final decision on the timing of LRT implementation (improvement in overall traffic operations, travel time savings, impact to overall ridership, service reliability etc.).

During the monitoring, consultation with the City of Toronto and TTC staff will take place in relation to capacity and technology requirements and service integration. In addition, the consultations will review the TTC subway extension priorities at that time to establish if, and when an extension of the Yonge or Spadina Subway to Highway 7 will be forthcoming. A report will be presented to Regional Council in open session, following the printing of newspaper notices advising the public of the proposed technology transfer from BRT to LRT.

## 11.5 MODIFYING THE PREFERRED DESIGN

In discussing the process to change the preferred design, it is important to distinguish between minor and major changes. A major design change would require completion of an amendment to this EA, while a minor change would not. For either kind of change, it is the responsibility of the Regional Municipality of York, as proponent, to ensure that all possible concerns of the public and affected agencies are addressed.

Minor design changes may be defined as those which do not appreciably change the expected net impacts associated with the project. For example, a design change in lighting treatment and landscaping as well as minor changes to median width, vehicle lane widths, design speed of roadway curbs and underground infrastructure to be renewed. Such changes could likely be dealt with during the design phase and would remain the responsibility of York Region to ensure that all relevant issues are addressed.

Due to unforeseen circumstances, it may not be feasible to implement the project as described in this EA report. Accordingly, any significant modification to the project or change in the environmental setting for the

project which occurs after the filing of this EA shall be reviewed by York Region and an addendum to the EA shall be prepared.

## **11.6 AMENDMENT TO COMPLETE VAUGHAN NORTH-SOUTH LINK PREFERRED SUBWAY DESIGN**

**Chapter 12** identifies the need to defer development of a complete preferred design for the Spadina Subway Extension for the portion of the Vaughan North-South Link tying into the Toronto/TTC EA preferred design in the Steeles Avenue area until that EA is approved. York Region proposes to carry out this work at a future date and seek MOE approval of the preferred design of the portion not included in this EA by submitting an amendment report after appropriate stakeholder consultation. The work can only be performed when MOE approval of the preferred designs for the related Toronto/TTC Subway Extension EA and the planned 407 Transitway EA has been obtained. It will include the tasks summarized in **Chapter 12**.