

## 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 Markham N-S Link Corridor Public Transit Improvements undertaking, described in Chapter 9, is one of three north-south corridors in York Region's proposed four-corridor Rapid Transit Plan. Travel demand modelling has indicated that rapid transit service on Warden Avenue will attract a high level of transit ridership contributing to the overall 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 Environmental Assessment 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 (i.e. VIVA Phase 1), which is not part of the undertaking.

It is possible that the implementation of transit priority measures in the Warden Avenue corridor may take place in stages, with an initial stage being the introduction of queue jump lanes in congestion sections. Accordingly, each incremental stage would be timed to allow sufficient time for post-EA approvals prior to the scheduled start of construction in each segment. Component designs, in each segment, will incorporate and define in detail, all mitigation measures identified as necessary, for both construction and operation, in Chapter 9 of this report.

Besides the MOE and CEAA approvals of the EA itself, examples of additional approvals that may be required are:

- TRCA permits;
- OWRA Section 53 approvals for the proposed storm water sewers and end-of-pipe stormwater management facilities;
- Any Ontario MNR approvals.

Also, on completion of the design activities, detailed construction staging plans including traffic management measures and all temporary works will be prepared.

#### 11.2.2 The Construction Phase

##### 11.2.2.1 Transitway and Stations

Pending funding, the first priorities for the construction of transitway segments are south Yonge Street (Steeles Avenue to 19<sup>th</sup> Avenue) following by Highway 7 East. The timing of construction of the Markham Link is less certain, but is expected to occur within the next 5 to 10 years.

It is assumed that, if approved, construction of transit infrastructure improvements in the York Region Rapid Transit network will occur immediately after receiving funding.

Prior to commencing construction in the Warden Avenue right-of-way, a 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 Warden Avenue;
- measures to preserve vehicle and pedestrian access to adjacent properties;
- measures to maintain access for emergency vehicles;
- locations and details of signage and barriers;
- 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.

### 11.3 ENVIRONMENTAL COMMITMENTS

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 Environmental Assessment.

#### 11.3.1 Construction Monitoring

During the construction of the transitway, the Region will carry out monitoring activities in accordance with a comprehensive Monitoring Plan to be finalized during the detail 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 following outline of the plan documents York Region's commitment to measure the effects of transitway and maintenance facility construction activities on the elements of the environment listed.

| Environment Element  | Purpose of Monitoring  | Monitoring Method   | Monitoring Frequency  |
|--|--|---|---|
| Noise generated by construction activities                     | To ensure noise levels comply with Municipal bye-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 | Regular inspections of site dust control measures and of                    | Monthly during construction seasons   |

| Environment Element   | Purpose of Monitoring  | Monitoring Method   | Monitoring Frequency   |
|---|--|---|--|
|   | construction activity  | construction vehicle exhaust emissions  |  |
| Condition of heritage features 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 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           |
| Effect of access roads, staging areas, storage areas, drainage facilities and stormwater management facilities on archaeological features | To undertake archaeological assessment and identify mitigation of impacts prior to any soil disturbance or alteration. | Conduct stage 2 archaeological assessment.  | Prior to construction  |

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.

### 11.3.2 Operations Monitoring

The Monitoring Plan, 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. Monitoring activities during rapid transit operations will encompass the following:

| 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, etc.) | 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 features 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 |
| 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 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 in the North Section 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 environmental assessment report. Accordingly, any significant modification to the project or change in the environmental setting for the project which occurs after the filing of this environmental assessment shall be reviewed by York Region and an addendum to the environmental assessment shall be prepared.