# 407 TRANSITWAY

## KENNEDY ROAD TO BROCK ROAD

## PUBLIC INFORMATION CENTRE #1

407 Transitway

**MARKHAM PUBLIC INFORMATION CENTRE**

**Date:** April 15, 2015
**Time:** 4:00 p.m. to 8:00 p m.
**Location:** Markham Museum
Main Building
9350 Markham Rd
Markham, Ontario L3P 3J3

**PICKERING PUBLIC INFORMATION CENTRE**

**Date:** April 16, 2015
**Time:** 4:00 p.m. to 8:00 p.m.
**Location:** Pickering Recreation Complex
Meeting Room B
1867 Valley Farm Rd
Pickering, Ontario L1V 3Y7

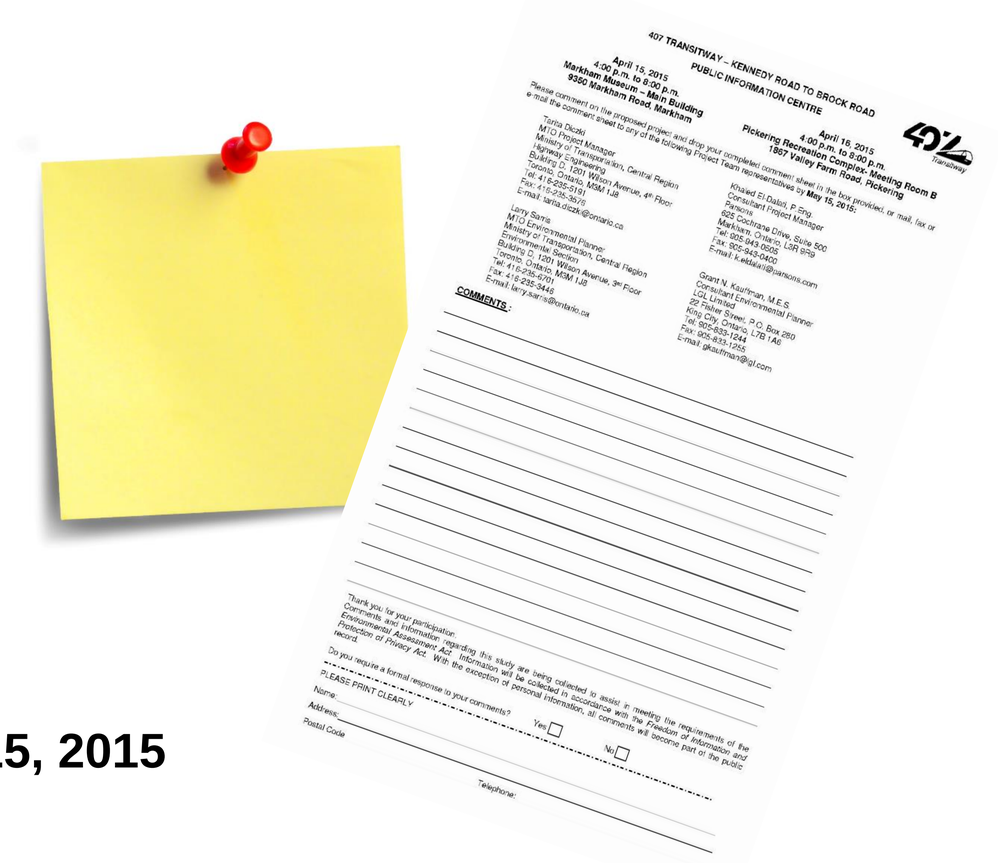
**PROJECT WEBSITE: 407Transitway.com**

Ontario

# The Purpose of Public Information Centre #1

- Introduce the 407 Transitway project to the public
- Present alignment alternatives
- Present station alternatives, and initial recommendations
- Present evaluation criteria and methodology
- Obtain feed-back from the public

- **How can you comment?**
  - Fill out a comment sheet
  - Place a post-it with comments on any of the presentation boards




**Comments would be appreciated by May 15, 2015**

**Project Website: 407Transitway.com**

# What is the 407 Transitway?

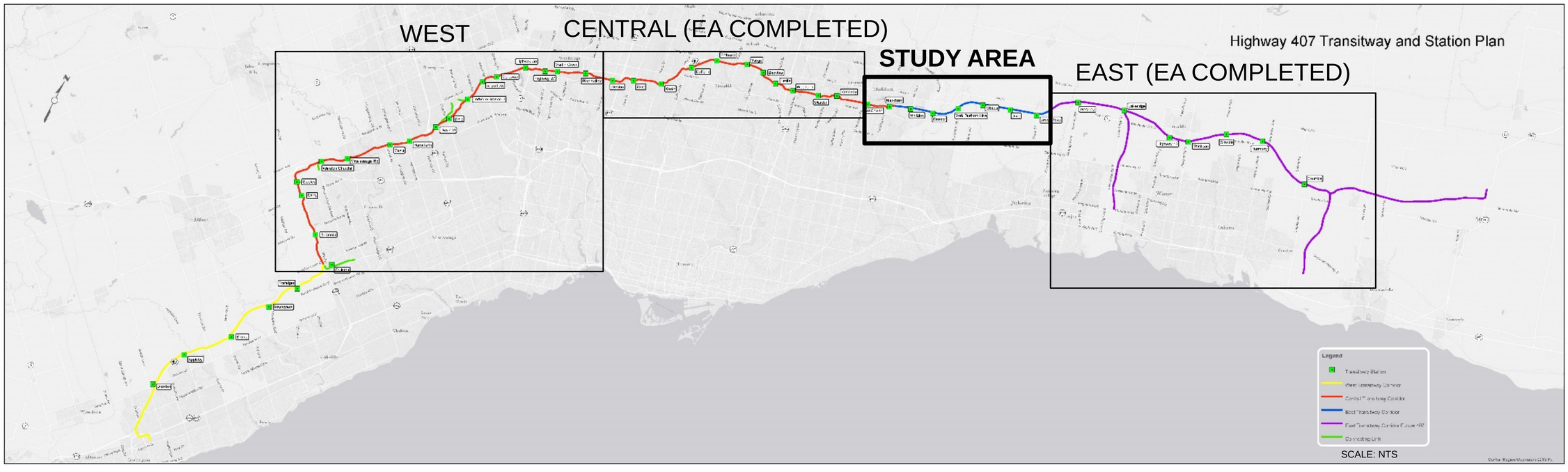
- Exclusive corridor, fully grade separated rapid transit (Bus Rapid Transit or Light Rail Transit) parallel to Highway 407
- The 407 Transitway will connect Burlington to Oshawa with a length of 150 km with up to 50 surface stations
- Current project limits are Kennedy Road to Brock Road spanning a total distance 18 km with 4 to 8 stations
- Highway 400 to Kennedy Road (Central Section) has Environmental Assessment approval
- Brock Road to Highway 35/115 has Environmental Assessment approval

Ottawa BRT

407 Transitway Central Section Rendering

# Study Objectives – Need & Justification

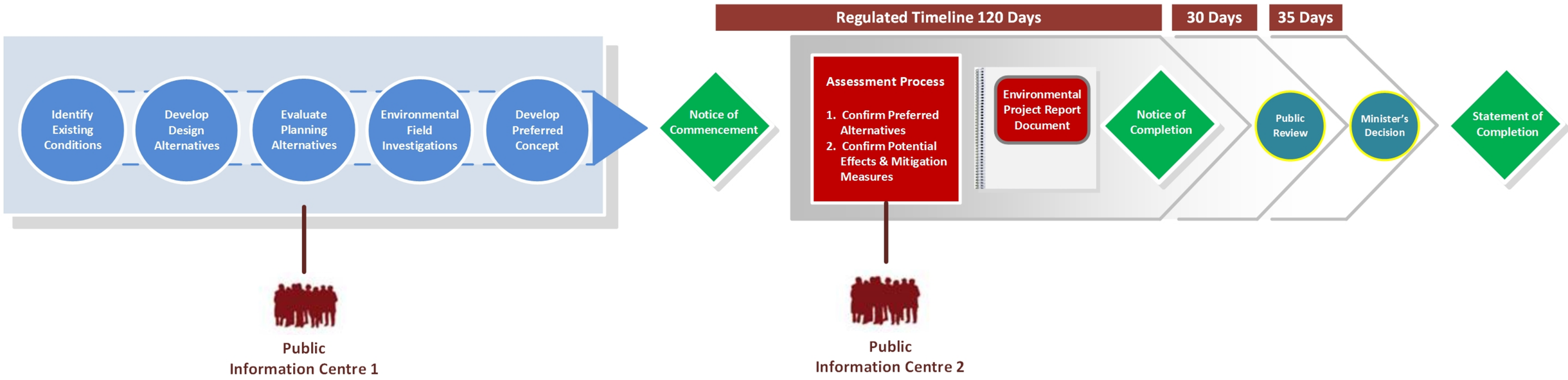
- Enhance east-west cross-regional mobility and increase transit capacity to meet forecasted travel demand
- Offer a viable, cost-effective way of moving people in the Highway 407 corridor
- Improve accessibility to existing/planned major urban centres/nodes, post secondary educational institutions, and other nodes of high demand, such as: Vaughan City Centre, Richmond Hill Centre and Markham Centre, future Seaton Development, York University, Humber College, University of Ontario Institute of Technology, Durham College, Pearson International Airport, potential future Pickering Airport
- Improve integration with regional transportation network – connection to Spadina Subway, future Yonge Subway, GO Milton; Barrie, Richmond Hill and Stouffville rail lines; Peel, York and Durham Transit.
- Reduce automobile dependence and green house gas emissions
- Identify land protection requirements for Transitway infrastructure



# Schedule & Process

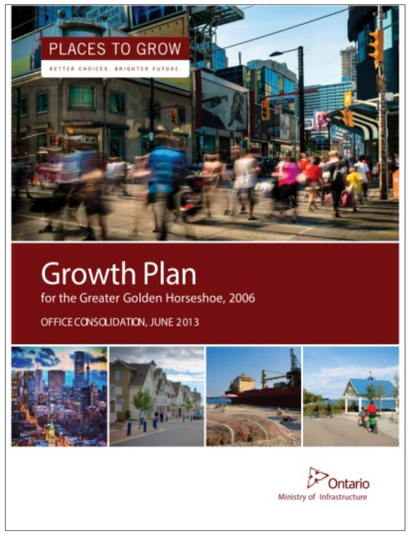
## Step 1
Planning Stage

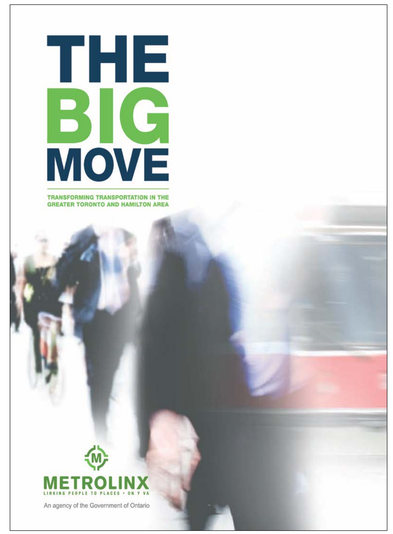
## Step 2
Transit Project & Metrolinx Undertaking
(Environmental Assessment)



# What is Driving This Study?

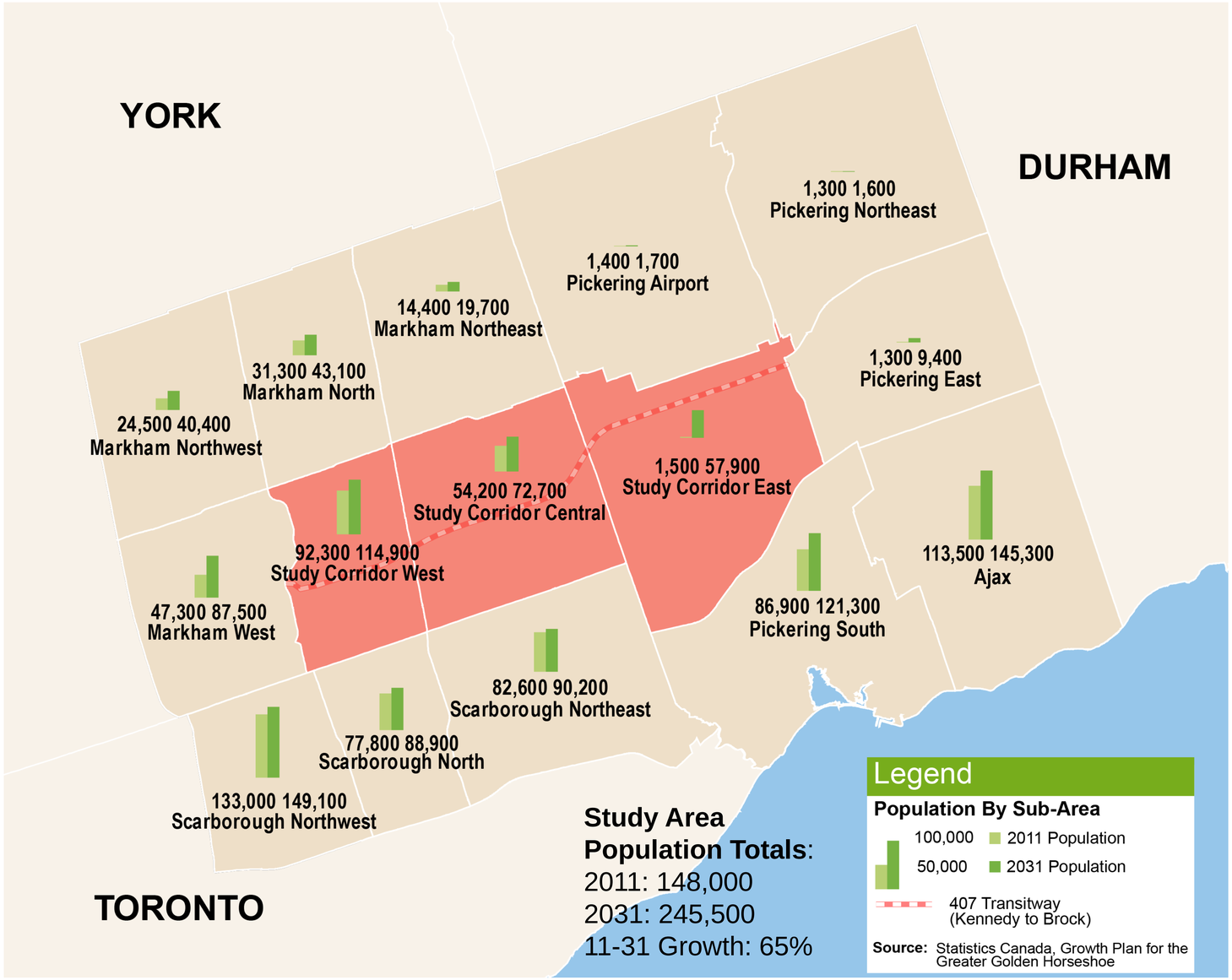
- Rapid transit on the 407 Transitway will support Growth Plan for the Greater Golden Horseshoe (*Growth Plan*) policies
- The 407 Transitway was identified in *The Metrolinx Big Move Plan* as a critical component of the regional transportation network connecting Durham, York, Peel and Halton Regions
- *The Metrolinx Big Move Plan* calls for rail service on the Canadian Pacific Railroad (CPR) Havelock Corridor which would create a transit hub in Northern Pickering at the intersection of Highway 407 and this future rail line
- A number of emerging developments in Durham and York Region will support base ridership and benefit from rapid transit service including:
  - The Seaton Community in Northern Pickering which is anticipated to add 30,000 jobs and 70,000 residents
  - A future York University campus in Markham with projected enrollment of 10,000-20,000 students
  - The proposed Pickering Airport which is directly adjacent to the 407 Transitway
  - Residential and employment development that will occur along the future Highway 407 East from Brock Road to Highway 35/115



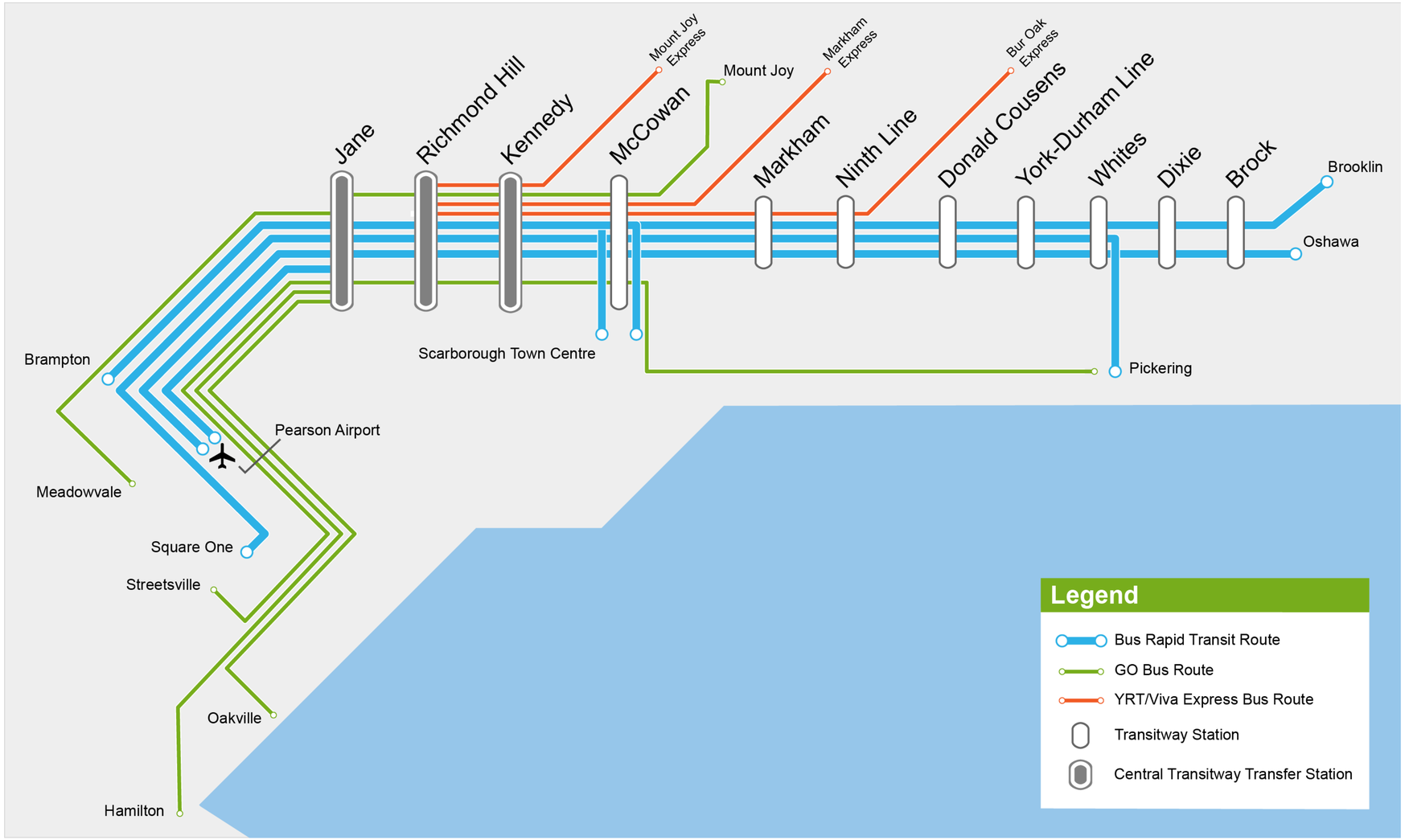




# Corridor Growth

- From 2011 to 2031, Durham Region is projected to add over 345,000 people and 115,000 jobs
- Over the same period, York Region is projected to grow by 520,000 people and 250,000 jobs
- Trends will create jobs-worker imbalance in Durham and more out-commuting as up to 55,000 new Durham workers will travel to work in other municipalities - mainly York Region and Toronto
- Congestion is projected to increase significantly and planned road expansions alone may not support growth or increases in travel demand
- High quality rapid transit will serve future travel patterns and provide a range of mobility choices to support the needs of future residents and *Growth Plan* policies



# Service Concept



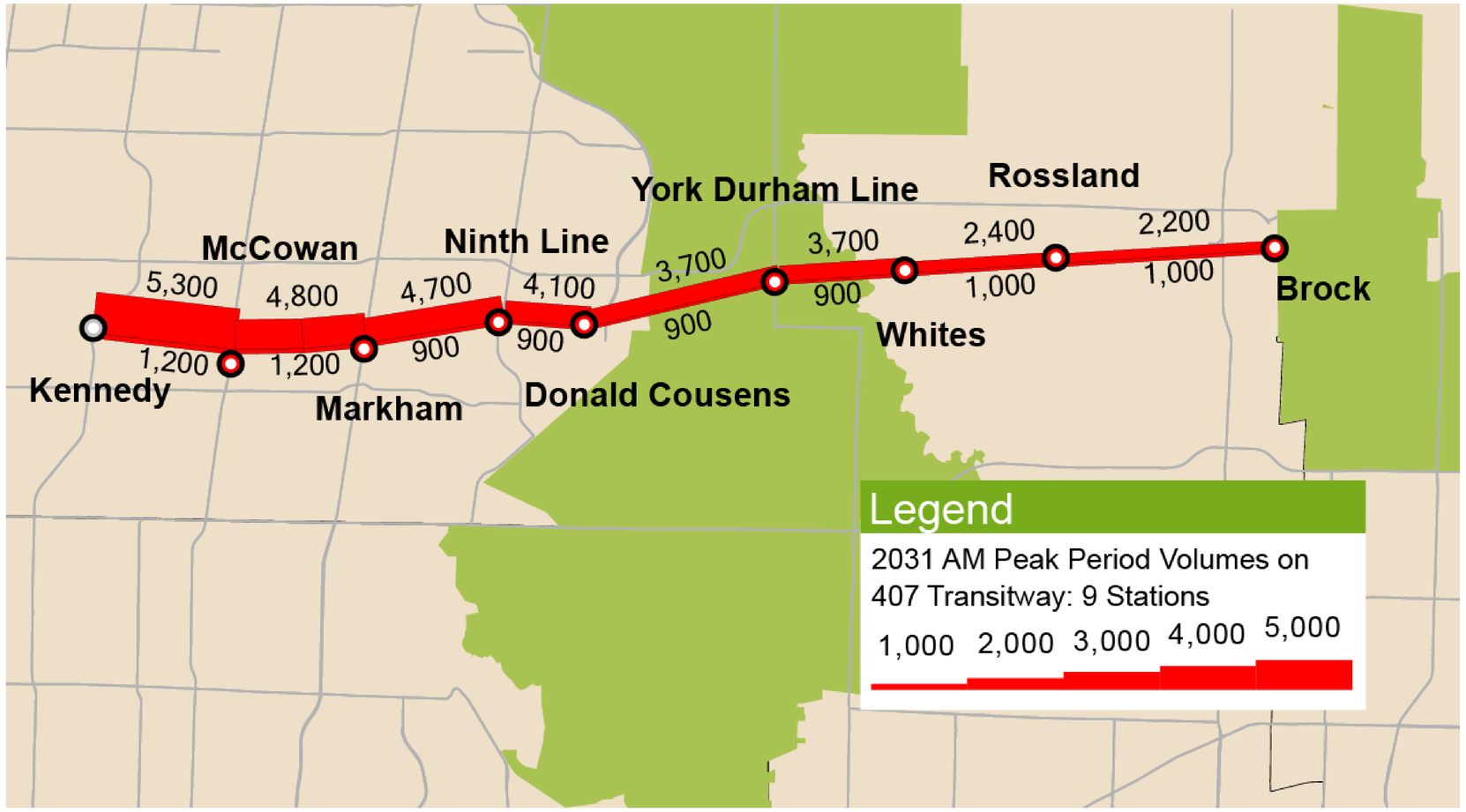

Schematic Service Diagram

- **Spine services** – services that operate exclusively on the Transitway, including express routes
- **No-transfer services** – designed to provide ‘no transfer’ rides between major nodes or residential areas. Routes include portions both on and off the Transitway (interlining service)
- Average speed (including station stop time) of 50-85 km/h, depending on type of route (stop at all stations, semi-express, or express)

# 2031 AM projected Peak Period Ridership

**Projected Ridership on the Kennedy Road to Brock Road 407 Transitway - 2031 AM Peak Period (3 hours)**

- 7,500 total boardings
- Westbound peak load of 5,300 entering Kennedy Station
- 80% of passengers traveling westbound during morning commute hours
- This section of the Transitway has a high reliance on park-and-ride and interlining (no-transfer) services



# Environmental Considerations

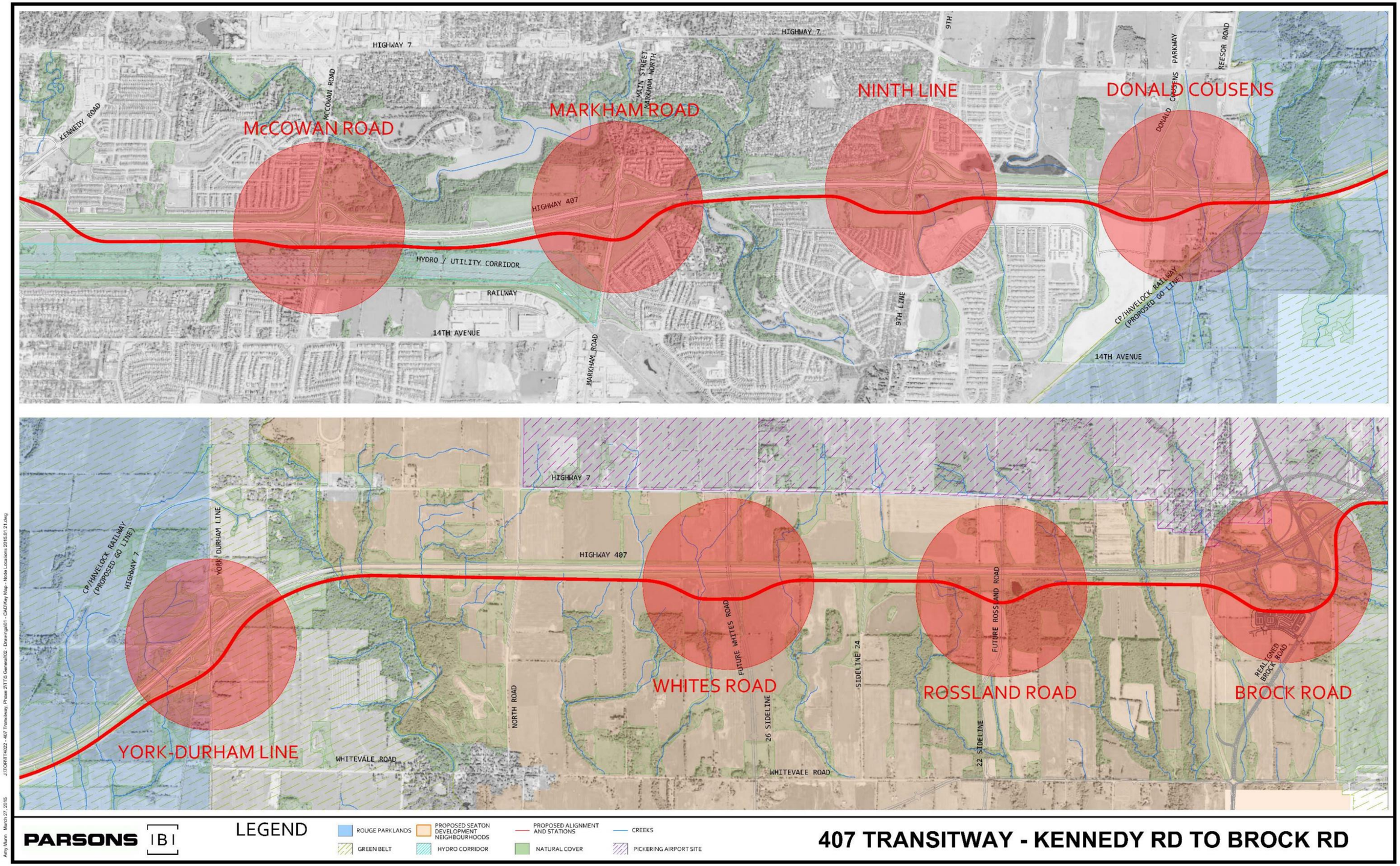
## Existing Conditions within the Study Area Based on Available Information

- 3 watersheds – Rouge River, Petticoat Creek and Duffins Creek
- 27 watercourse crossings
- Endangered or Threatened Species – potential for Redside Dace, Bobolink, Eastern Meadowlark, Chimney Swift, Barn Swallow, Butternut
- No presence of *Area of Natural and Scientific Interest* (ANSI) or *Environmental Significant/Sensitive Area* (ESA)

## Environmental Field Investigation, Impact Assessment and Mitigation Measures to Occur in 2015

- Natural Sciences (fisheries and terrestrial)
- Archaeology
- Cultural Heritage
- Noise
- Air Quality
- Groundwater
- Contaminated Property and Waste
- Hydrology

# Transitway Corridor and Candidate Station Nodes



# Station Location Assessment Approach & Methodology

**INITIAL SCREENING OF SITES**

- Land availability
- Major environmental constraints
- Access feasibility
- **OUTCOME: identification of feasible sites**

**ASSESSMENT OF FEASIBLE SITES**

- Initial Environmental Considerations
- Service Quality and Infrastructure Needs Assessment
- Constructability Assessment
- High level cost assessment
- Consultation with stakeholders
- **OUTCOME: Identification of preferred sites**

**ASSESSMENT OF PREFERRED SITES**

- Ridership sensitivity analysis
- Assessment of municipal future plans
- Consultation with stakeholders
- Consultation with public (PIC #1)
- Review alternative evaluation
- **OUTCOME: Selection of recommended sites**

★ **WE ARE HERE**

**CONFIRMATION OF RECOMMENDED SITES**

- Detailed Environmental Field investigation (impacts assessment / mitigation)
- Design Refinement
- Consultation with stakeholders
- Consultation with public (PIC #2)
- **OUTCOME: Confirmation of recommended sites**

# Evaluation Criteria

## ENVIRONMENT

### Natural

- Terrestrial & aquatic ecosystems
- Contamination & Air quality
- Hydrology, Geology and Hydrogeology
- Species/Habitat at Risk

### Social

- Property
- Noise Sensitive areas
- Construction staging impacts
- Land use compatible with provincial and municipal plans and policies

### Cultural

- Archaeological potential
- Impacts to built heritage features and culturally significant landscapes

## SERVICE QUALITY AND INFRASTRUCTURE

### Transitway Operation

- Transitway alignment
- Ease of staged implementation

### Accessibility

- Pedestrian & cycling connectivity
- Vehicle connectivity
- Transit connectivity
- Suitable for staged development
- Meets design standards

### Site Area

- Size and shape
- Ability to optimize facility layout and functionality
- Area for surface expansion

### Constructability

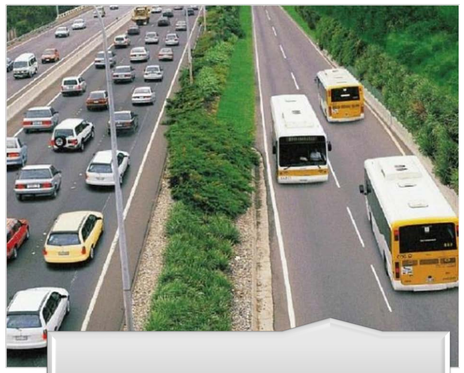
- Disruption to traffic
- Major utility relocation

## COST

### Capital Construction Costs

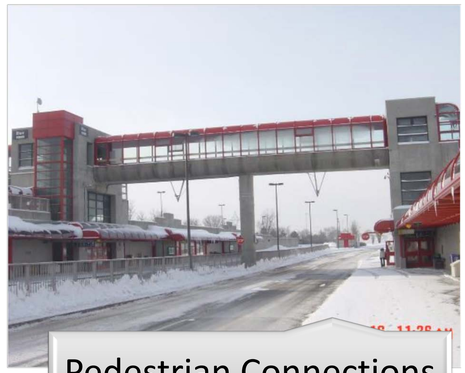
- Implementation cost

# Typical Station Elements

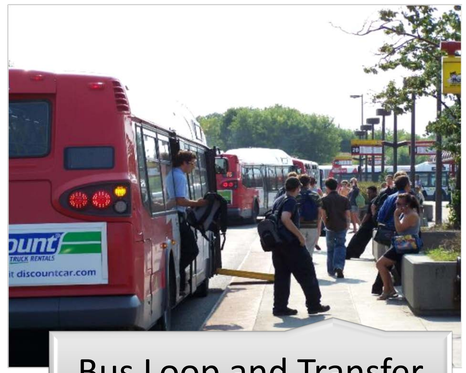


Runningway

Platforms



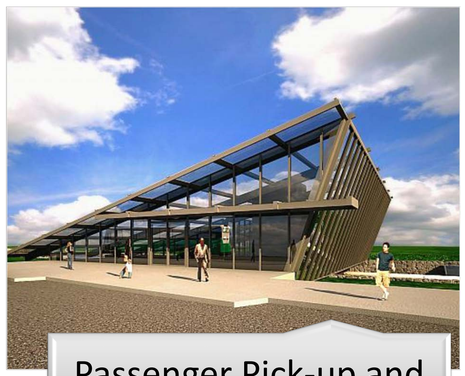
Pedestrian Connections (Bridges & Walkways)



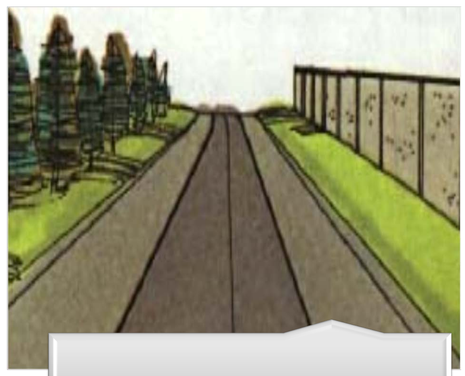
Bus Loop and Transfer Area

Bicycle Parking

Commuter Parking & Carpool Parking

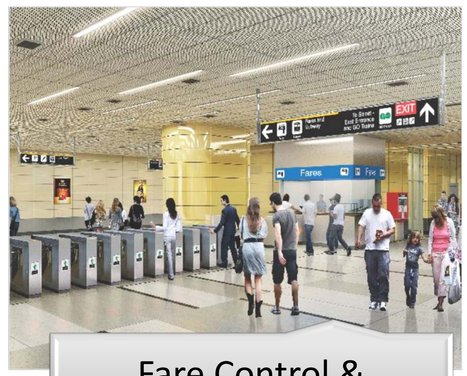


Passenger Pick-up and Drop-off Area (PPUDO)



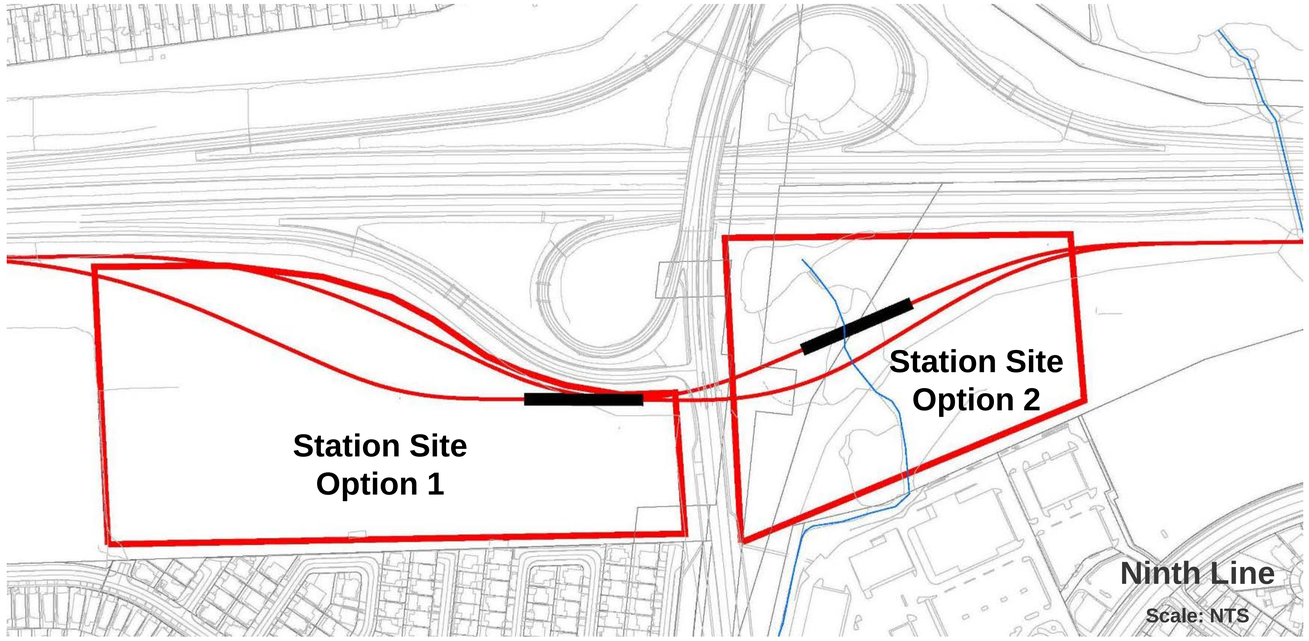
Landscaping

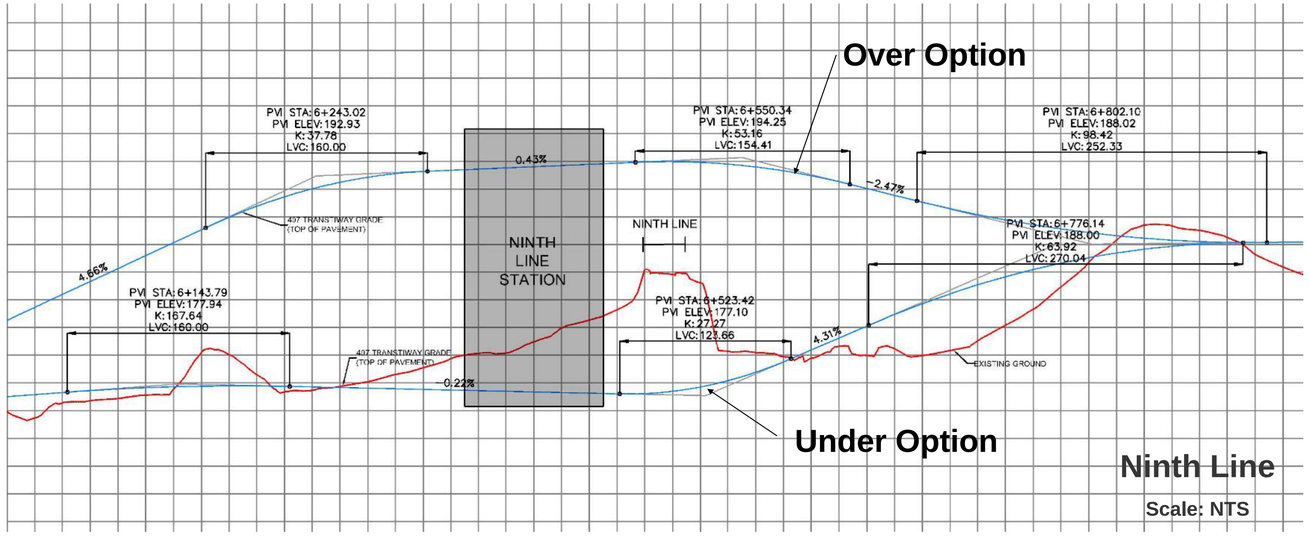
Stormwater Management Pond




Fare Control & Wayfinding

# Alignment – Design Criteria & Objectives




**STANDARDS USED ARE CONSISTENT WITH THE CENTRAL SECTION (HWY 400 TO KENNEDY RD) ENVIRONMENTAL ASSESSMENT DESIGN**

## Horizontal Alignment Criteria

- 110 km/h design speed on runningway (100km/h operating speed)
- 80 km/h design speed through stations (60km/h operating speed)
- Provide a station platform as convenient as possible to users
- Minimize impact to existing and planned infrastructure
- Minimize impact to surrounding environment, utilities and Highway 407
- 100m long straight/flat section required for station (LRT)

**ONE ALIGNMENT IS BEING PRESENTED BASED ON INITIALLY PREFERRED STATION SITES**

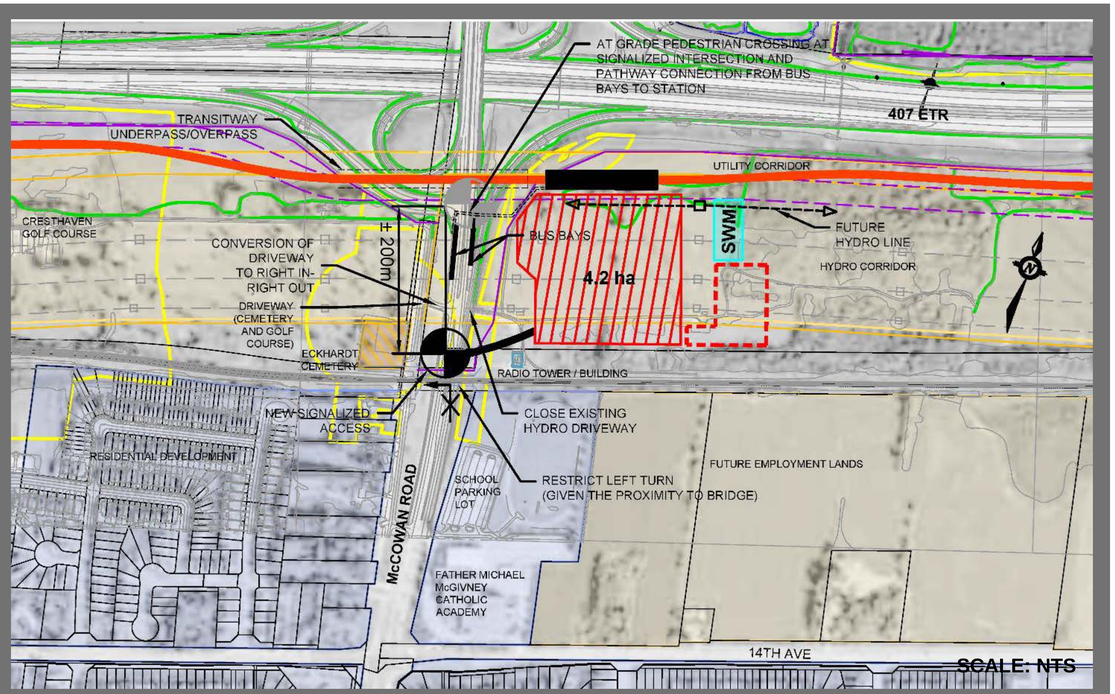
## Vertical Alignment Criteria

- Minimize vertical difference between surface facility and station platform
- Minimize impact to surrounding environment, utilities and Highway 407
- Minimize cost and length of structures
- 0.5% maximum platform grade (LRT)
- 4.5% maximum desirable grade (LRT)

**BOTH OPTIONS OF CROSSING OVER OR UNDER THE MAIN ARTERIALS ARE CURRENTLY BEING CONSIDERED**

# McCowan Road Station – Site Alternatives

NOT PREFERRED

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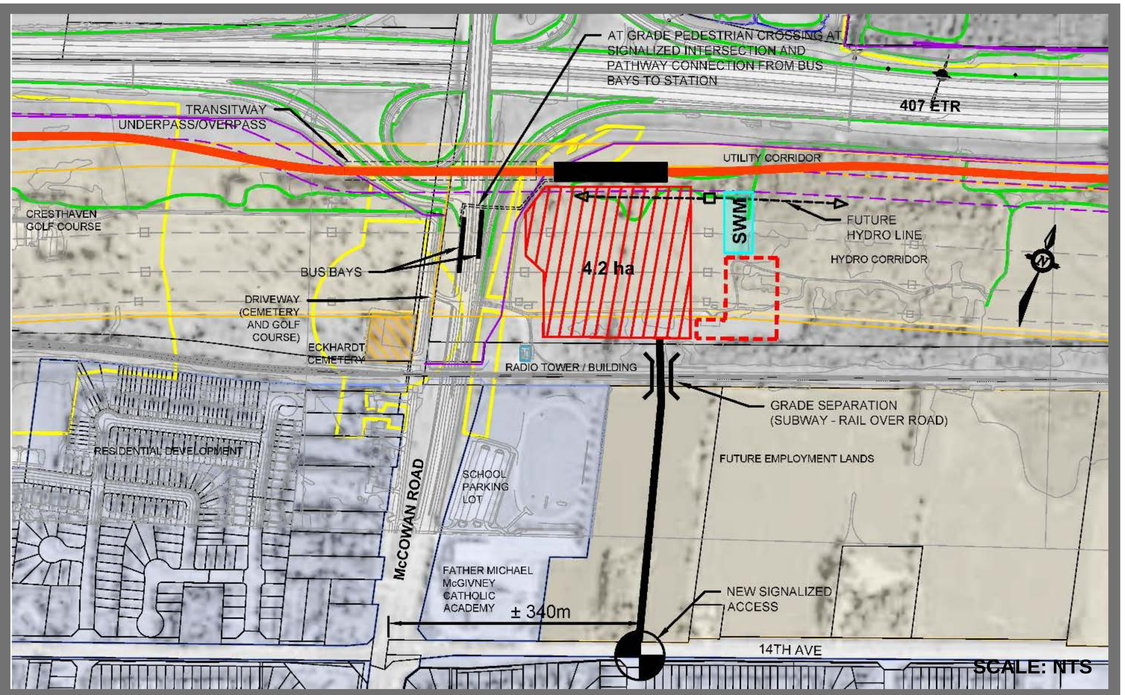


## INITIAL RECOMMENDATION AS A RESULT OF EVALUATION :

## NO STATION AT THIS LOCATION

**LAND AVAILABILITY LIMITATIONS; POTENTIAL SIGHT RESTRICTIONS AND EXCESSIVE COSTS OF VEHICULAR ACCESS OPTIONS; UN-FEASIBLE PEDESTRIAN ACCESS; PROXIMITY OF ADJACENT STATIONS**

| EVALUATION CRITERIA | SE ALTERNATIVE 1 | |
|---|---|---|
| Natural Environment | Watercourse located east of station site | |
| Social Environment | Station site is located within the hydro corridor under 500kv lines, precluding the possibility of including a bus loop on the station site.<br>Access Rd impacts hydro lands and large retaining wall structure required adjacent to rail line<br>Significant impacts expected to traffic in the area during construction of Transitway facilities | |
| Cultural Environment | No Impacts anticipated | |
| Transitway Operation | Alignment: Large tunnel or viaduct structure required to cross McCowan Rd and Highway 407 ramps<br>Implementation: Hydro regulations prohibit buses stopping under the 500kv lines; consequently, staged implementation with buses operating on Highway 407 is not possible | |
| Accessibility | Vehicular: Access from McCowan Rd., due to signalling spacing standards, needs to be placed adjacent to the railway bridge, resulting in driver sight line concerns.<br>Pedestrian: Pedestrian access would require a crossing at the signal with un-controlled crossing of the S-E ramp which is undesirable due to serious safety concerns. Vertical structure and tunneled or bridged walkway not considered feasible due to excessive cost.<br>Transit connectivity: On street bus stops would be required with same pedestrian access implications as there is no possibility for bus accessing the station site. | |
| Site Area | Sufficient space available for park and ride, provided it is located under the Hydro corridor; however, land available between the Hydro Corridor and the Transitway is insufficient to accommodate a bus loop. | |
| Constructability | Complicated construction due to proximity of railroad and presence of hydro corridor | |
| Construction Cost | Very high. | |

GOOD POOR

| EVALUATION CRITERIA | SE ALTERNATIVE 2 | |
|---|---|---|
| Natural Environment | Same as SE Alternative 1 | |
| Social Environment | Station site is located within the hydro corridor under 500kv lines, precluding the possibility of including a bus loop on the station site.<br>Access crosses a planned commercial development; it requires a bridge to cross the railway; and crosses under the hydro towers.<br>Significant impacts expected to traffic in the area during construction of Transitway facilities | |
| Cultural Environment | Same as SE Alternative 1 | |
| Transitway Operation | Same as SE Alternative 1 | |
| Accessibility | Vehicular: Long access Rd. 700 m. from 14th Ave.<br>Pedestrian: Pedestrian access would require a crossing at the signal with un-controlled crossing of the S-E ramp which is undesirable due to serious safety concerns. Vertical structure and tunneled or bridged walkway not considered feasible due to excessive cost.<br>Transit connectivity: On street bus stops would be required with same pedestrian access implications as there is no possibility for bus accessing the station site. | |
| Site Area | Same as SE Alternative 1 | |
| Constructability | Same as SE Alternative 1 | |
| Construction Cost | Very High | |

# Markham Road Station – Site Alternatives

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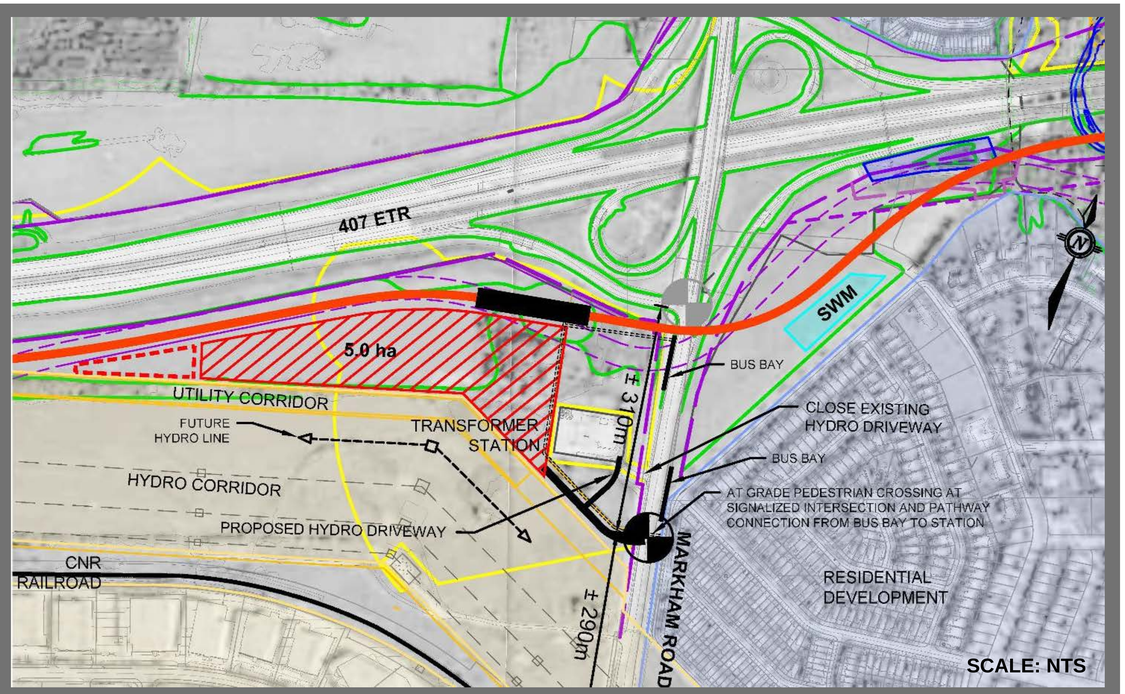


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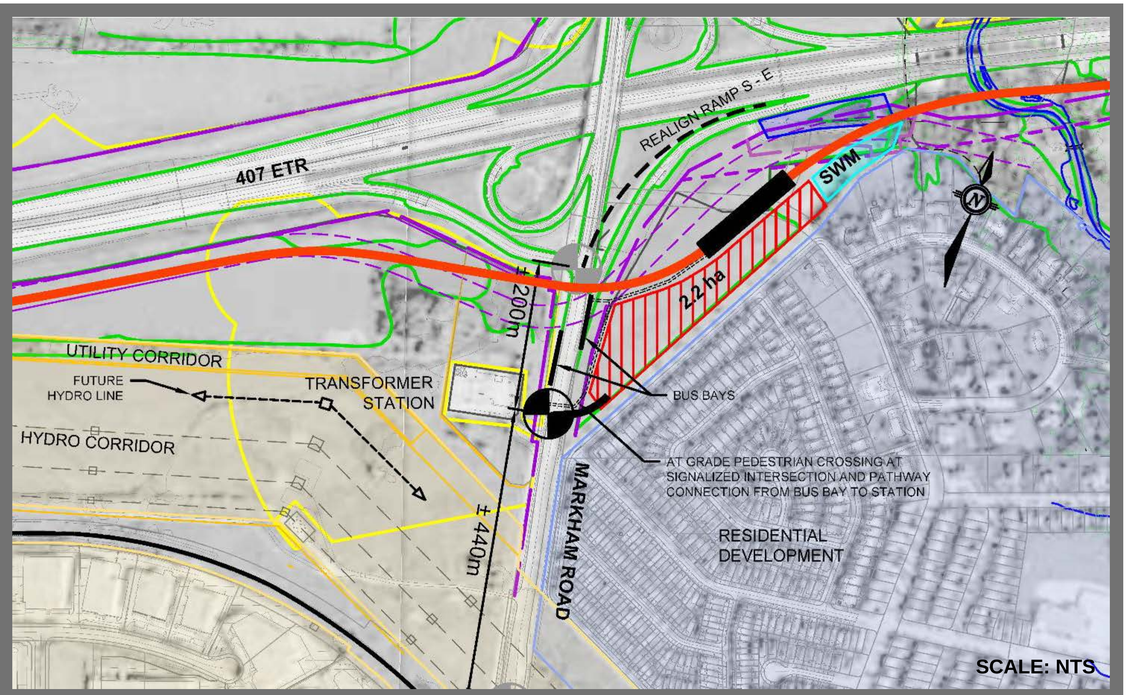


## INITIAL RECOMMENDATION AS A RESULT OF EVALUATION :

## SW ALTERNATIVE

**SUFFICIENT LAND AVAILABLE AND POTENTIAL FOR EXPANSION ON WEST SIDE WHILE INSUFFICIENT LAND TO ACCOMMODATE COMPLETE STATION FACILITY ON THE EAST; NO ENVIRONMENTAL CONSTRAINTS ON WEST SIDE WHILE PRESENCE OF RESIDENTIAL DEVELOPMENT SOUTH OF EAST SITE.**

| EVALUATION CRITERIA | SW ALTERNATIVE | |
|---|---|---|
| Natural Environment | Potential impacts to wetlands north of transformer station, to be further evaluated. | |
| Social Environment | Station site is located just north of the hydro corridor under 500kV lines, within lands designated for transportation and utilities.<br>Hydro One will need to agree to partial usage of their corridor. | |
| Cultural Environment | Area of potential archaeological interest. | |
| Transitway Operation | Alignment: Meets design standards, Underpass alignment minimizes grades separation at station.<br>Implementation: Staged implementation of Transitway will be possible with buses operating on Highway 407. | |
| Accessibility | Vehicular: Desirable intersection spacing. Site will be served by new signalized access located midway between 14th Avenue and the Highway 407 ramp. Markham Hydro transformer station access will be combined with station access.<br>Pedestrian: Station platform is located within 150m of Markham Rd. Pedestrians will cross Markham Rd at a traffic signal.<br>Transit connectivity: A bus loop can be accommodated on site. Transit stops along Markham Rd and pedestrian connection, from the stops would be provided. | |
| Site Area | Sufficient space available for parking lot (5.0 ha).<br>Additional (expansion) parking could be provided within the hydro corridor. | |
| Constructability | Markham Rd and 407 S-E ramp will be impacted during construction. Proper construction staging will be developed to minimize effects. | |
| Construction Cost | Medium | |

| EVALUATION CRITERIA | SE ALTERNATIVE | |
|---|---|---|
| Natural Environment | Rouge River located immediately east of station site. Potential hydrological impacts. | |
| Social Environment | Station is located within lands designated for transportation and utilities.<br>Increased noise impacts to adjacent residential neighbourhood. It would require a noise barrier.<br>Site access impacts Highway 407 S-E Ramp (it would require tightening of ramp geometry). | |
| Cultural Environment | No impacts anticipated | |
| Transitway Operation | Alignment: Meets design standards, Underpass alignment minimizes grades separation at station.<br>Implementation: Staged implementation of Transitway will be possible with buses operating on Highway 407. | |
| Accessibility | Vehicular: Minimum intersection spacing provided. Site will be served by new signalized access located 200m south of Highway 407 interchange.<br>Pedestrian: Station platform is located within 200m of Markham Rd. Pedestrians would cross Markham Rd at a traffic signal.<br>Transit connectivity: Limited land availability will restrict potential bus loop. Transit stops along Markham Rd and pedestrian connection from the stops would be provided | |
| Site Area | Site area is significantly constrained by residential development to the south and the Rouge River to the east (2.2 ha available). Space available is insufficient to accommodate required parking-lot size with no possibility of any future expansion. | |
| Constructability | Markham Rd and Highway 407 S-E ramp will be impacted during construction.<br>Construction noise would impact adjacent residential neighbourhood. | |
| Construction Cost | Medium | |

GOOD POOR

LEGEND:
COMMERCIAL DEVELOPMENT; FUTURE TRANSITWAY STATION; RESIDENTIAL DEVELOPMENT; SWM PONDS; HYDRO CORRIDOR; CULTURAL HERITAGE; GREENBELT AREA; WETLAND; SEATON NATURAL HERITAGE; 407 ROW; 407 TRANSITWAY ROW; WATER COURSES; ARCHEOLOGICAL POTENTIAL; ECOLOGICAL LAND CLASSIFICATION

# Ninth Line Station – Site Alternatives

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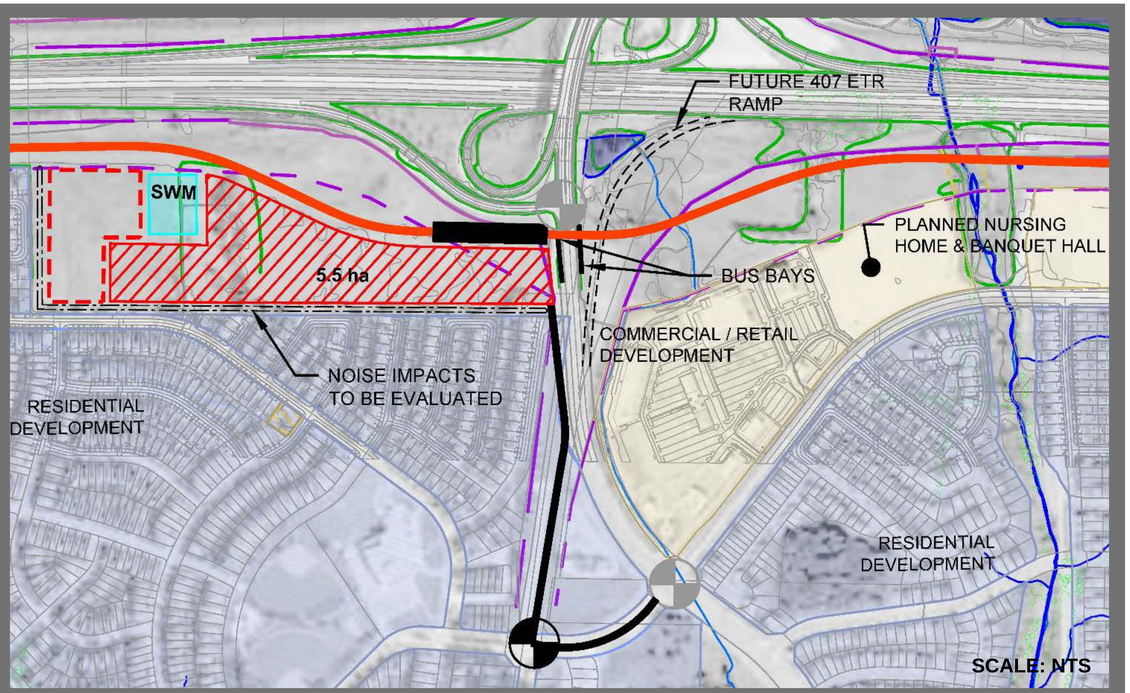


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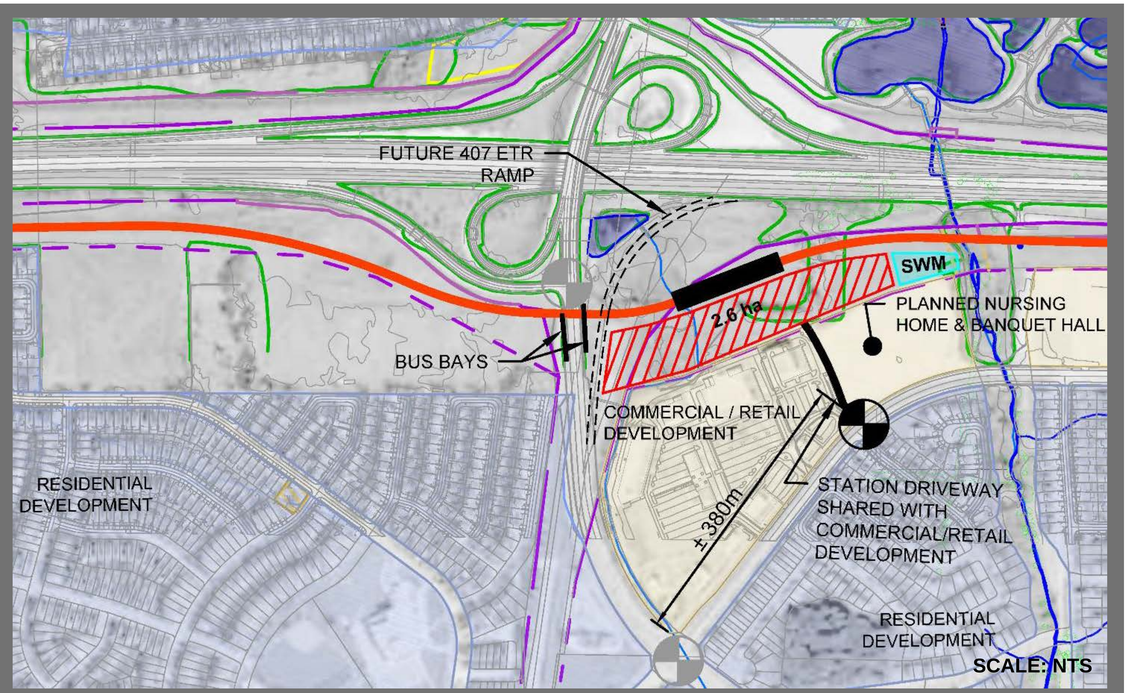



## INITIAL RECOMMENDATION AS A RESULT OF EVALUATION :

## SW ALTERNATIVE

**PROTECTED LAND AND RIGHT OF WAY FOR ACCESS ROAD SEPARATED FROM LOCAL ROADS; SUFFICIENT LAND AVAILABLE AND POTENTIAL FOR EXPANSION ON WEST SIDE WHILE INSUFFICIENT LAND FOR A COMPLETE STATION FACILITY ON THE EAST; POTENTIAL SOCIAL EFFECTS ON BOTH SITES DUE TO PRESENCE OF RESIDENTIAL DEVELOPMENT ON THE WEST, AND FUTURE MEDICAL CENTRE ON THE EAST – MITIGATION MEASURES TO BE ASSESSED.**

| EVALUATION CRITERIA | SW ALTERNATIVE | |
|---|---|---|
| Natural Environment | No significant impacts anticipated | |
| Social Environment | Station site is located within lands protected for the Transitway station (per Markham Official Plan).<br>Potential noise impacts to be assessed during field investigations.<br>Traffic infiltration avoided by not providing a vehicular connection from local roads within the residential area | |
| Cultural Environment | No impacts anticipated | |
| Transitway Operation | Alignment: Meets design standards, Underpass alignment minimizes grades separation at station.<br>Implementation: Staged implementation with the Transitway operating on Highway 407 is feasible for westbound service. For eastbound service, it will be feasible providing the Highway 407 S-E ramp is constructed. This stage would involve significant out-of-the-way travel. | |
| Accessibility | Vehicular: Site access will be provided using the Old Ninth Line corridor which has been protected for station access; travel distance from Ninth Line = 700 metres. Traffic signals will likely be required at the intersection of Old Ninth Line and Copper Creek Dr.<br>Pedestrian: Short walking distance from Ninth Line to station platform (i.e. 100m). Pedestrians will be required to cross Ninth Line at traffic signals. Avoids conflict with future 407 ETR S-E Ramp. Potential for walkway from residential neighbourhood.<br>Transit connectivity: A bus loop can be accommodated on site. Transit stops along Ninth Line, and pedestrian connection from the stops will be provided. | |
| Site Area | Sufficient space available for parking lot (5.5 ha). Additional area for parking available to the west of the site. | |
| Constructability | No major concerns. | |
| Construction Cost | Medium | |

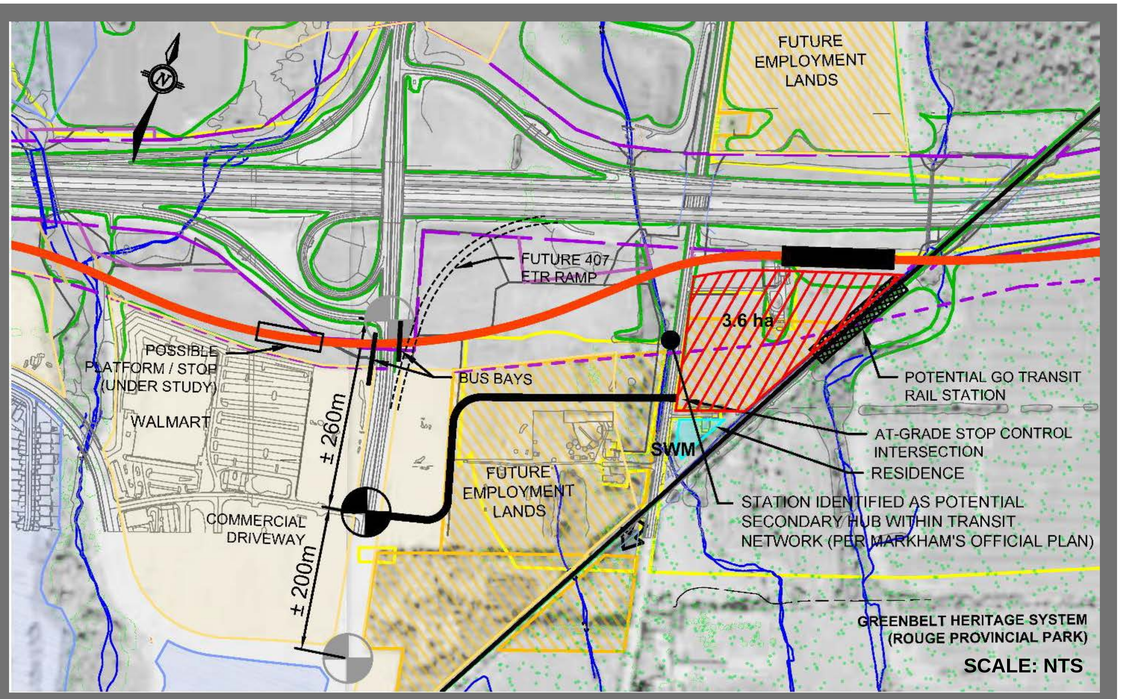
| EVALUATION CRITERIA | SE ALTERNATIVE | |
|---|---|---|
| Natural Environment | A tributary of the Rouge River, runs to the east of the potential station site. | |
| Social Environment | Station driveway will need to be combined with the existing driveway to the Boxgrove Medical Arts Centre and will encroach into the commercial lands located further to the west.<br>Potential noise impacts to be assessed during field investigations. | |
| Cultural Environment | No impacts anticipated | |
| Transitway Operation | Alignment: Meets design standards however overpass alignment likely required due to creek located to the east of the station platform. Overpass alignment would significantly increase alignment complexity and cost.<br>Implementation: Same as SW Alternative. | |
| Accessibility | Vehicular: Site access will be provided via Copper Creek Drive (approx. 380m east of Ninth Line).<br>Pedestrian: Pedestrian access from Ninth Line to station platform (i.e. 200m) will conflict with future 407 ETR S-E Ramp requiring a level, free flow crossing of the ramp.<br>Transit connectivity: Limited land availability will restrict potential bus loop. Transit stops along Ninth Line, and pedestrian connection from the stops would be provided. | |
| Site Area | Site area is significantly constrained by commercial development to the south and the Rouge River tributary to the east (2.6 ha available).<br>Space available is insufficient to accommodate required parking-lot size and has no expansion potential. | |
| Constructability | Impact will depend on when the Highway 407 S-E Ramp is built. | |
| Construction Cost | Medium | |

GOOD — POOR

LEGEND:
COMMERCIAL DEVELOPMENT; FUTURE TRANSITWAY STATION; RESIDENTIAL DEVELOPMENT; SWM PONDS; HYDRO CORRIDOR; CULTURAL HERITAGE; GREENBELT AREA; WETLAND; SEATON NATURAL HERITAGE; 407 ROW; 407 TRANSITWAY ROW; WATER COURSES; ARCHEOLOGICAL POTENTIAL; ECOLOGICAL LAND CLASSIFICATION

# Donald Cousens Station – Site Alternatives

PREFERRED

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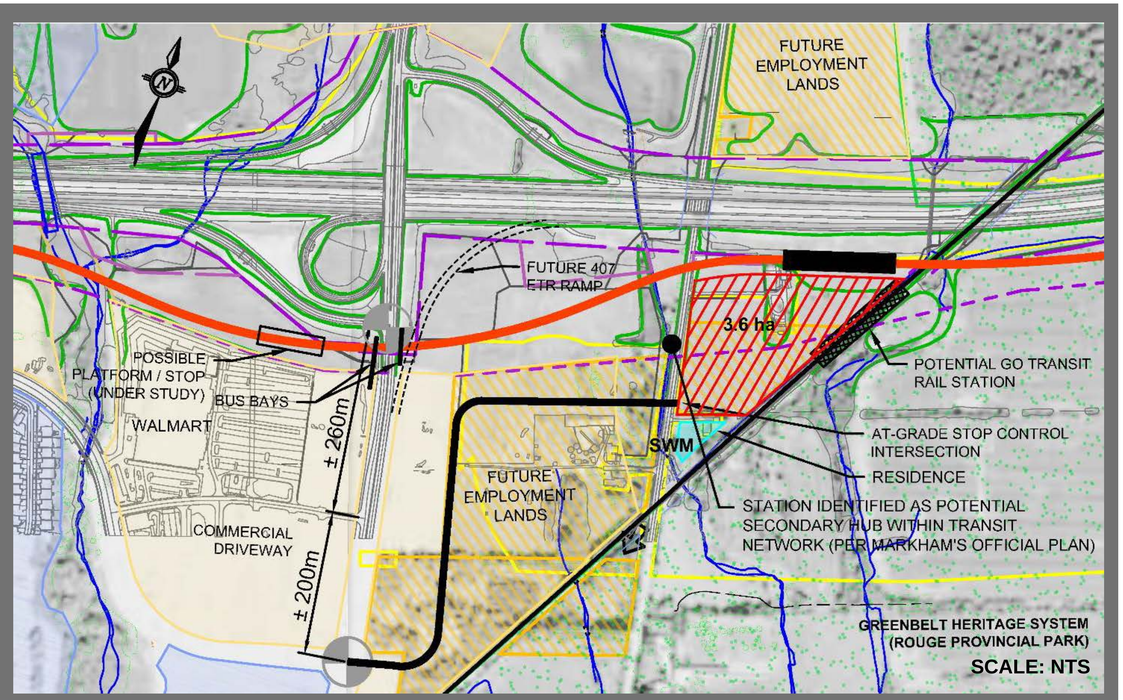



## INITIAL RECOMMENDATION AS A RESULT OF EVALUATION : SE ALTERNATIVE 1

**THE STATION FACILITY ADJACENT TO THE CP RAILWAY LINE WILL BE CONSTRUCTED ONLY IF GO TRANSIT IMPLEMENTS PASSENGER SERVICE ALONG THE CP CORRIDOR; A POTENTIAL INTERIM TRANSITWAY STOP ON THE WEST SIDE OF DONALD COUSENS IS UNDER STUDY.**

| EVALUATION CRITERIA | SE ALTERNATIVE 1 | |
|---|---|---|
| Natural Environment | Station site located adjacent to the Greenbelt Natural Heritage System and the Rouge National Urban Park. | |
| Social Environment | It impacts two residential properties east of Reesor Rd (further assessment will be done).<br>If GO Transit provides future commuter rail service between Toronto and the Peterborough area on the Havelock railway corridor, the station will serve as a transfer hub. | |
| Cultural Environment | Station will impact the designated heritage property located on the east side of Reesor Rd (a detailed heritage assessment and review of mitigation opportunities will be undertaken). | |
| Transitway Operation | Alignment: Elevated platform required as alignment must cross over rail line.<br>Implementation: Staged implementation with Transitway buses operating on Highway 407 will be feasible; however, will involve significant out-of-way travel. | |
| Accessibility | Vehicular: Site access from Donald Cousens Pkwy would be provided by new road (approximately 0.8 km) directly opposite Walmart and integrated with the road network of the proposed business park / employment lands between Donald Cousens Pkwy and Reesor Rd. It provides for minimum signal spacing along Donald Cousens Pkwy (200m)<br>Pedestrian: Lengthy walking distance from Donald Cousens Pkwy (approx. 800 metres), A Transitway stop west of Donald Cousens to provide a more convenient pedestrian access is being evaluated.<br>Transit Connectivity: Bus loop may be accommodated on site however diversion from Donald Cousens Pkwy (approx. 0.8 km) will increase delays for passengers not transferring to Transitway. A Transitway stop just west of Donald Cousens (currently under review).may be an alternative to connect transit users to the Transitway. | |
| Site Area | Parking lot and bus loop can be accommodated, providing effects to the heritage property can be mitigated. | |
| Constructability | No major concerns. | |
| Construction Cost | High: long access; measures to mitigate effects to the heritage property | |

GOOD POOR

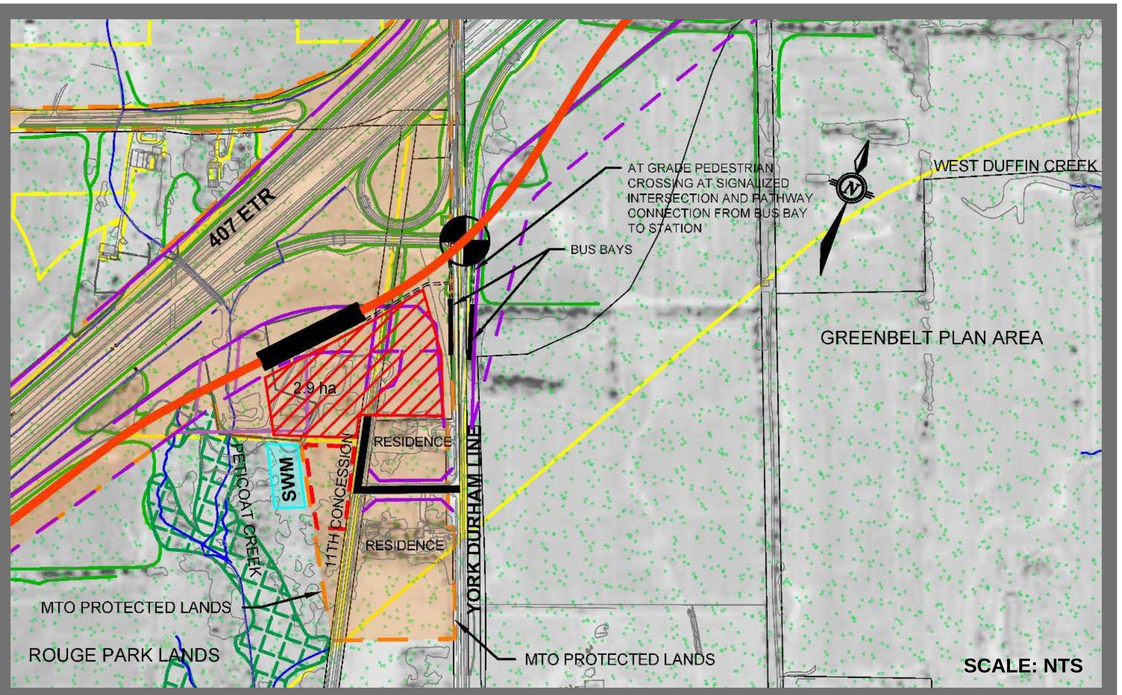
## SE ALTERNATIVE 2

| EVALUATION CRITERIA | SE ALTERNATIVE 2 | |
|---|---|---|
| Natural Environment | Same as SE Alternative 1. | |
| Social Environment | Same as SE Alternative 1. | |
| Cultural Environment | Same as SE Alternative 1. | |
| Transitway Operation | Same as SE Alternative 1. | |
| Accessibility | This Station Alternative only differs from SE Alternative 1 in respect to accessibility:<br>Vehicular: Site to be served by new access road (approx. 1.0 km) connecting to Donald Cousens Pkwy directly to the Walmart parking lot. Provides for desirable signal spacing along Donald Cousens Pkwy.<br>Pedestrian: Lengthy walking distance from Donald Cousens Pkwy (approx. 1000 metres), A Transitway stop just west of Donald Cousens Pkwy to provide a more convenient pedestrian access is being evaluated.<br>Transit Connectivity: Same as SE Alternative 1. | |
| Site Area | Same as SE Alternative 1. | |
| Constructability | Same as SE Alternative 1. | |
| Construction Cost | Same as SE Alternative 1. | |

LEGEND:
COMMERCIAL DEVELOPMENT
FUTURE TRANSITWAY STATION
RESIDENTIAL DEVELOPMENT
SWM PONDS
HYDRO CORRIDOR
CULTURAL HERITAGE
GREENBELT AREA
WETLAND
SEATON NATURAL HERITAGE
407 ROW
407 TRANSITWAY ROW
WATER COURSES
ARCHEOLOGICAL POTENTIAL
ECOLOGICAL LAND CLASSIFICATION

# York Durham Line Station – Site Alternatives

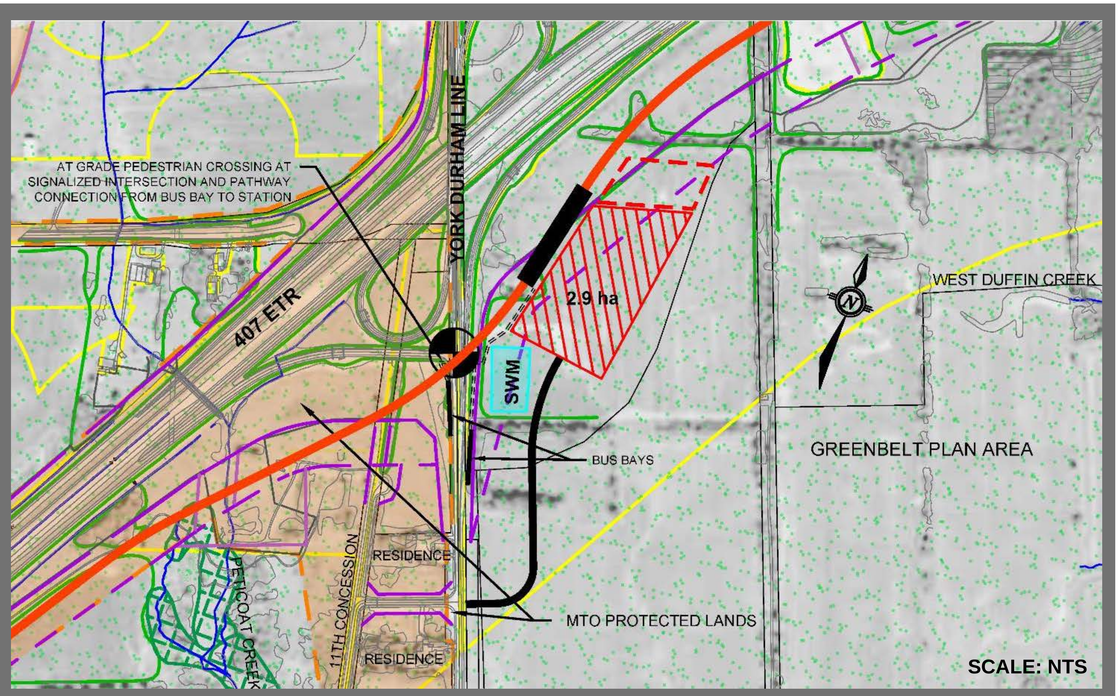
NOT PREFERRED




## INITIAL RECOMMENDATION AS A RESULT OF EVALUATION

| EVALUATION CRITERIA | SW ALTERNATIVE | |
|---|---|---|
| Natural Environment | Station site located adjacent to the Locust Hill Wetland and Rouge National Urban Park. | |
| Social Environment | Station site located adjacent to residential properties.<br>Station could serve as parking area and transit access to the Rouge National Urban Park. | |
| Cultural Environment | Area of archaeological potential. Further investigation will be undertaken. | |
| Transitway Operation | Alignment: Due to interchange configuration, station platform cannot be placed close to arterial without significantly impacting land on the east side of station<br>Implementation: Staged implementation with Transitway buses operating on Highway 407 would be feasible. | |
| Accessibility | Vehicular: Site access would be provided via 11th Concession Rd. Length of access road is approximately 200 metres.<br>Pedestrian: Pedestrian crossing would be accommodated at ramp intersection.<br>Transit connectivity: No current or proposed transit service along York/Durham Line. | |
| Site Area | Area could accommodate parking lot; however, there is limited flexibility for expansion as the station is surrounded by the Rouge National Urban Park. | |
| Constructability | No significant concerns. | |
| Construction Cost | Low | |

NOT PREFERRED

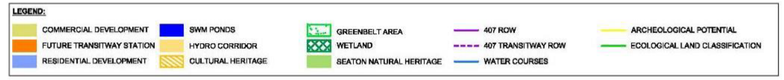



## NO STATION AT THIS LOCATION

LIMITED AVAILABLE LAND ON WEST SIDE; AND PROPERTY PRIVATELY OWNED ON EAST SIDE; NO TRANSIT CONNECTIVITY OPPORTUNITIES AS NO CURRENT OR PROPOSED TRANSIT SERVICE ON YORK/DURHAM LINE; NEGLIGIBLE RIDERSHIP DEMAND AT THIS LOCATION; SITE FOR SW ALTERNATIVE OWNED BY MTO WILL BE PROTECTED FOR POTENTIAL FUTURE ACCESS TO PARK LANDS

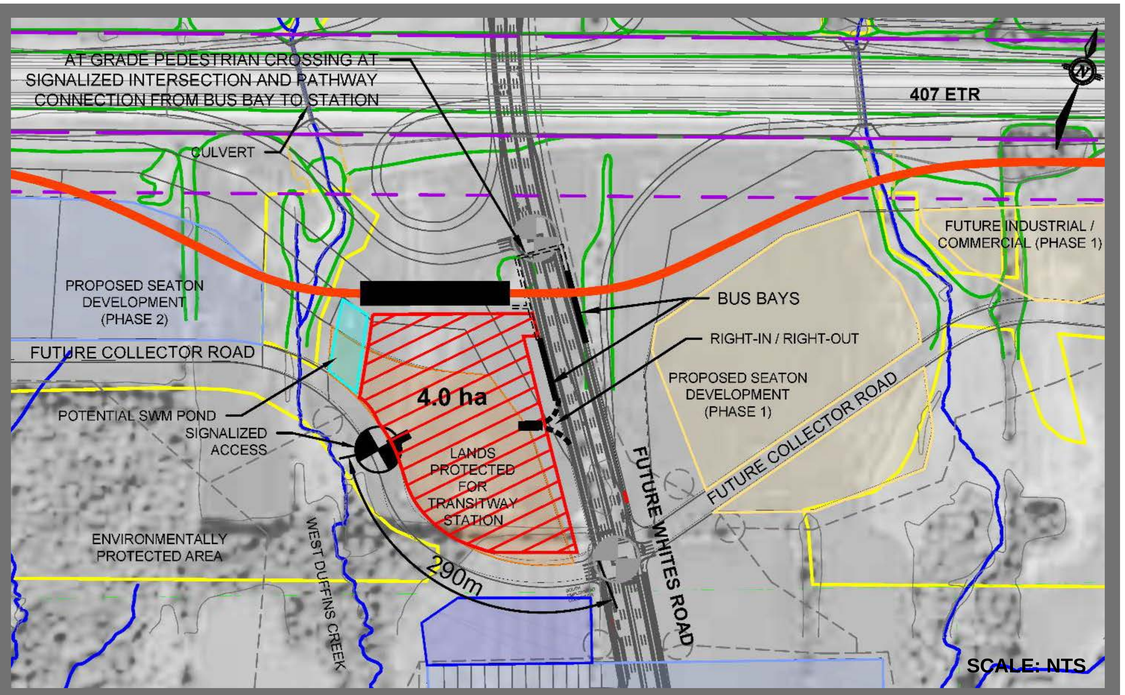
| EVALUATION CRITERIA | SE ALTERNATIVE | |
|---|---|---|
| Natural Environment | Station site located within Protected Countryside lands, adjacent to Duffins Creek Agricultural Preserve. | |
| Social Environment | Impact to privately owned rural land.<br>No opportunity to provide parking and transit access to the Rouge National Urban Park. | |
| Cultural Environment | Area of archaeological potential. Further investigation will be undertaken | |
| Transitway Operation | Alignment: Due to interchange configuration station, platform cannot be placed close to arterial without significantly impacting land on west side of station lands designated for the Rouge National Urban Park.<br>Implementation: Staged implementation with Transitway buses operating on Highway 407 would be feasible. | |
| Accessibility | Vehicular: Site access will be provided opposite to 11th Concession Rd. Length of access road is approximately 300 metres.<br>Pedestrian: Pedestrian crossing would be accommodated at ramp intersection.<br>Transit connectivity: No current or proposed transit service along York/Durham Line. | |
| Site Area | Area could accommodate parking lot; however, there is limited flexibility for expansion as the station is within Greenbelt Lands. | |
| Constructability | No significant concerns. | |
| Construction Cost | Low | |

GOOD POOR



# Whites Road Station – Site Alternatives

PREFERRED

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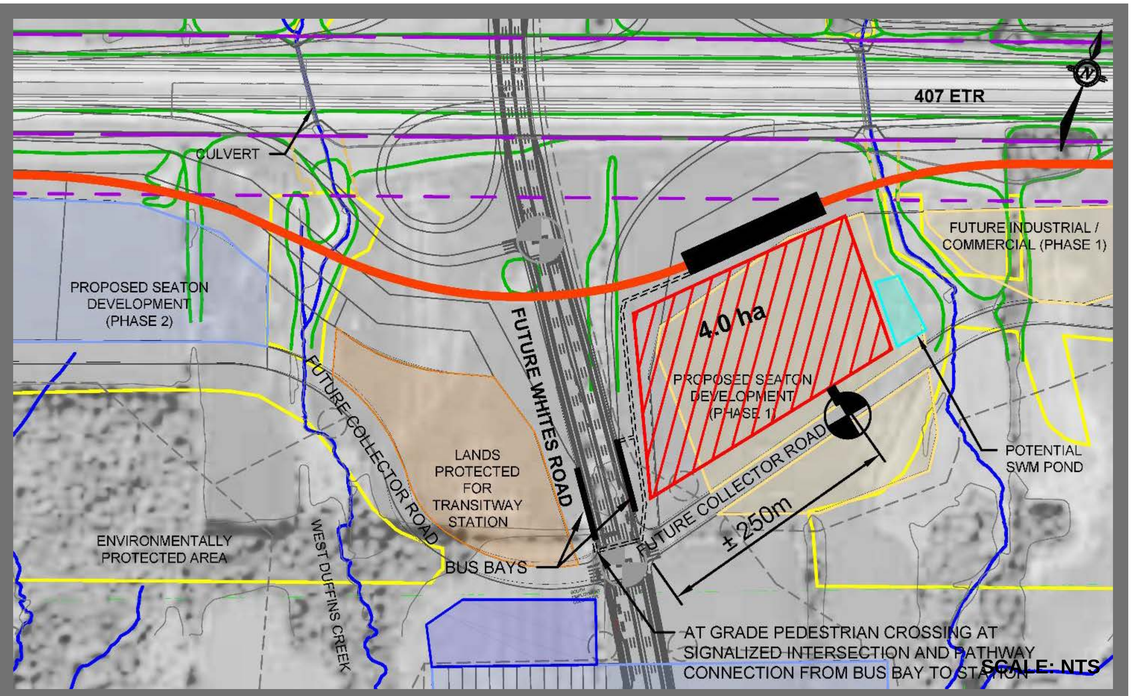



## INITIAL RECOMMENDATION AS A RESULT OF EVALUATION :

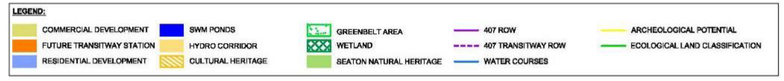
## SW ALTERNATIVE

**PROTECTED LAND ON WEST SIDE IS SUFFICIENT TO ACCOMMODATE COMPLETE STATION FACILITY; WEST SITE DOES NOT PRESENT ANY CONFLICTS WITH SEATON DEVELOPMENT PLAN; CONVENIENT STATION ACCESS AND FEASIBLE TRANSITWAY ALIGNMENT ON WEST SIDE**

| EVALUATION CRITERIA | SW ALTERNATIVE | |
|---|---|---|
| Natural Environment | Potential impacts to species at risk. Further investigation will be undertaken.<br>Tributary of West Duffins Creek runs just west of the station area. Potential hydrological impacts. | |
| Social Environment | Property is protected for Transitway station in Seaton Development Plan. | |
| Cultural Environment | No impacts anticipated | |
| Transitway Operation | Alignment: Meets design standards. Constrained be creek to west of station site.<br>Implementation: Staged implementation with Transitway buses operating on Highway 407 would be feasible. | |
| Accessibility | Vehicular: Site access will be provided via a signalized access on the South Employment Collector Rd (approximately 290 meters west of Whites Rd)<br>Pedestrian: Short walking distance from Whites Rd (i.e.100m). Pedestrian crossing would be accommodated at signalized intersection.<br>Transit connectivity: Bus loop will be provided on site. This station may also be suitable for interlining, where local transit vehicles can enter/exit the Transitway corridor. Right-in/out to be provided along Whites Rd for bus only use. | |
| Site Area | Sufficient area available for parking lot (4.0 ha).<br>No further expansion potential due to presence of West Duffins Creek. | |
| Constructability | Construction can be coordinated with construction of Whites Rd and South Employment Collector. | |
| Construction Cost | Medium | |

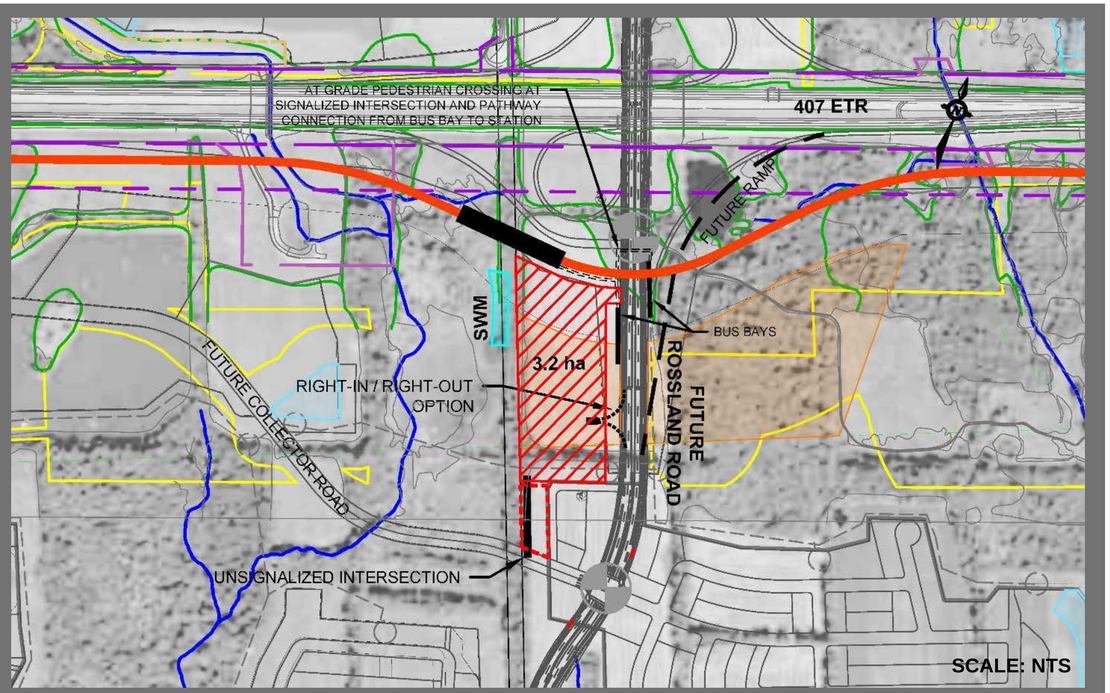
| EVALUATION CRITERIA | SE ALTERNATIVE | |
|---|---|---|
| Natural Environment | Potential impacts to species at risk. Further investigation will be undertaken.<br>Tributary of West Duffins Creek runs just east of the station area. Potential hydrological impacts | |
| Social Environment | Land is not designated for a Transitway station. It is within the Seaton Development Phase 1 Plan | |
| Cultural Environment | No impacts anticipated | |
| Transitway Operation | Alignment: Meets design standards. Constrained be creek to west of station site.<br>Implementation: Staged implementation with Transitway buses operating on Highway 407 would be feasible.. | |
| Accessibility | Vehicular: Site access would be provided via a signalized access on the South Employment Collector Rd (approximately 250 meters east of Whites Rd). Future Highway 407 S-E Ramp precludes opportunity for second access (right-in /right-out) to/from Whites Rd.<br>Pedestrian: Direct access from Whites Rd would require crossing the Highway 407 S-E Ramp.<br>Transit connectivity: Bus loop will be provided on site. This station may also be suitable for interlining, where local transit vehicles can enter/exit the runningway where feasible. Right-in/out access from Whites Rd for bus only use due to presence of future Highway 407 S-E ramp. | |
| Site Area | Land is not designated for a Transitway station. It is within the Seaton Development Phase 1 Plan<br>No further expansion potential without impacting Seaton Development's Prestige Employment Lands. | |
| Constructability | Construction can be coordinated with construction of Whites Rd and South Employment Collector. | |
| Construction Cost | Medium | |

GOOD POOR



# Rossland Road Station – Site Alternatives

NOT PREFERRED

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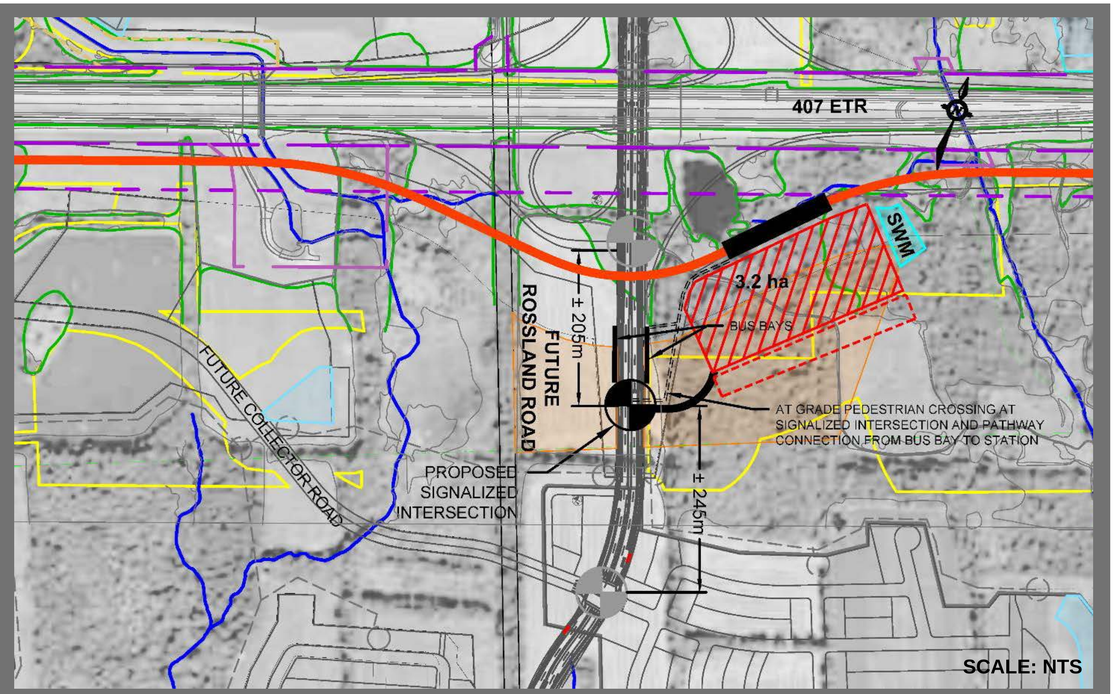



## INITIAL RECOMMENDATION AS A RESULT OF EVALUATION

:

## NO STATION CURRENTLY PROPOSED (LAND PROTECTED)

**MINIMAL TRANSIT CONNECTION OPPORTUNITIES AS NO PROPOSED TRANSIT SERVICE ON ROSSLAND RD; UNCERTAINTY IN CONSTRUCTION SCHEDULE FOR ROSSLAND RD. AND HWY 407 INTERCHANGE; POTENTIAL IMPACT TO SPECIES AT RISK ON BOTH SITES; PROXIMITY OF ADJACENT PROPOSED STATIONS; SITE WILL BE PROTECTED FOR POSSIBLE TEMPORARY BUS GARAGE AND/OR FUTURE STATION.**

| EVALUATION CRITERIA | SW ALTERNATIVE | |
|---|---|---|
| Natural Environment | Station site within Natural Heritage System area .<br>Potential impact to species at risk. Further investigation will be undertaken.<br>Flood plain of Ganatsekiagon Creek located adjacent to the site. Potential hydrological impacts. | |
| Social Environment | Property protected for Transitway station | |
| Cultural Environment | No impacts anticipated. | |
| Transitway Operation | Alignment: Substandard grade or large viaduct structure required to accommodate station site due to creek location to west of station.<br>Implementation: Staged implementation with Transitway buses operating on Highway 407 would be feasible. | |
| Accessibility | Vehicular: Site access will be provided via an unsignalized connection from the Future Collector Rd, as well as a right-in/right-out driveway on Rossland Rd for bus-use only. Closely-spaced intersections along south Employment Collector and vehicle queues may hamper left turn exit movements from the site. Alternatively, main access signalized intersection could be on Rossland with bus-only access on South Employment Collector Rd<br>Pedestrian: Walking distance from Rossland Road approximately 150m. Pedestrian crossing would be accommodated at signalized intersection.<br>Transit connectivity: Bus loop would be provided on site. Bus stops would also be provided on Rossland Rd. | |
| Site Area | Sufficient area for parking lot (3.2 ha); however, located in environmentally sensitive area.<br>No expansion opportunity at the site. Constrained by a flood plain to the west and Seaton Development plans to the south. | |
| Constructability | Construction can be coordinated with construction of Rossland Rd and South Employment Collector. | |
| Construction Cost | Medium | |

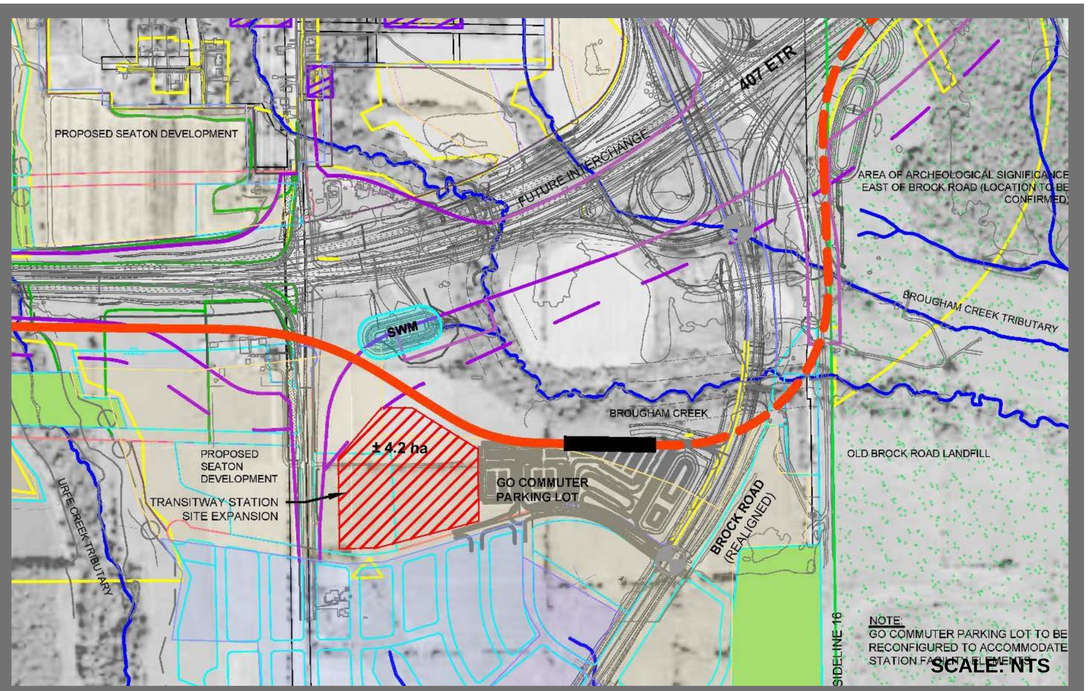
GOOD — POOR

| EVALUATION CRITERIA | SE ALTERNATIVE | |
|---|---|---|
| Natural Environment | Station site within Natural Heritage System area.<br>Potential impact to species at risk. Further investigation will be undertaken.<br>A tributary of Urfe Creek, runs just east of station site. Potential hydrological impacts. | |
| Social Environment | Property protected for Transitway station | |
| Cultural Environment | Area of potential archaeological interest. | |
| Transitway Operation | Alignment: Overpass viaduct structure likely required to avoid existing pond and watershed issues<br>Implementation: Staged implementation with Transitway buses operating on Highway 407 would be feasible. | |
| Accessibility | Vehicular: Site access would be provided at an additional signalized intersection on Rossland Rd, located at the south end of the future Highway 407 S-E Ramp. Intersection spacing along Rossland Rd would meet minimum standards.<br>Pedestrian: Walking distance from Rossland Road approximately 250m. Pedestrian crossing accommodated at signalized intersection.<br>Transit connectivity: Bus loop would be provided on site. Bus stops would also be provided on Rossland Rd. | |
| Site Area | Sufficient area for parking lot (3.2 ha); however, located in environmentally sensitive area.<br>Expansion not feasible due to natural environmental issues. | |
| Constructability | Construction can be coordinated with construction of Rossland Rd. | |
| Construction Cost | Medium | |

LEGEND:
COMMERCIAL DEVELOPMENT; FUTURE TRANSITWAY STATION; RESIDENTIAL DEVELOPMENT; SWM PONDS; HYDRO CORRIDOR; CULTURAL HERITAGE; GREENBELT AREA; WETLAND; SEATON NATURAL HERITAGE; 407 ROW; 407 TRANSITWAY ROW; WATER COURSES; ARCHEOLOGICAL POTENTIAL; ECOLOGICAL LAND CLASSIFICATION

# Brock Road Station – Site Alternatives

PREFERRED

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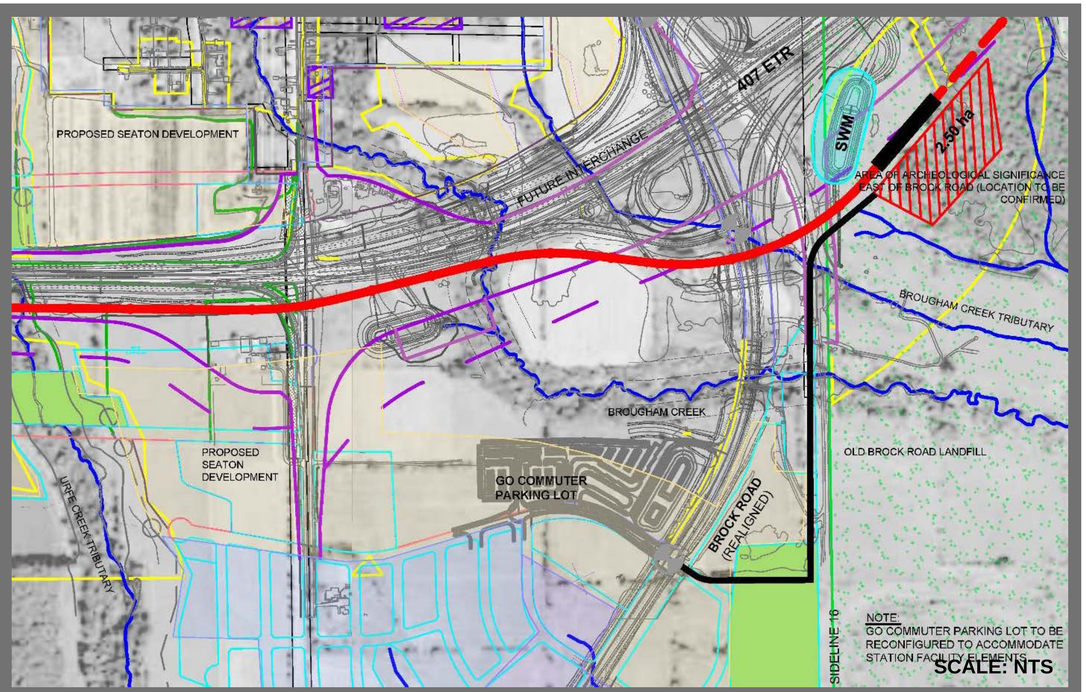



## INITIAL RECOMMENDATION AS A RESULT OF EVALUATION :

## SW ALTERNATIVE

**ONLY FEASIBLE SITE IN THE AREA; OPPORTUNITY TO INTEGRATE CAR-POOL LOT (BEING BUILT IN 2016) WITH STATION FACILITY; IT PROVIDES FLEXIBILITY AND CONVENIENCE FOR ADEQUATE TRANSITWAY IMPLEMENTATION STAGING.**

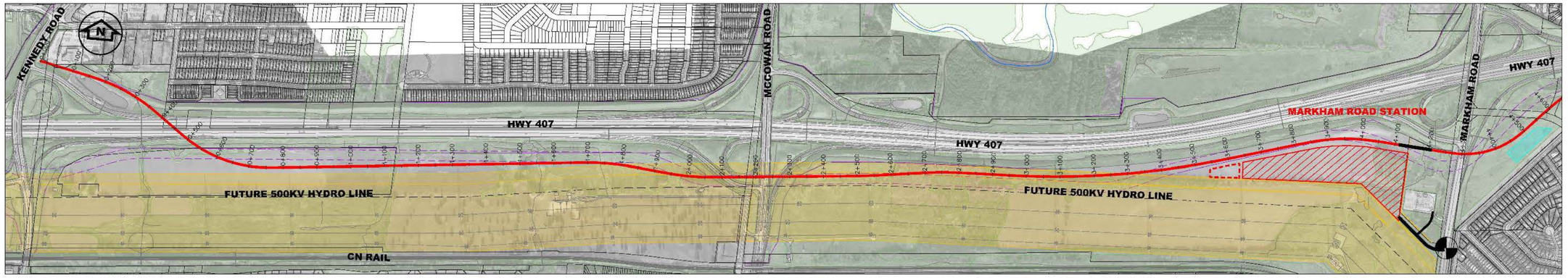
| EVALUATION CRITERIA | SW ALTERNATIVE | |
|---|---|---|
| Natural Environment | No significant impacts anticipated | |
| Social Environment | Station partially located in lands protected for Seaton Development.<br>Station will be integrated with GO car-pool lot to be built by Fall 2015.<br>West section of the site will be located near proposed residential area to the south. Noise mitigation measures will be assessed. | |
| Cultural Environment | No impacts anticipated | |
| Transitway Operation | Alignment: Fully at grade alignment possible while Brock Rd is eastern terminal of Transitway facility<br>Implementation: Staged implementation of Transitway with BRT buses operating on 407 ETR would be feasible. | |
| Accessibility | Vehicular: Site access will be provided via a proposed collector Rd (approx. 300 m west of Brock Rd).<br>Pedestrian: Walking distance from Brock Rd is approximately 200 m.<br>Transit connectivity: Bus loop will be provided on site. The GO car-pool will be reconfigured to accommodate a transit station concept. A Transitway turnaround will be integrated into the site, as Brock Rd represents the eastern terminus of this section of the Transitway. This station may also be suitable for interlining, where Durham transit vehicles can enter/exit the runningway. | |
| Site Area | Sufficient area is available to accommodate parking, transit and active transportation needs. | |
| Constructability | Construction can be coordinated with construction of Seaton's collector roadway.<br>Station construction just south of an environmentally sensitive area. | |
| Construction Cost | Medium-High (assuming Transitway terminates west of Brock Rd) | |

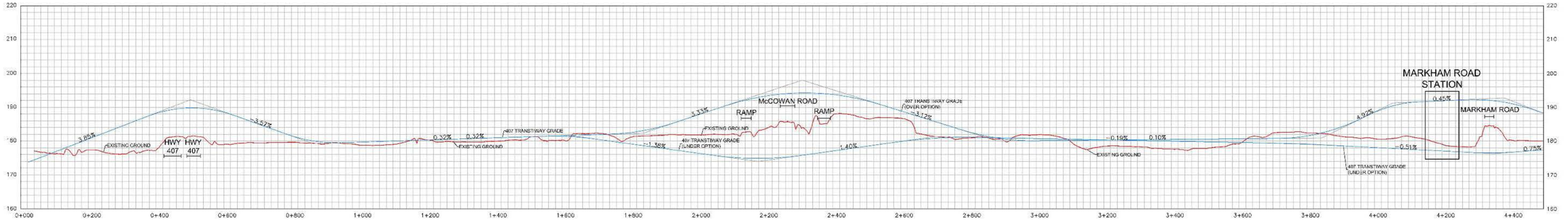
GOOD — POOR

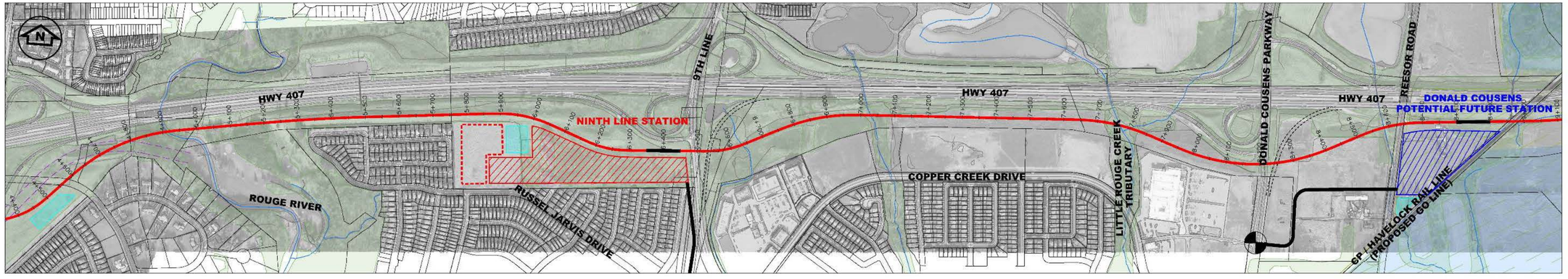
| EVALUATION CRITERIA | SE ALTERNATIVE | |
|---|---|---|
| Natural Environment | The station is located in an area of high ecological sensitivity, which forms part of Protected Countryside/Natural Heritage System. Impacts to wetland and forest areas. Potential winter deer habitat.<br>Area includes permanently inundated sections, groundwater seepage, requiring extensive drainage measures | |
| Social Environment | Acquisition of private (rural) lands potentially required.<br>Station would be located outside Seaton Development area and in Greenbelt lands. Proposed location incompatible with designated land use. | |
| Cultural Environment | Area of archaeological interest (2.5 ha). | |
| Transitway Operation | Alignment: Very long and high viaduct structure required to cross creek, Brock Rd and Sideline 16.<br>Implementation: This station is not suited for staged implementation, as travel distance to the interchange would be very long | |
| Accessibility | Vehicular: Site access would be provided at a planned signalized intersection on Brock Rd and the existing alignment of Sideline 16 (length of access road approximately 1.2 km).<br>Pedestrian: Walking distance from Brock Rd is approximately 300 m.<br>Transit connectivity: A bus loop will be provided adjacent to the station; however, reducing the parking capacity of a restricted area. The station may be suitable for interlining, where local transit vehicles can enter/exit the runningway. | |
| Site Area | The station area (2.5 ha) is insufficient for a complete facility. No opportunity for expansion. | |
| Constructability | Station site is located in environmentally and culturally sensitive area, requiring extensive mitigation measures.<br>Construction of an additional Transitway grade separation across Brock Rd will be required. | |
| Construction Cost | Very High | |

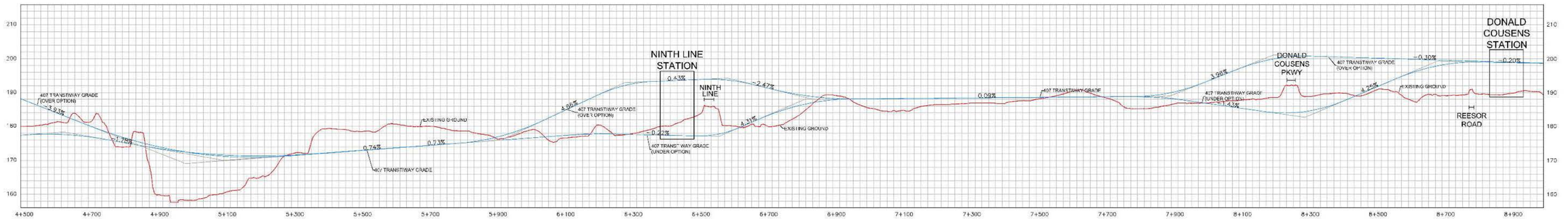
LEGEND:
COMMERCIAL DEVELOPMENT; FUTURE TRANSITWAY STATION; RESIDENTIAL DEVELOPMENT; SWM PONDS; HYDRO CORRIDOR; CULTURAL HERITAGE; GREENBELT AREA; WETLAND; SEATON NATURAL HERITAGE; 407 ROW; 407 TRANSITWAY ROW; WATER COURSES; ARCHEOLOGICAL POTENTIAL; ECOLOGICAL LAND CLASSIFICATION

# Plan / Profile Drawing



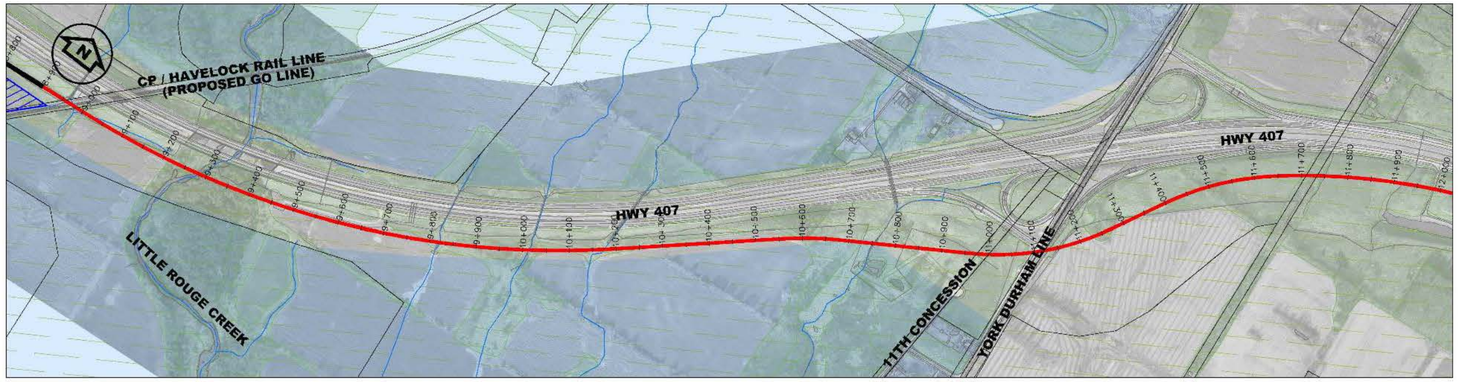



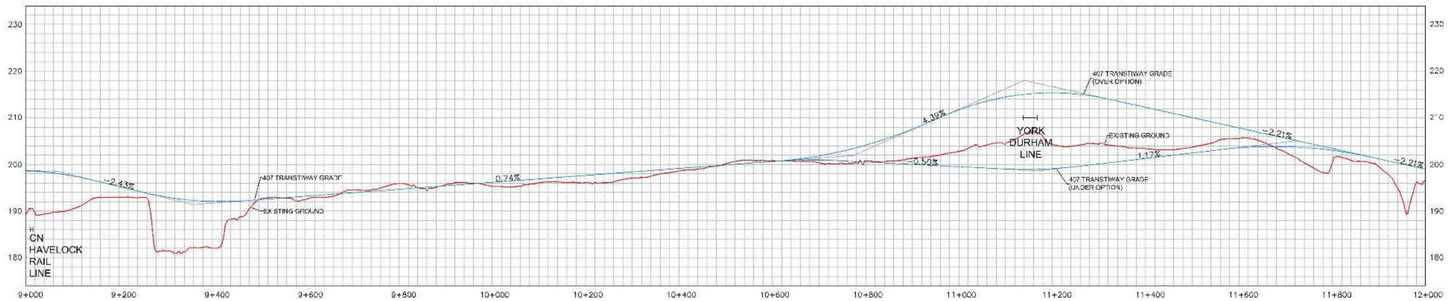

**LEGEND**

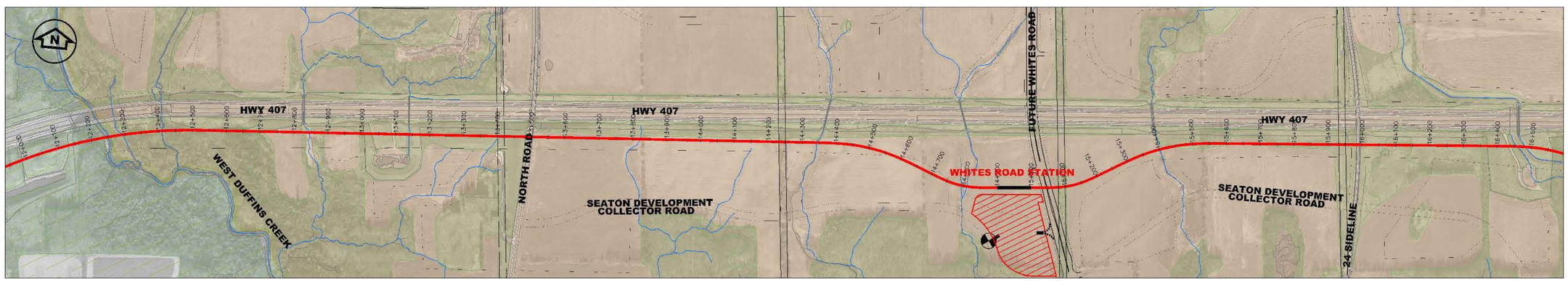
- SEATON DEVELOPMENT
- FUTURE TRANSITWAY STATION
- FUTURE PICKERING AIRPORT
- SWM PONDS
- HYDRO CORRIDOR
- ROUGE PARKLANDS
- GREENBELT AREA
- WETLAND
- 407 TRANSITWAY ALIGNMENT
- WATER COURSES
- 407 ROW
- 407 TRANSITWAY ROW

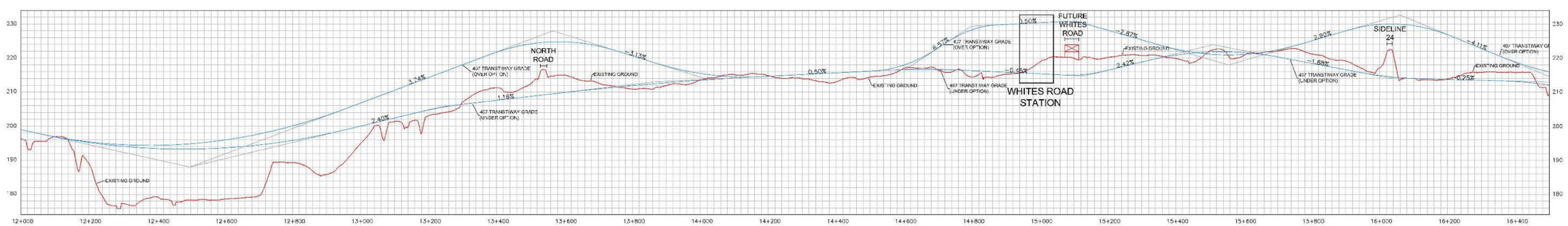
**SCALE**
NOT TO SCALE

# Plan / Profile Drawing



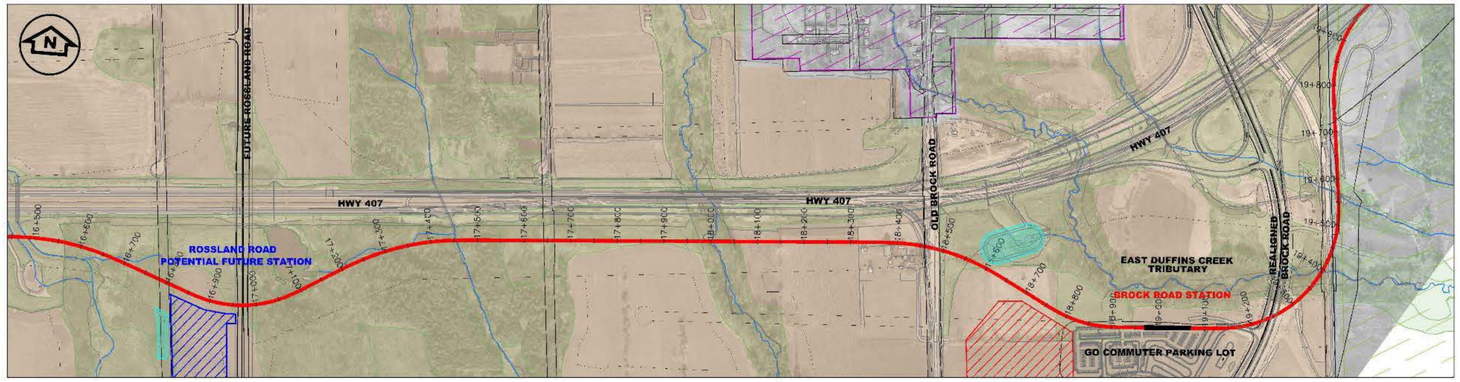



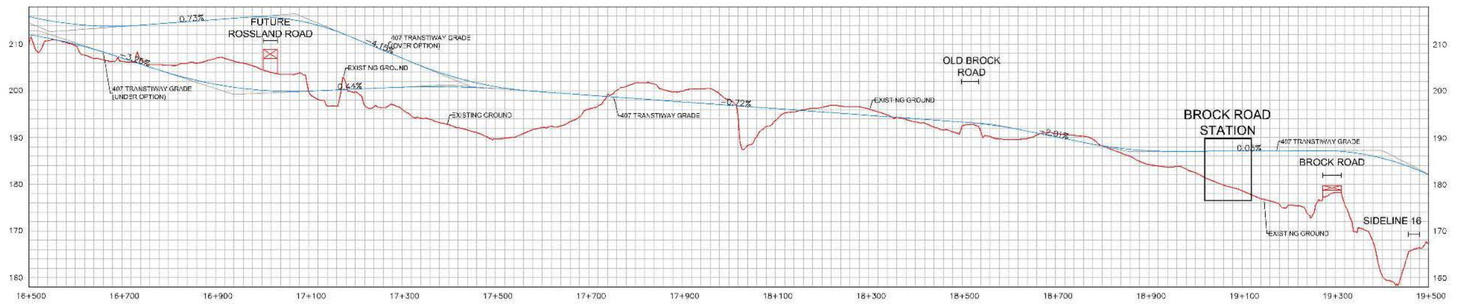

**LEGEND**

- SEATON DEVELOPMENT
- FUTURE TRANSITWAY STATION
- FUTURE PICKERING AIRPORT
- SWM PONDS
- HYDRO CORRIDOR
- ROUGE PARKLANDS
- GREENBELT AREA
- WETLAND
- 407 TRANSITWAY ALIGNMENT
- WATER COURSES
- 407 ROW
- 407 TRANSITWAY ROW

**SCALE**
NOT TO SCALE

# Plan / Profile Drawing




**LEGEND**

- SEATON DEVELOPMENT
- FUTURE TRANSITWAY STATION
- FUTURE PICKERING AIRPORT
- SWM PONDS
- HYDRO CORRIDOR
- ROUGE PARKLANDS
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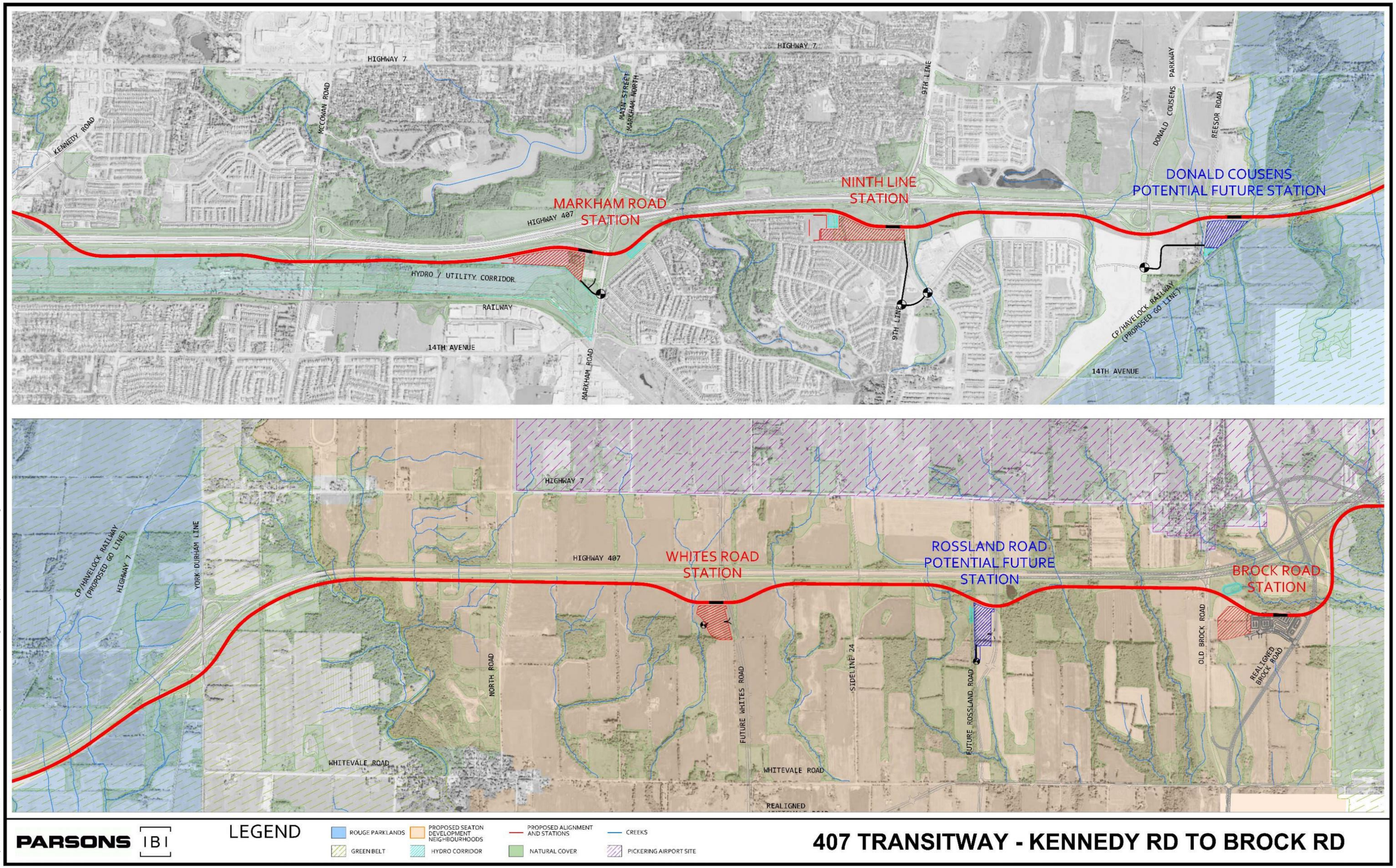
- WETLAND
- 407 TRANSITWAY ALIGNMENT
- WATER COURSES
- 407 ROW
- 407 TRANSITWAY ROW

**SCALE**

NOT TO SCALE

# Preferred Transitway Configuration




PARSONS IBI

LEGEND

ROUGE PARKLANDS
PROPOSED SEATON DEVELOPMENT NEIGHBOURHOODS
PROPOSED ALIGNMENT AND STATIONS
CREEKS
GREEN BELT
HYDRO CORRIDOR
NATURAL COVER
PICKERING AIRPORT SITE

## 407 TRANSITWAY - KENNEDY RD TO BROCK RD

Amy Munn March 27, 2015 J:\TOR\TI\4022 - 407 Transitway, Phase 2\TTS General\02 - Drawings\01 - CAD\Key Map (reduced Station's) - 2015.01.21.dwg

# Freedom of Information and Protection of Privacy and Team Contacts

Information will be collected in accordance with the Freedom of Information and Protection of Privacy Act.

Comments and information regarding this study are being collected to assist the MTO in carrying out the study and meeting the requirements of the *Ontario Regulation 231/08 Transit Project & Metrolinx Undertakings*. This material will be maintained on file for use during the project and may be included in project documentation. With the exception of personal information, all comments will become part of the public record.

You are encouraged to contact the project team if you have questions or concerns regarding this study.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**Thank you for your participation in this project.**

# Next Steps

**SPRING 2015**

DETAILED ENVIRONMENTAL FIELD INVESTIGATION
(IMPACTS ASSESSMENT / MITIGATION)

PREFERRED CONCEPT DEVELOPMENT

TRANSIT PROJECT & METROLINX UNDERTAKINGS
NOTICE OF COMMENCEMENT

PIC #2
PRESENT PREFERRED CONCEPT

ENVIRONMENTAL PROJECT REPORT

**WINTER 2015/2016**