

Welcome to Open House #3

Scarborough Rapid Transit (SRT)

June 2, 2009

Please Sign In

Agenda

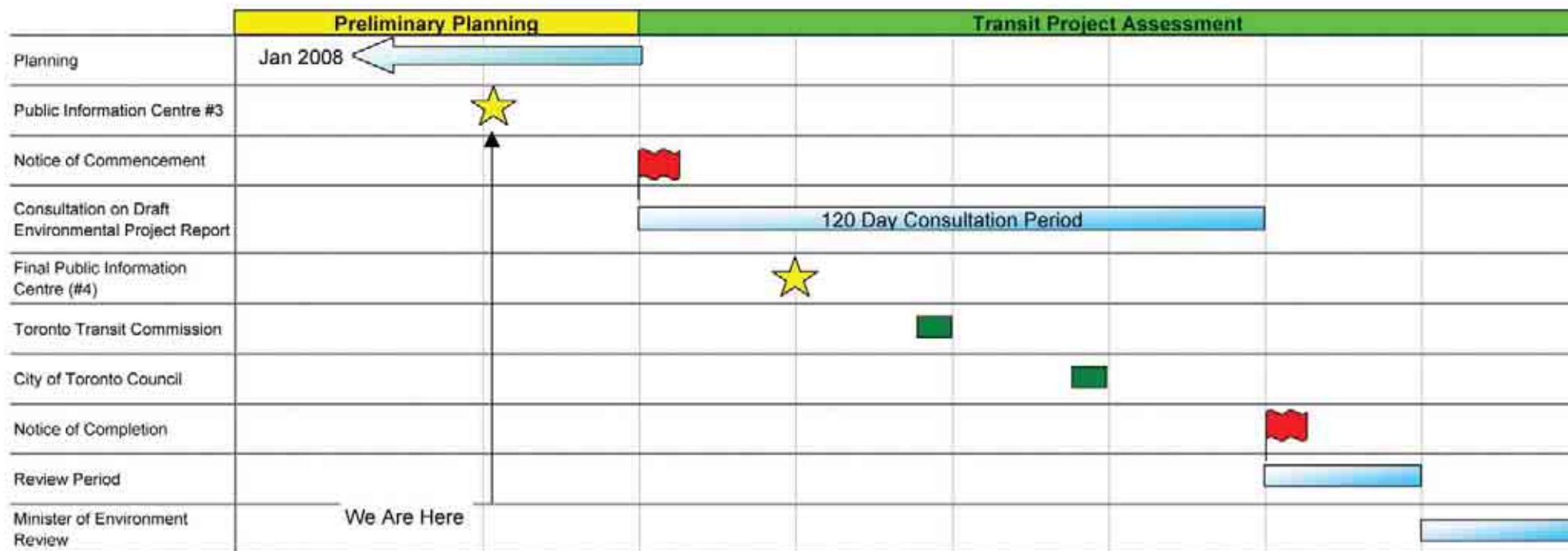
Welcome to the Scarborough Rapid Transit (SRT) Extension Study. Tonight's event provides details on:

- Consultation results to date
- The technically preferred alignment and stations
- Possible impacts and mitigating measures

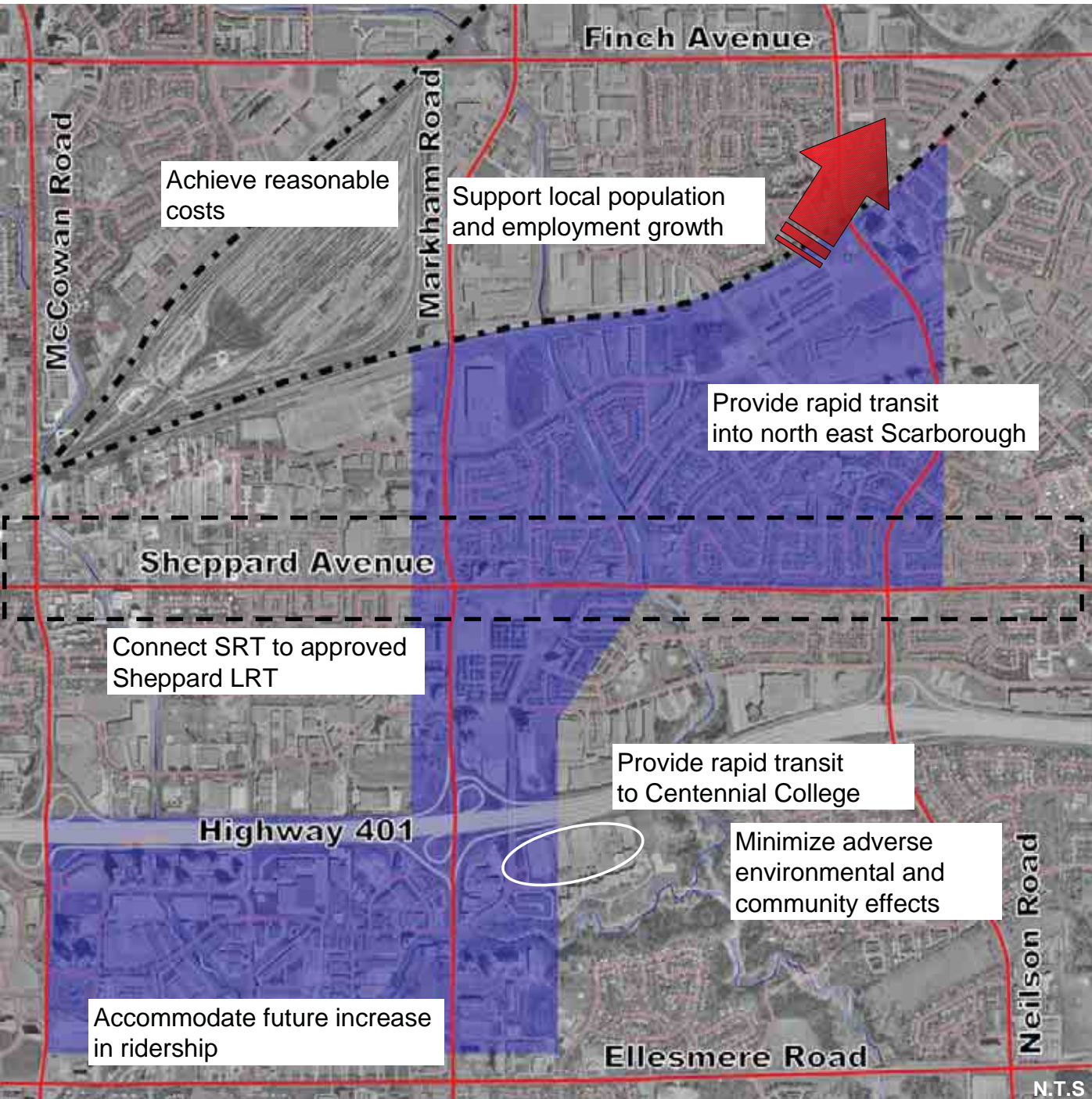
Subject to the comments received, TTC intends to proceed with the completion of an Environmental Project Report in accordance with Ontario's Transit Project Assessment Process

What is the Transit Project Assessment Process

In 2008, The Province of Ontario enacted Regulation 231/08 (Transit Projects Regulation) which allows proponents like the Toronto Transit Commission to undertake an assessment of potential environmental impacts within a six month period.





Upon Notice of Commencement, a draft Environmental Project Report will be made available that will highlight matters of Provincial importance within the study area, potential impacts, mitigating measures and commitments to future work. Matters of local importance will be discussed at upcoming Toronto Transit Commission and City of Toronto Council Meetings.



The Study Area and Project Objectives

- EA process began in January 2008

LEGEND

-  Study Area
-  Possible Future Extension

Planning Undertaken To Date

To date, considerable analysis and evaluation of alternatives has been undertaken. This work has also included the following public consultation events:

- PIC #1 – April 15th, 2008
- PIC #2 – June 4th and June 5th, 2008
- Community Meeting – July 31st, 2008

The following boards provide an overview of completed work to date.

Option 1 – Exclusive Right of Way to Malvern



Option 2 – Exclusive Right of Way to Markham and Sheppard plus Transit City LRT to Malvern



Option 3 – Exclusive Right of way to Centennial College plus Transit City LRT from Scarborough Centre Station to Malvern via McCowan










Option 4 – Transit City LRT from Scarborough Centre Station to Malvern via Centennial College



Network Options Considered

(PIC #1 April 15, 2008)

LEGEND

-  Sheppard LRT
-  1992 EA Yard Location
-  Existing Station
-  Exclusive ROW Corridor
-  Semi-Exclusive Transit City LRT
-  Potential Station Locations
-  Transfer between semi-exclusive Transit City and fully exclusive right of way (Note Option 1 does not require a transfer)

An Extension in an Exclusive Right of Way is Preferred

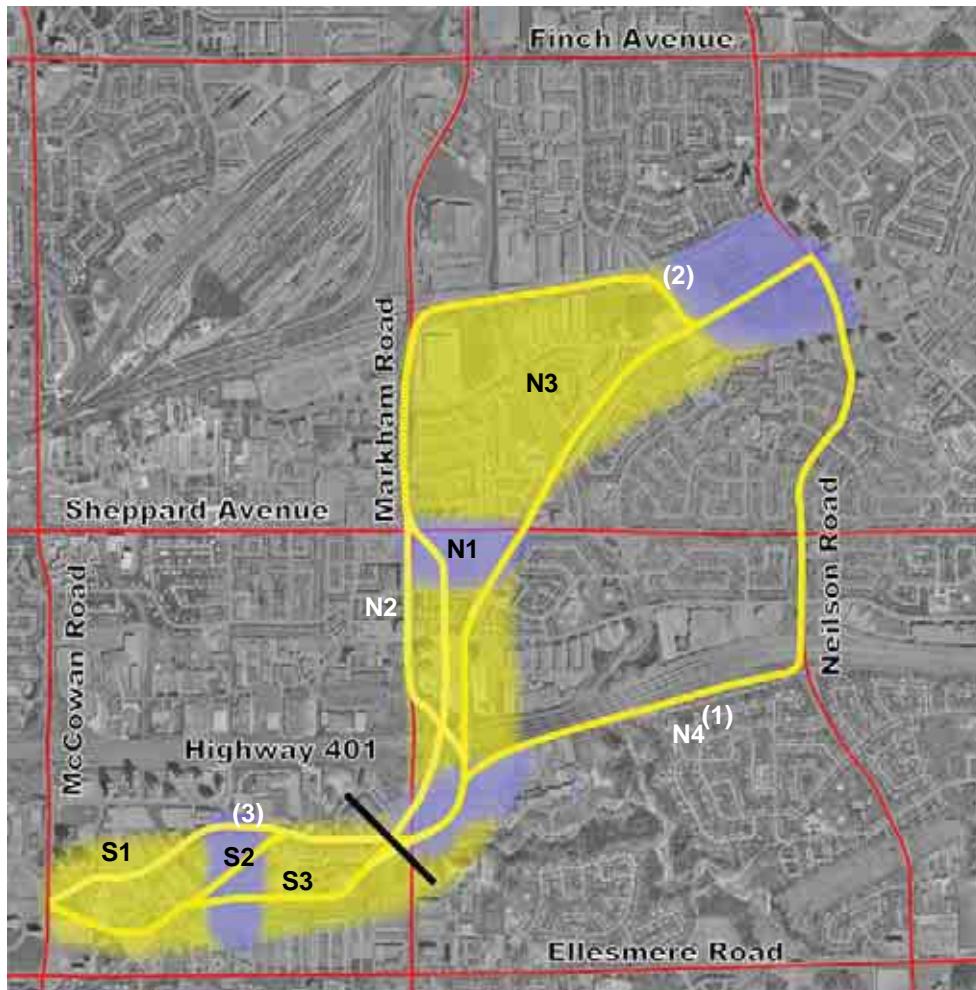
At the first round of public consultation on April 15, 2008, the public was given the opportunity to comment on the preferred network option. Of the 32 written comments received, 19 agreed with Option 1 (Exclusive Right of Way) as the preferred. Reasons given:

- “Potential for future expansion North or East later”
- “No Transfers : more transfers = less people who use it.”
- “Most of the ridership comes from this area already.”
- “It would be the fastest.”
- “Markham & Sheppard will be heavily developed and therefore will require a technology that will carry people from Markham.”
- “Other options involve too many transfers.”

Some concerns expressed regarding network Option 1:

- Noise and vibration impacts
- Visual/privacy impacts




Preferred Network (Option 1) and Possible Alignments



Typical Station

(PIC #2 June 4-5, 2008)

LEGEND

-  Corridor
-  Station Locations
-  Possible Alignments



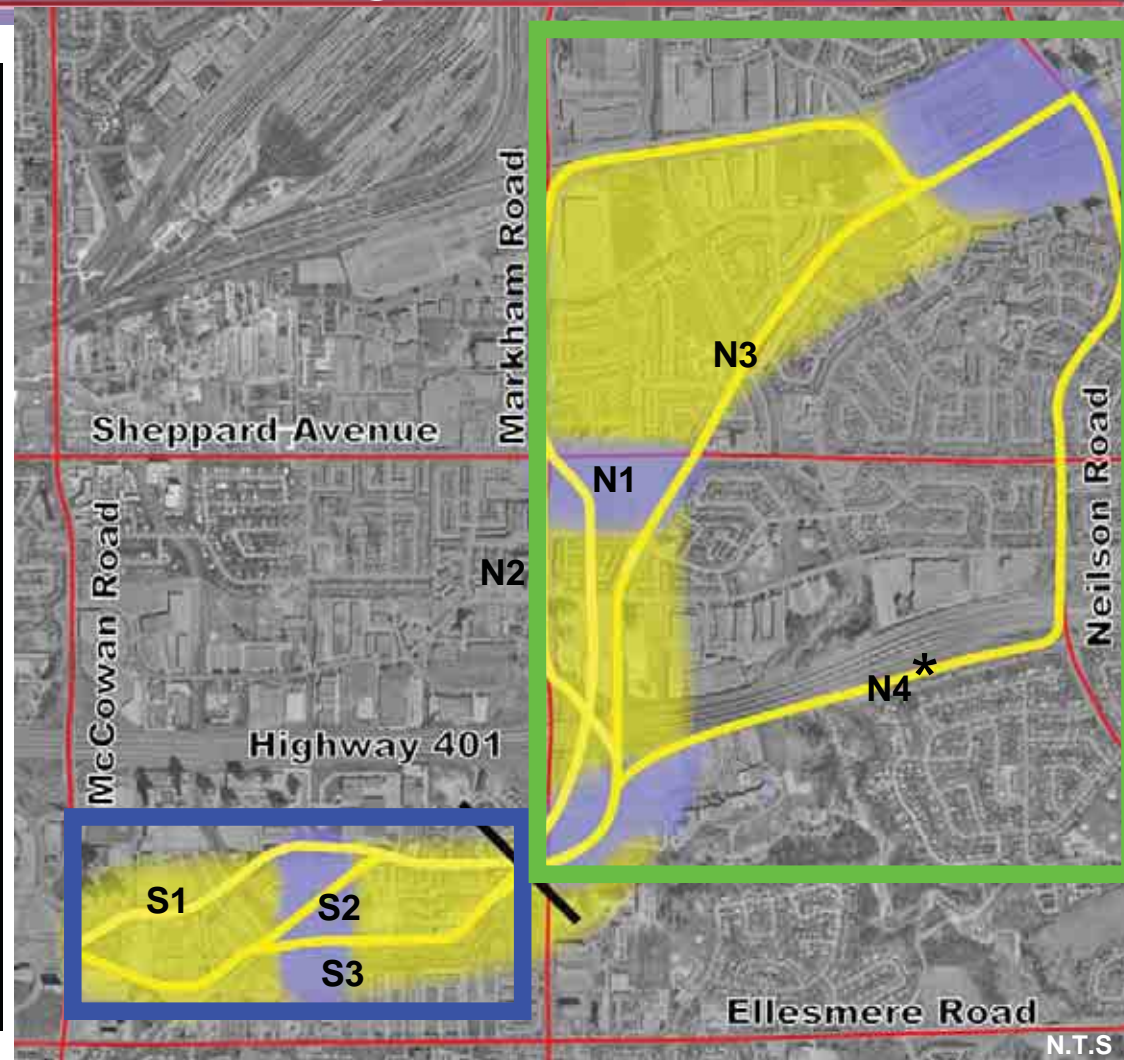
Alignment

- (1) - The 401/Neilson alignment was added in direct response to public comments from PIC #1.
- (2) - The northern alignments N1 and N2 were modified in direct response to consultation with key stakeholders, including the public.
- (3) - Bellamy Station added after June 2008 meetings

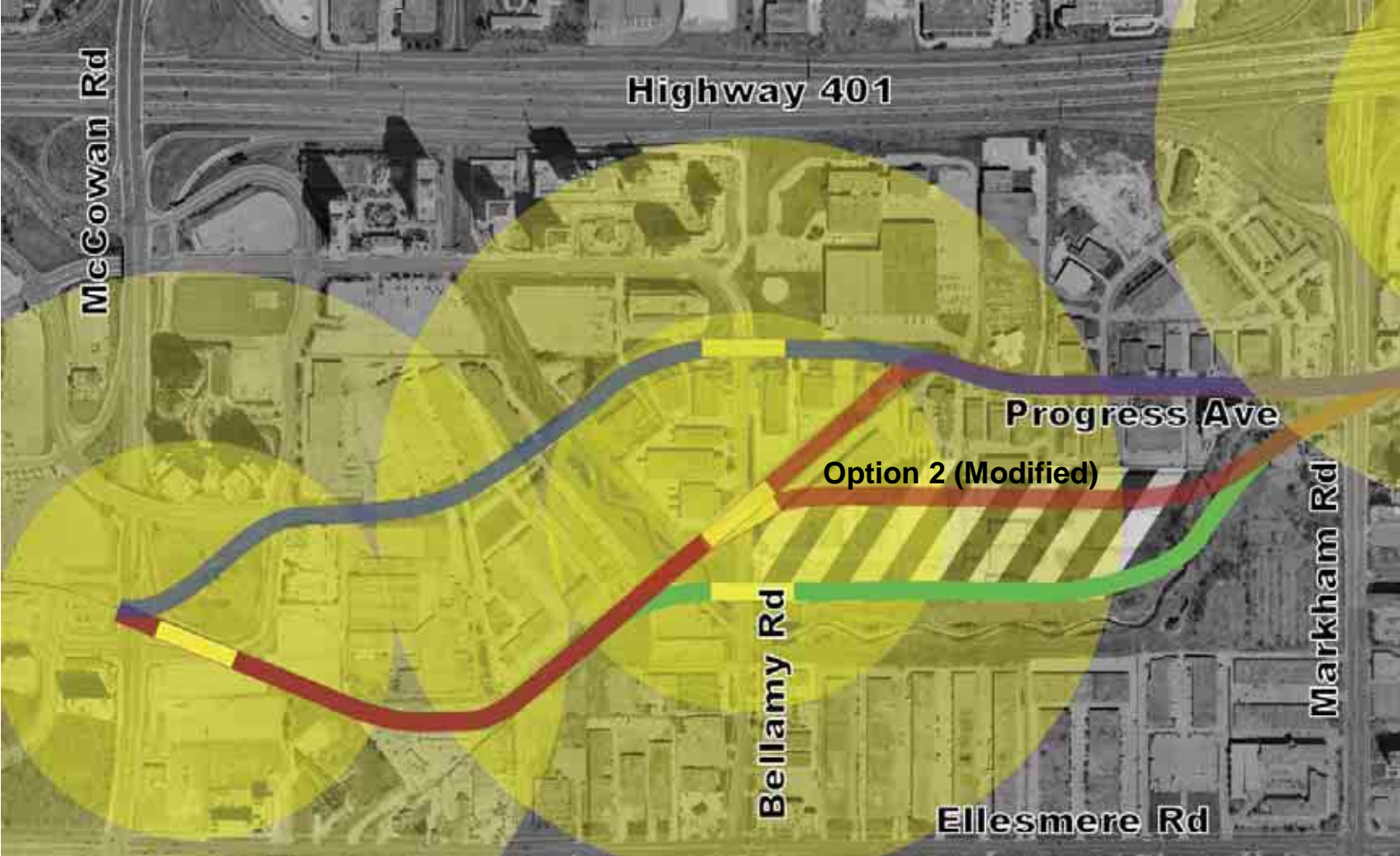
Evaluation of North & South Alignment Options

Objectives

- A) Provide rapid transit into north east Scarborough
- B) Support local population and employment growth
- C) Accommodate future increase in ridership
- D) Minimize adverse environmental and community effects
- E) Connect SRT to approved Sheppard LRT
- F) Provide rapid transit to Centennial College
- G) Achieve reasonable costs



South Alignment Options



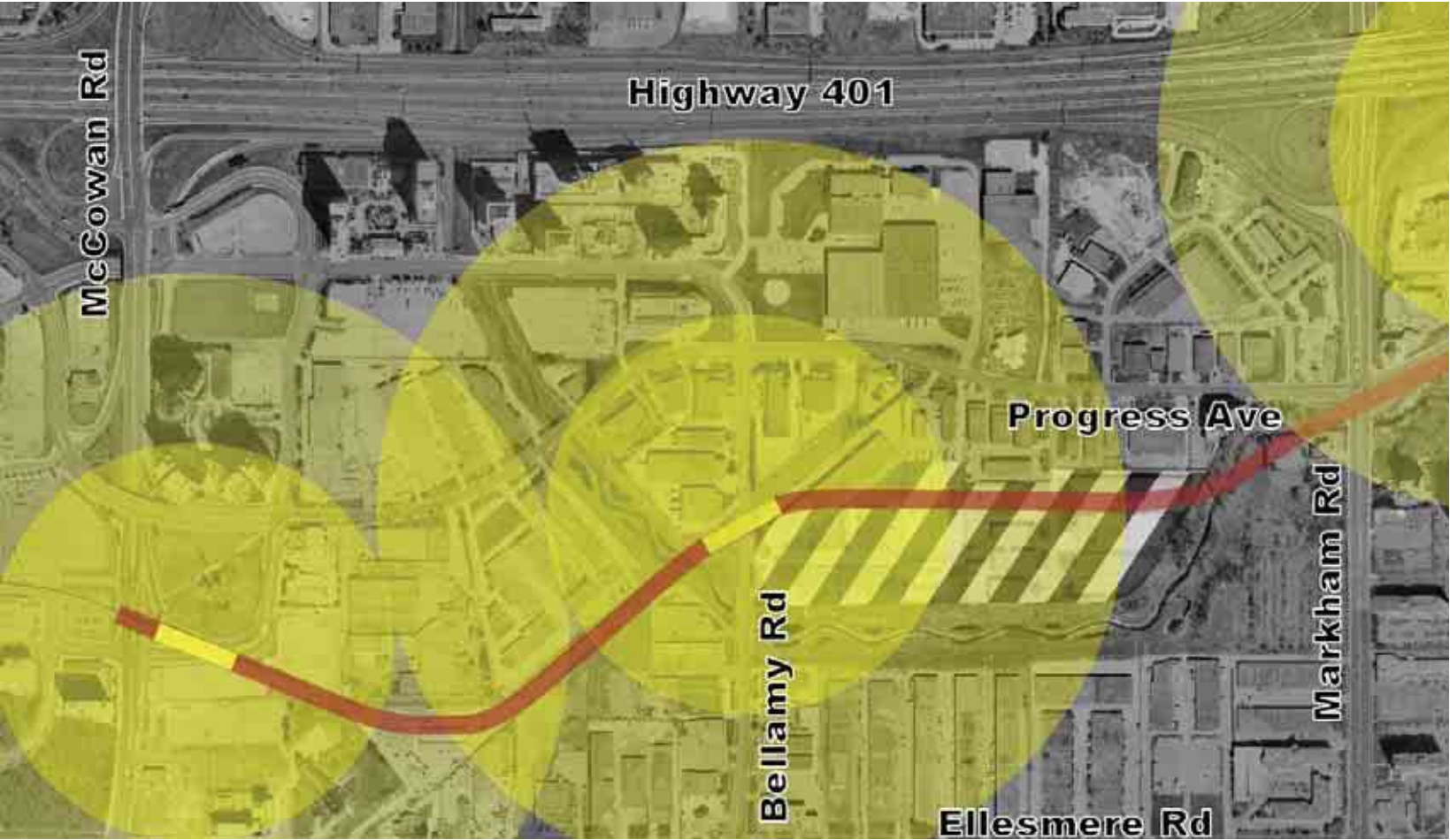
- LEGEND**
- Proposed Station Location
 - 250m/500m walking distance from station
 - Option 1
 - Option 2
 - Option 3
 - Yard

Evaluation of South Alignments

Objectives	South Option 1	South Option 2	South Option 2 Modified	South Option 3	Comments
A) Provide rapid transit service into north east Scarborough					The Bellamy Station and relocated McCowan Station of alignment S1 provide the shortest walking distance to existing higher density development in the area. Walking distances are slightly longer with alignments S2 and S2 modified and the longest for alignment S3.
B) Support population and employment growth					The proposed Bellamy Station and relocated McCowan Station of alignment S1 provides the best overall coverage within the Scarborough City Centre Secondary Plan area, and thereby provide the greatest support for City planning objectives and transit oriented development opportunities. S2 and S2 modified alignments can provide most of these benefits. S3, which pushes Bellamy Station further south, provides the least support of the alternative being considered.
C) Accommodate future increase in ridership	Same				No difference - not decision relevant
D) Minimize adverse environmental and community effects					S2 modified is the most preferred as it has the lowest impacts to the businesses along Progress Avenue and modest adverse effects to the natural environment. Although S3 has the potential to greatly impact Highland Creek, these impacts can be mitigated whereas the impacts to businesses along Progress (associated with S1) cannot be readily mitigated and therefore S1 is least preferred.
E) Connect SRT to approved Sheppard LRT	Same				No difference - not decision relevant
F) Provide rapid transit service to Centennial College	Same				No difference - not decision relevant
G) Achieve reasonable costs					S1 represents the highest cost due to the reconstruction of McCowan Station, Progress Avenue and associated property acquisition in support of this alignment and therefore is least preferred. Options S2, S2 modified and S3 have similar construction costs.
Summary (Rank)	2	3	1	4	

Most Preferred Least Preferred

Preferred South Alignment - Option 2 Modified






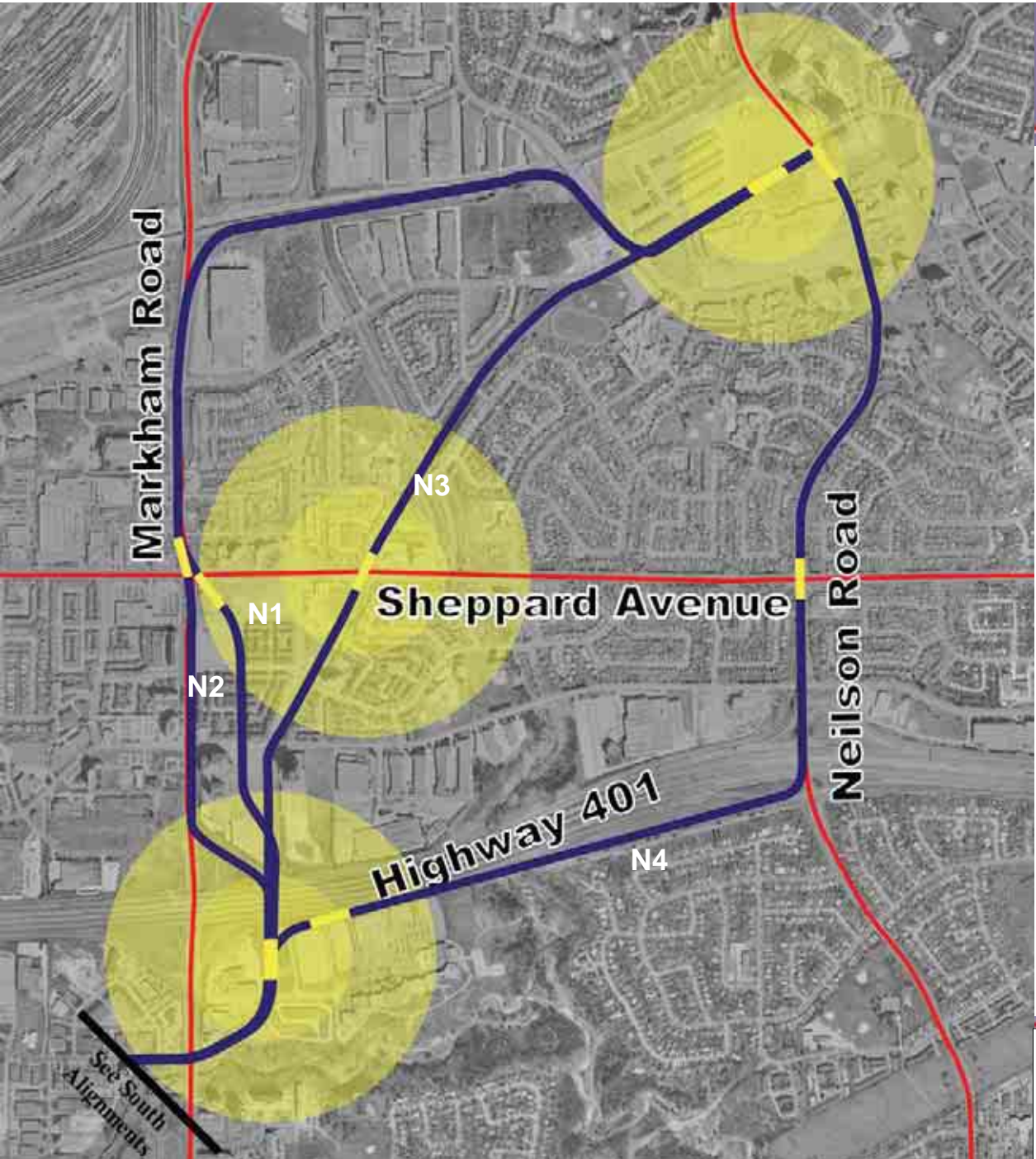
LEGEND

-  Proposed Station Location
-  250m/500m walking distance from station
-  Preferred Alignment
-  Yard

North Alignments

LEGEND

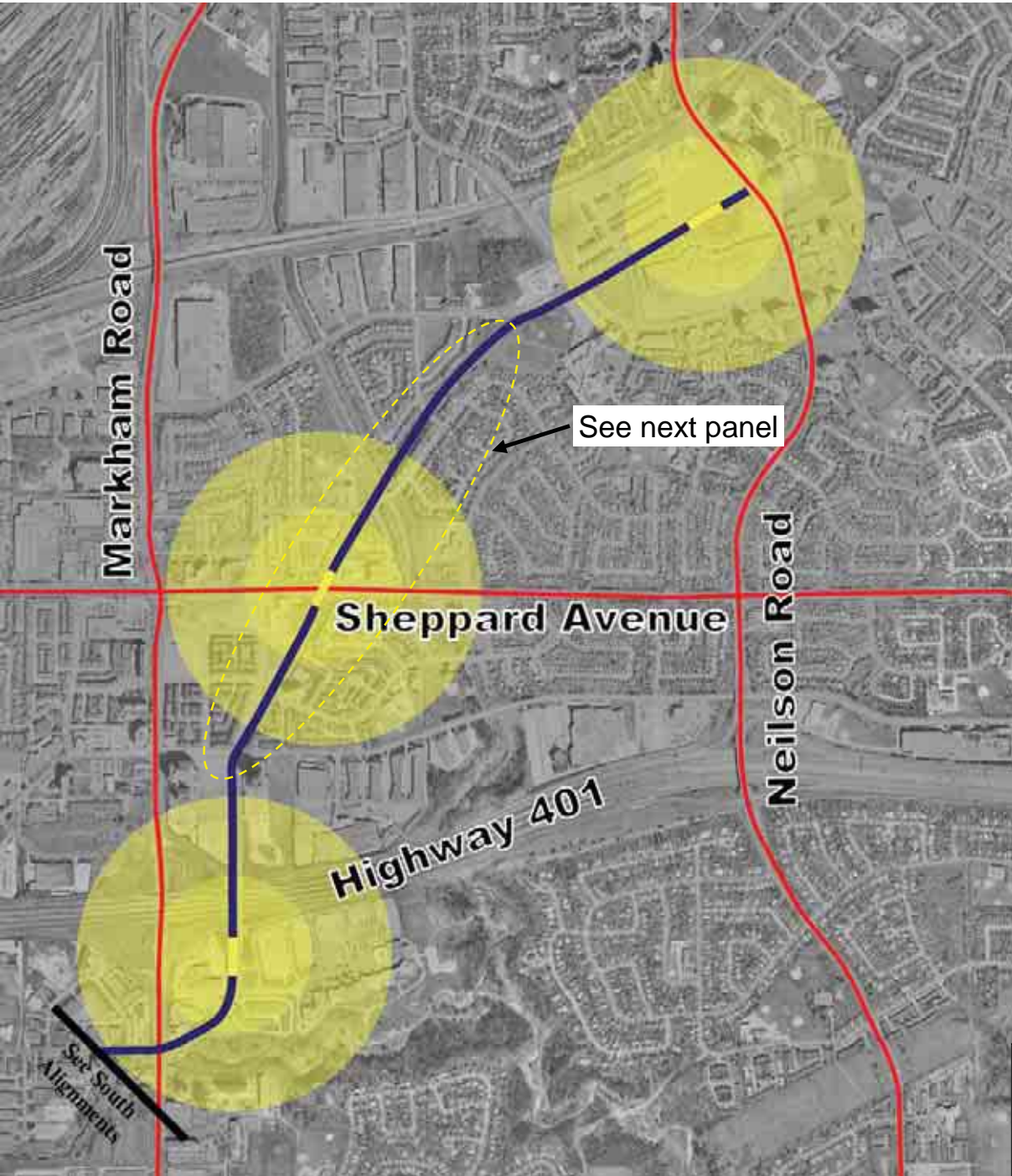
-  Proposed Station Location
-  250m/500m walking distance from station
-  Alignments






Evaluation of North Alignments

	North Option 1	North Option 2	North Option 3*	North Option 4	Comments
A) Provide rapid transit service into north east Scarborough					N3 provides reasonable service to the existing high density areas of Markham and Sheppard and the fastest service to the high density areas within Malvern and therefore is the most preferred. N1 and N2 provide slightly better service to the Markham / Sheppard Area but much slower service to Malvern.
B) Support population and employment growth					N1 and N2 enable a station closest to the key Markham/Sheppard development node. N3 is a close second as it serves Markham/Sheppard fairly well and provides a faster trip to the Malvern Town Centre node. N4, while providing slightly better access to the Centennial College node, provides very little opportunity to serve new development where it crosses Sheppard.
C) Accommodate future increase in ridership	Same				No difference - not decision relevant
D) Minimize adverse environmental and community effects					N2 is most preferred as it utilizes existing transportation corridors to minimize the impact on the socio-economic and natural environment. N3 has the potential for greater impacts on the residential community but through various design approaches, these impacts can be mitigated. N1 has greater impacts on the residential community than N2. N4 is least preferred as it has the most significant impact on the natural environment and some community impacts along Neilson Road.
E) Connect SRT to approved Sheppard LRT	Same				No difference - not decision relevant
F) Provide rapid transit service to Centennial College					Although N4 provides a station closer to the main area of campus, all options provide significantly improved transit service to Centennial College.
G) Achieve reasonable costs					N3 is most preferred because it is the shortest which will result in the lowest operating and construction costs. N2 and N1 will have the highest operating costs.
Summary	2	2	1	3	* Note: Evaluation based on a North Alignment 3 above grade structure

Preferred North Alignment - Option 3



LEGEND

-  Proposed Station Location
-  250m/500m walking distance from station
-  Alignment

Milner Ave to Tapscott Rd.



Potential visual, noise and vibration issues for adjacent residents



Potential impacts to East Highland Creek

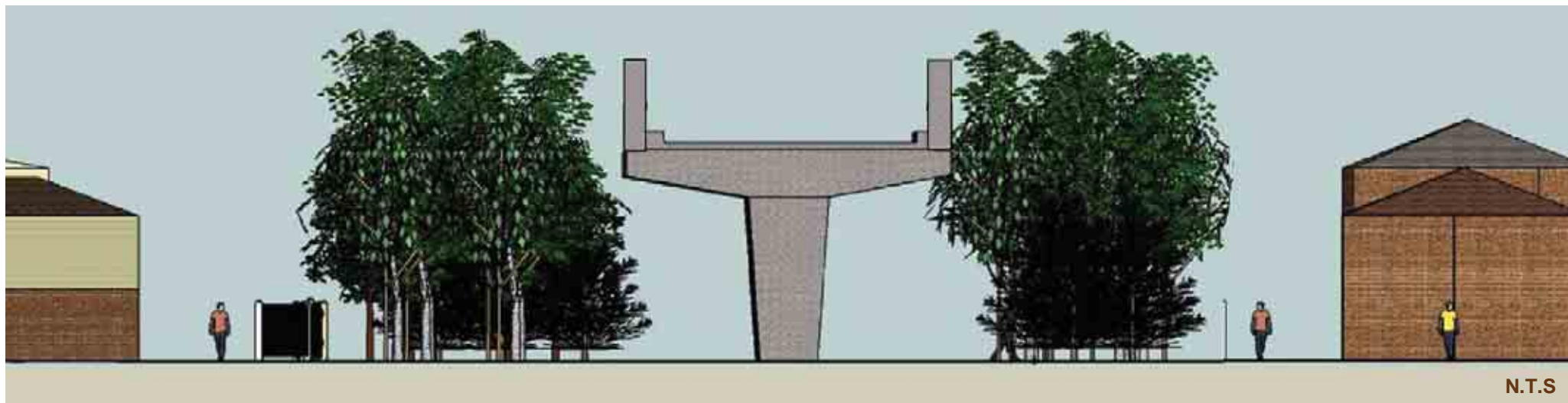


Potential loss of open space

What can be done to reduce/eliminate these issues? The following boards highlight the local issues and the options considered.



Above Grade Option



Advantages:

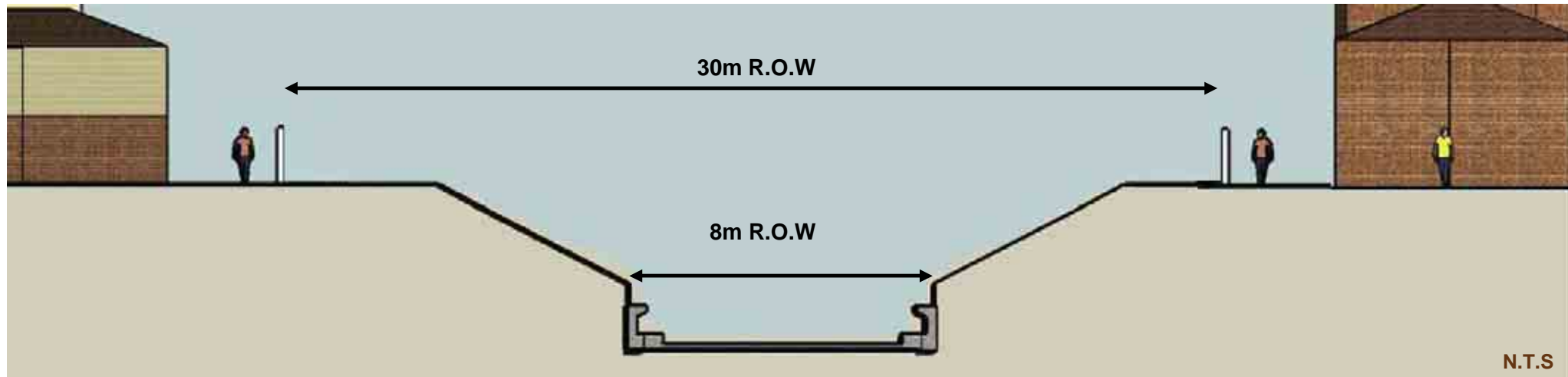
- Retains open space below structure for parkland uses
- Lower cost

Disadvantages:

- Visual impacts
- Noise impacts
- Impact on community open space

In order to further reduce/eliminate negative impacts to the community, additional options were considered.

Below Grade (Open Cut) Option



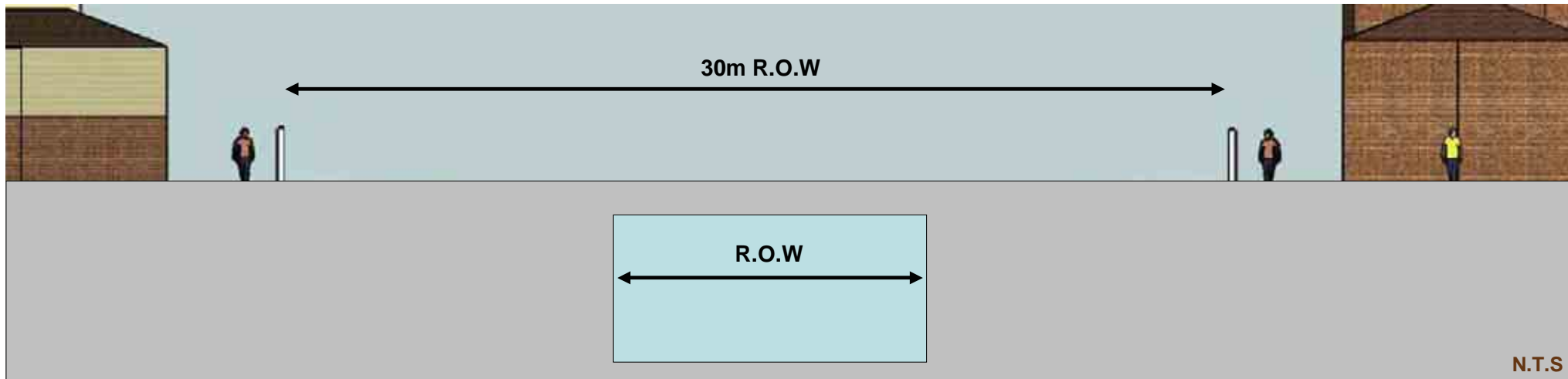
Advantages:

- Reduced noise impacts
- Low visual impacts

Disadvantages:

- Noise impacts
- Loss of community open space

Below Grade (Covered) Option



Advantages:

- No noise impact
- No visual impact
- Maintains community open space

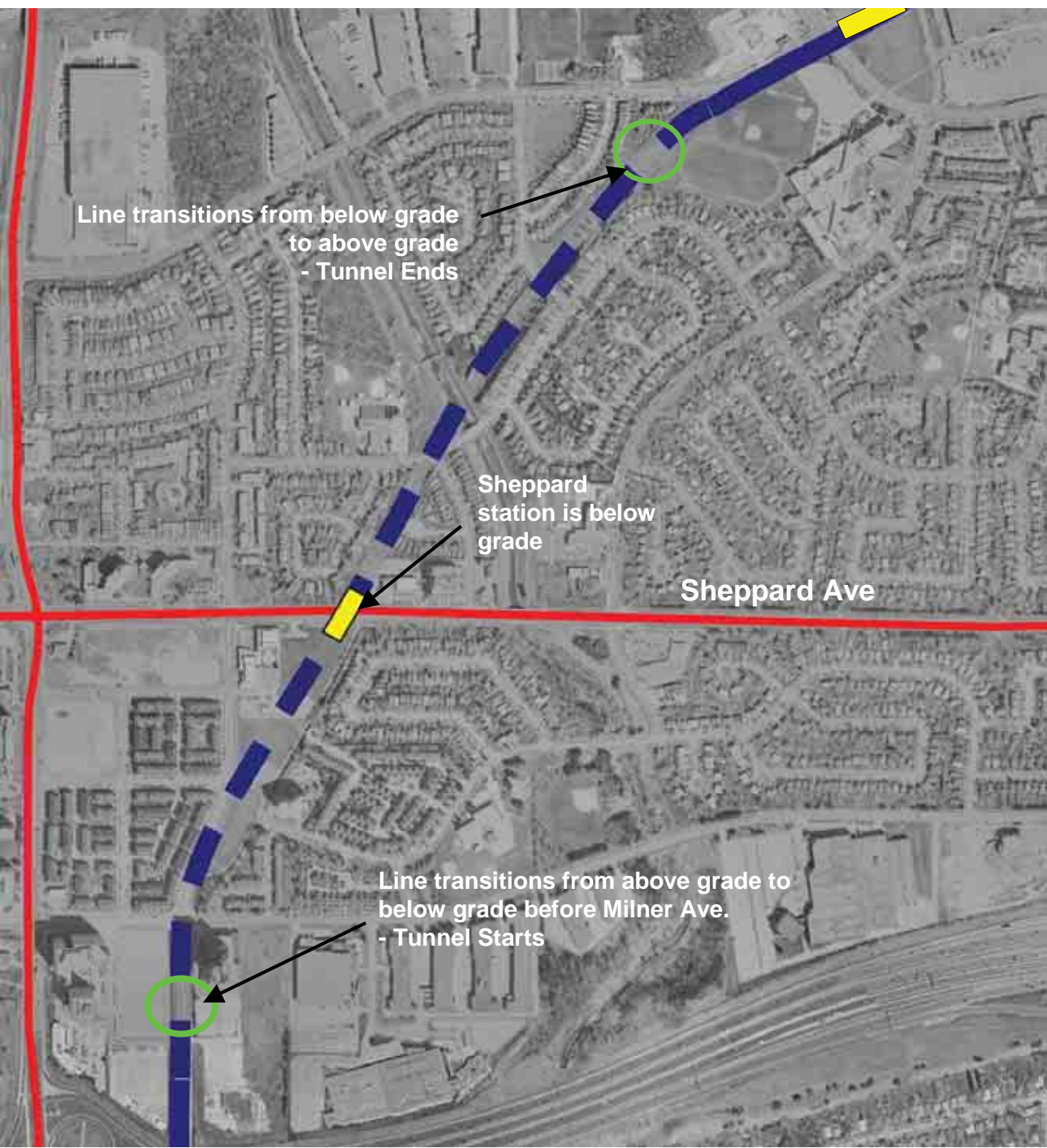
Disadvantages:

- Higher cost

Preferred Below Grade Option

LEGEND

- Elevated
- - - Below Grade



Scarborough Rapid Transit Maintenance Yard

In the 1992 Environmental Assessment, a new yard was deemed necessary to support the proposed extension of the Scarborough Rapid Transit.







At that time, several options were identified. After analysis of the different options, the preferred location for a new yard was determined to be south of Progress Avenue at Bellamy Road, immediately north of Highland Creek.

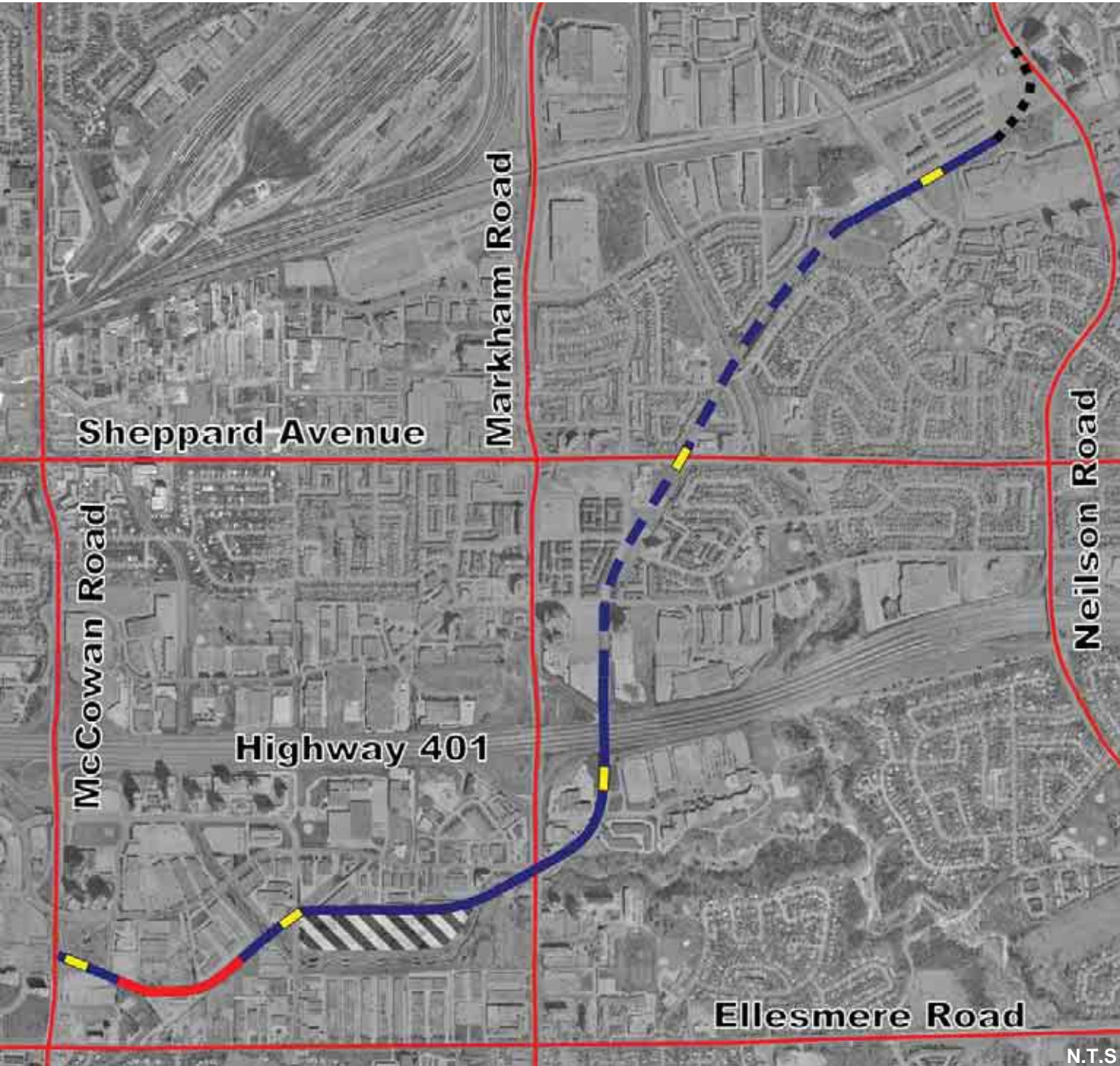
There have been no significant changes to the surrounding area since the 1992 Environmental Assessment. The results and analysis of the original EA are still valid and, therefore, the preferred yard location remains at the same location.

Because of the longer extension now being planned, more land is required for additional vehicle storage and maintenance. This extends the yard footprint north towards Progress Avenue.

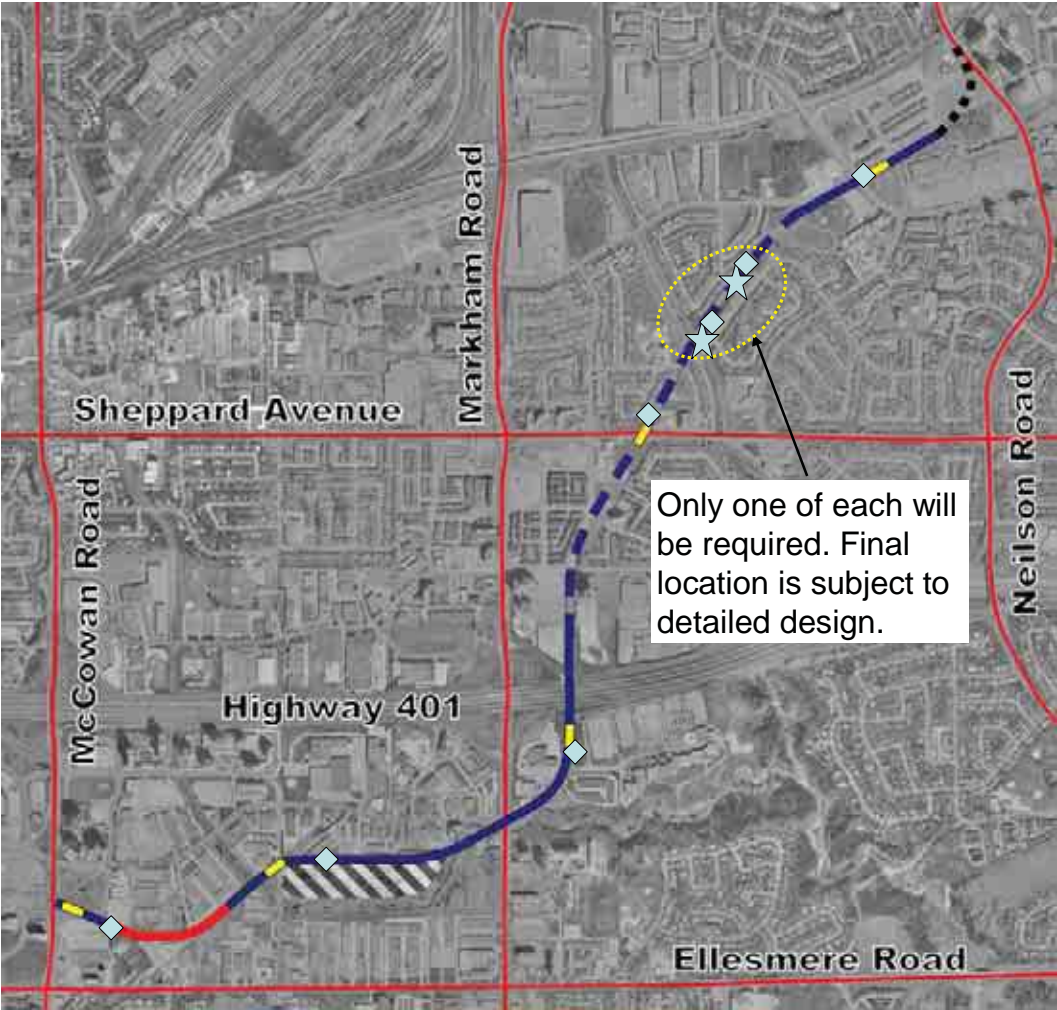
Preferred Alignment

LEGEND

-  SRT station locations
-  Elevated
-  At grade
-  Below grade
-  Yard
-  Possible future extension



Supporting Structures



LEGEND

- ★ Possible emergency exit building/pumping station
- ◆ Possible electrical substation
- SRT station locations
- Elevated
- At grade
- Below grade
- ▨ Yard
- ⋯ Possible future extension

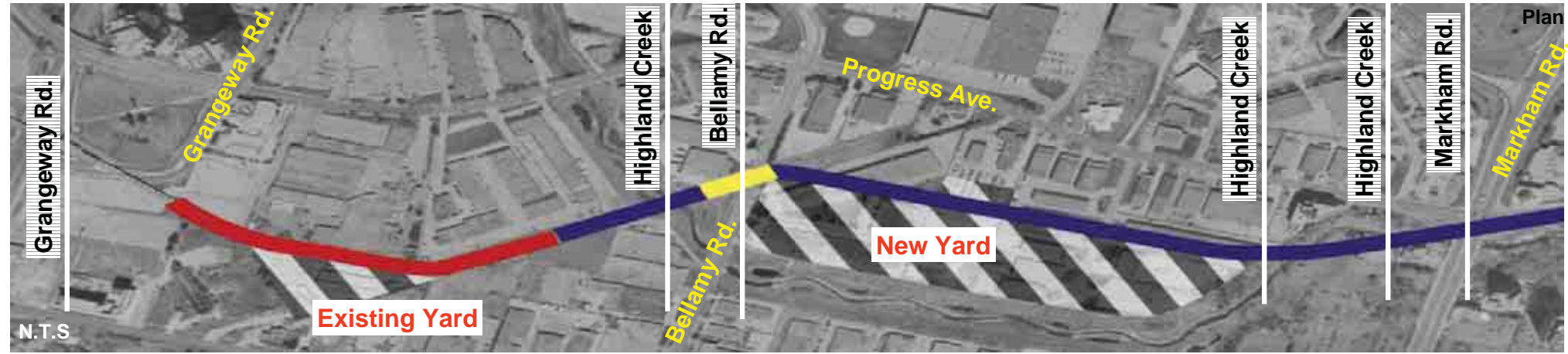
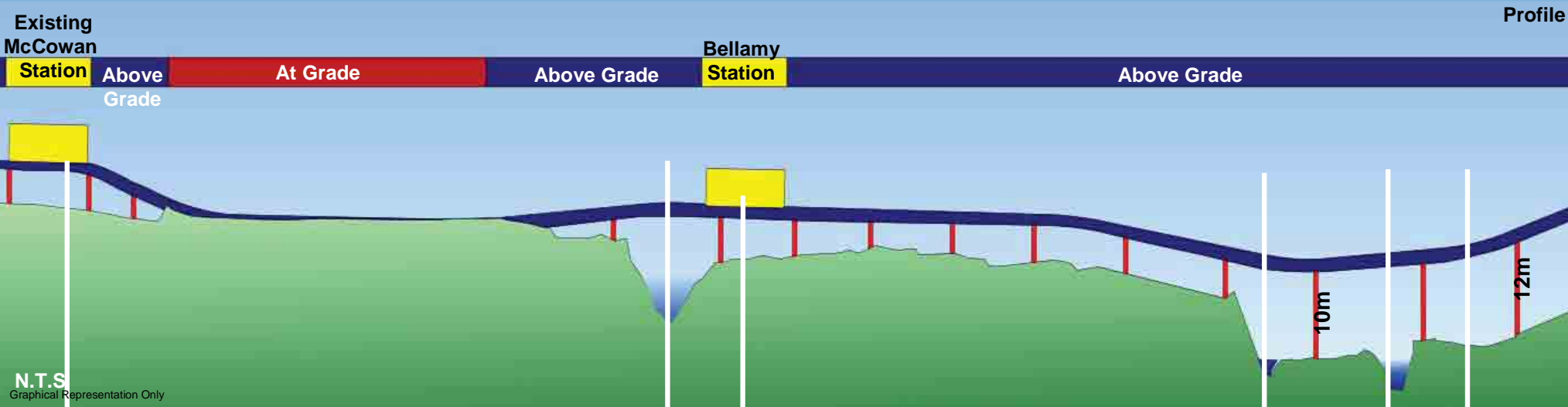


Typical Emergency Exit Building – Sheppard Subway

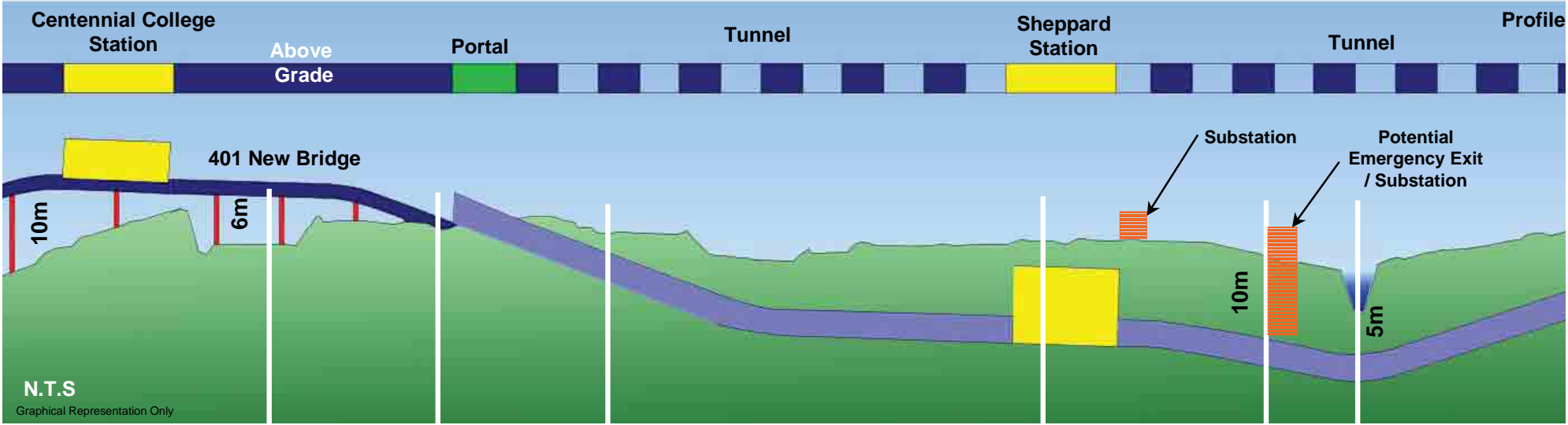


Typical Electrical Substation

Preferred Alignment - Plan and Profile

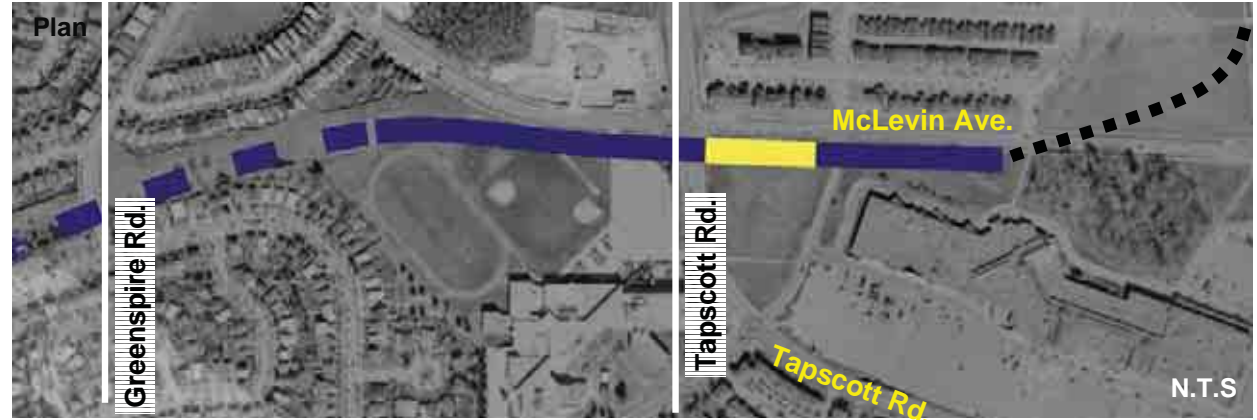
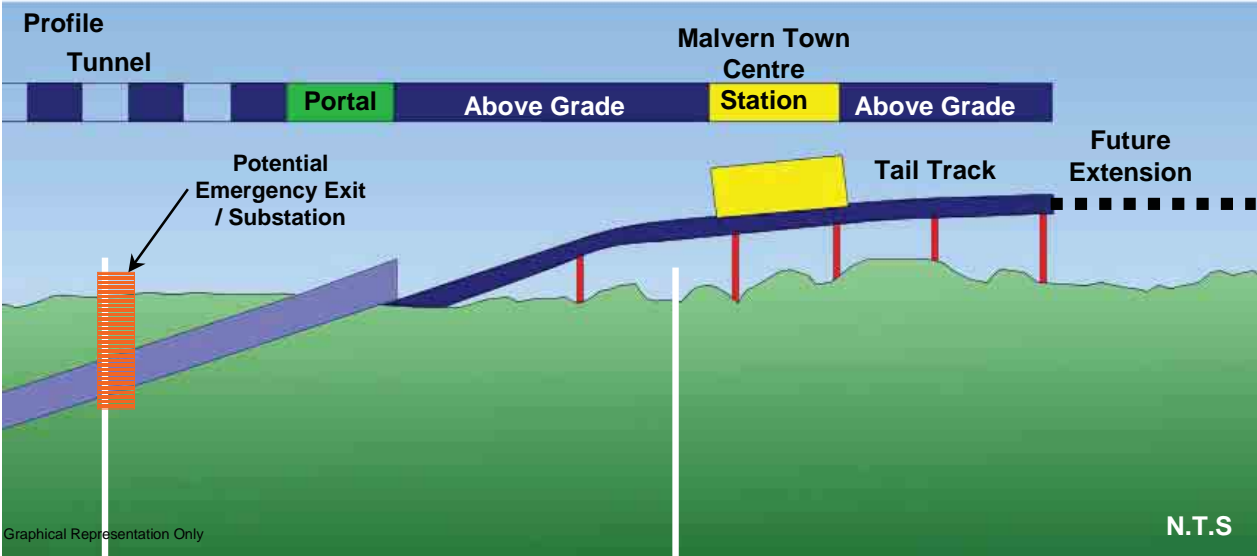


Preferred Alignment - Plan and Profile





Preferred Alignment - Plan and Profile



Bellamy Station



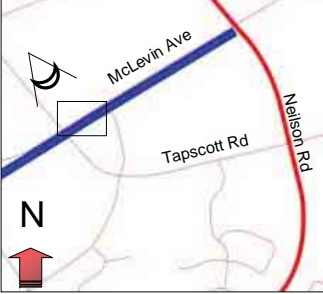
Centennial College Station



Sheppard Station



Malvern Station



Highlights

Line Length

Existing	Kennedy to McCowan	6.5 km
Extension	McCowan to Malvern Town Centre	5.1 km
TOTAL		11.6 km

Travel Time

Existing	SRT	Scarborough Centre to Kennedy	11min
	Bus	Malvern TC to Scarborough Centre	23min
TOTAL			34 min
Extension	SRT	Scarborough Centre to Kennedy	11min
	SRT	Malvern TC to Scarborough Centre	8min
TOTAL			19 min

Ridership

	Per Hour in Peak Direction (pphpd)	Daily Total	Year
Existing Capacity	3,800		
Existing Demand - South to Kennedy	5,000	45,000	2009
Future Demand - South to Kennedy	10,000	90,000	2031
Future Demand - South to McCowan Station	4,500	40,000	2031



Technology – To be determined



Existing Mark I Vehicles to be replaced with



Mark II Vehicles

Or



LRT Vehicles

Technology – To be determined



Existing Mark I Vehicles to be replaced with



Mark II Vehicles

Or



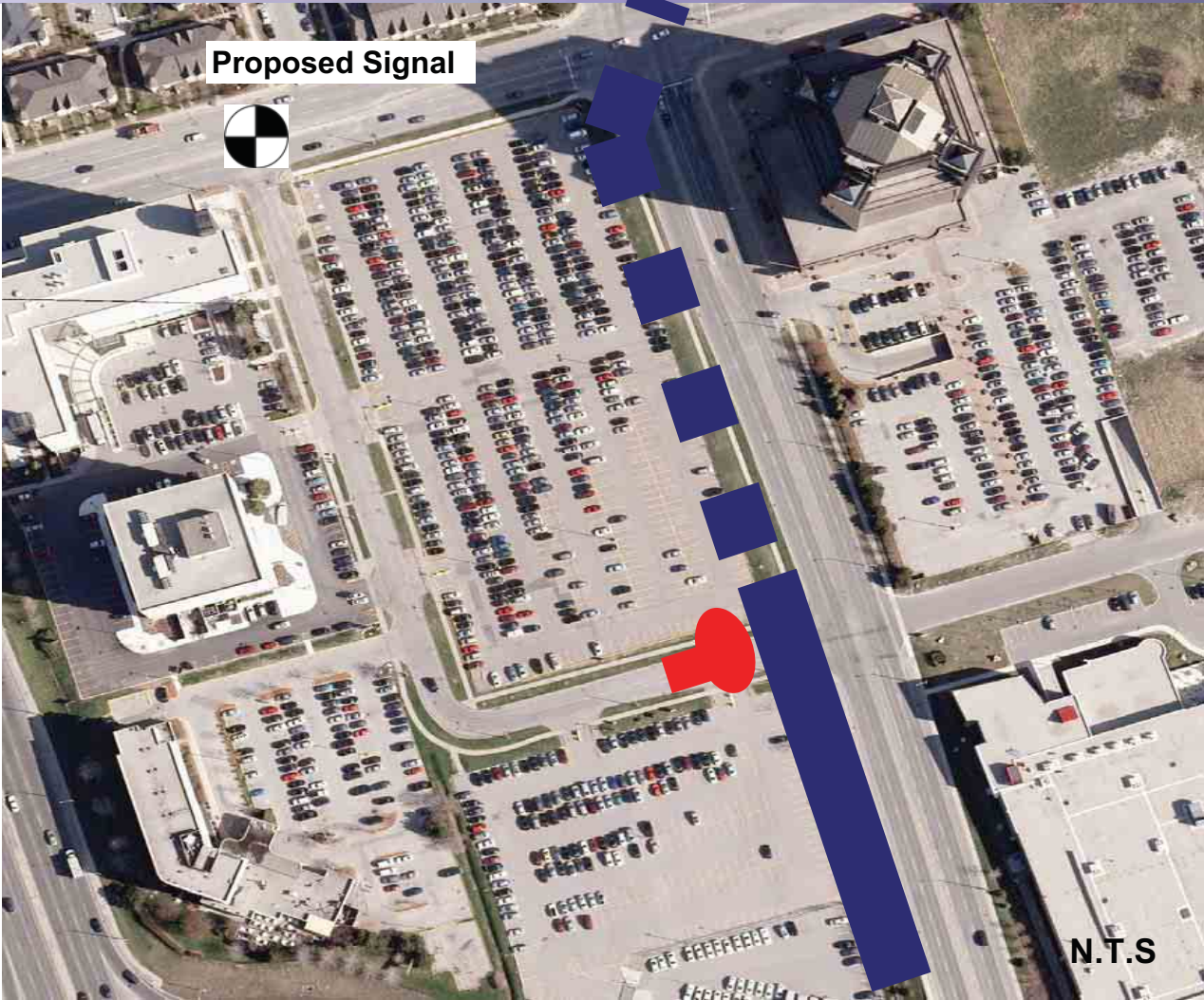
LRT Vehicles

Archaeology & Cultural Resources

LEGEND

- Cultural Landscape
- Archaeological Potential








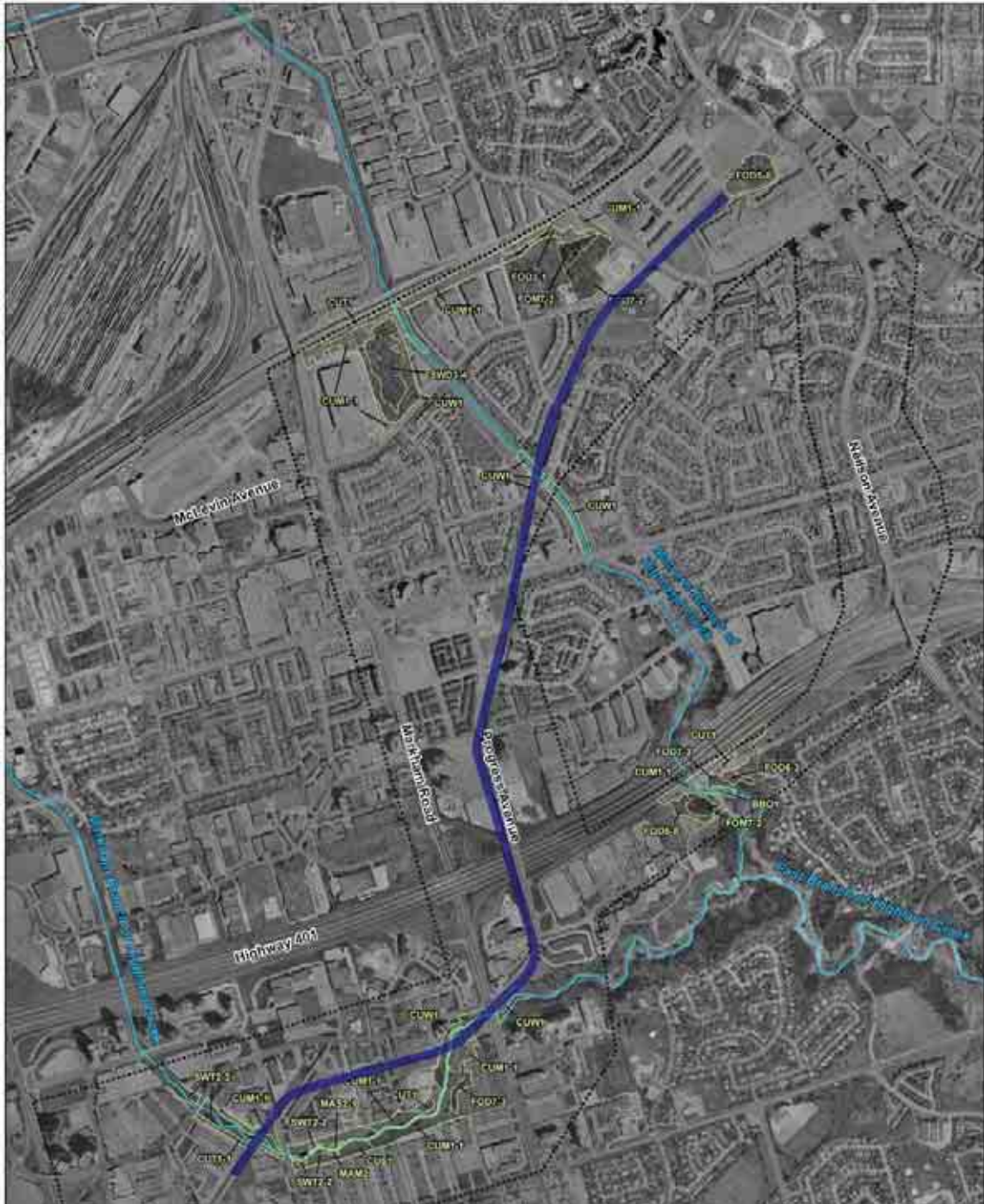
Milner Business Court/Progress Avenue access to be closed

LEGEND

Preferred Alignment

-  Elevated
-  Below Grade
-  Cul-de-sac

Natural Environment



LEGEND

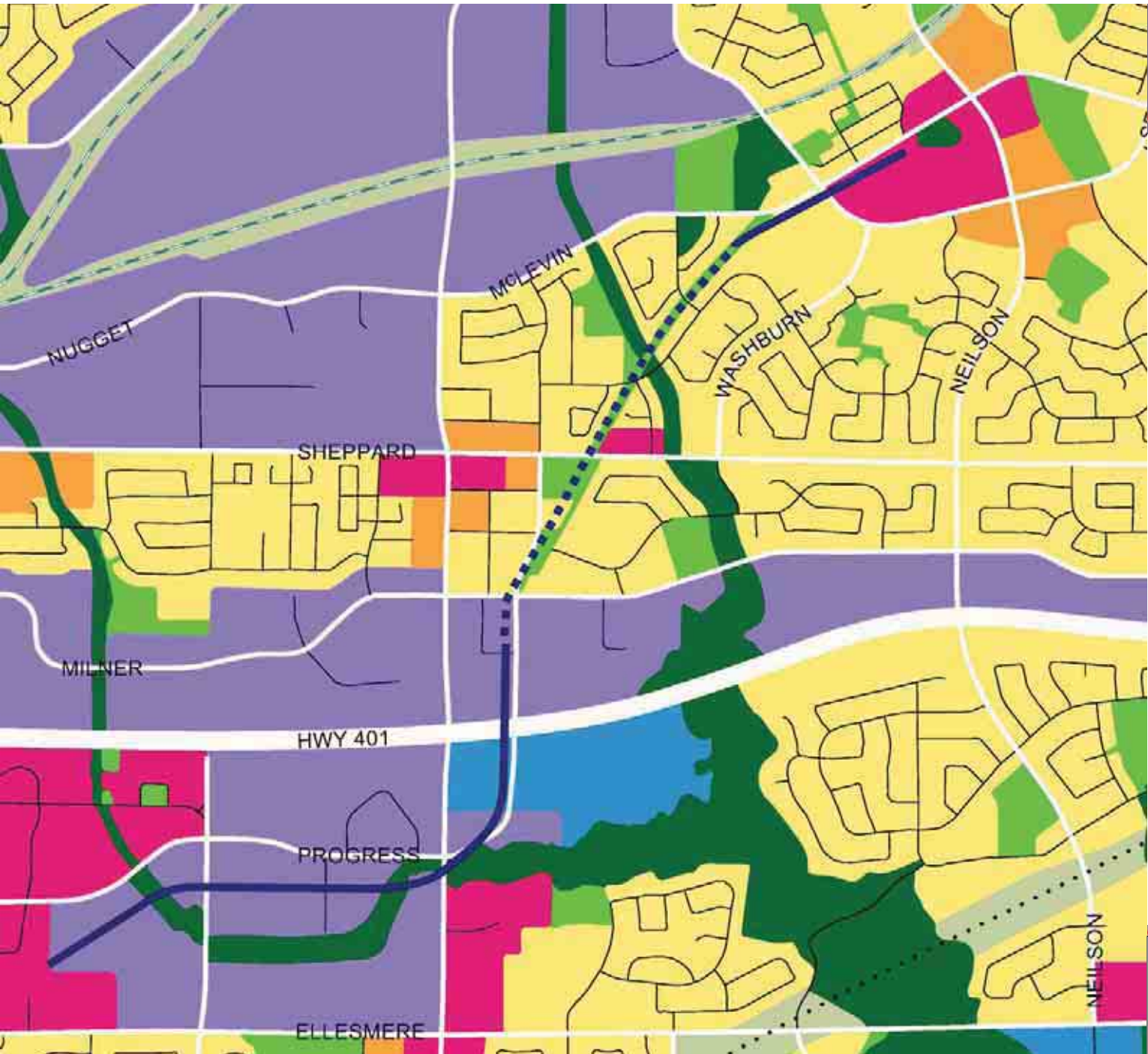
- Study Area
- Vegetation Community Boundary
- Watercourse
- Proposed Alignment

Vegetation Communities

- EBO1** Mineral Open Beach/Bar Ecosite
- CUM1-1** Dry-Moist Old Field Meadow Type
- CUS1** Mineral Cultural Savannah Ecosite
- CUT1** Mineral Cultural Thicket Ecosite
- CUT1-1** Sumac Cultural Thicket Type
- CUW1** Mineral Cultural Woodland Ecosite
- FOD1-1** Dry-Fresh Poplar Deciduous Forest Type
- FOD1-2** Dry-Fresh Sugar Maple-White Ash Deciduous Forest Type
- FOD7-2** Fresh-Moist Ash Lowland Deciduous Forest Type
- FOD7-3** Fresh-Moist Willow Lowland Deciduous Forest Type
- FOM7-2** Fresh-Moist White Cedar-Hardwood Mixed Forest Type
- MAM2** Mineral Meadow Marsh Ecosite
- MAS2-1** Cattail Mineral Shallow Marsh Type
- SWD1-2** Silver Maple Mineral Deciduous Swamp Type
- SWT2-2** Willow Mineral Thicket Swamp Type



Land Use Plan



TORONTO
OFFICIAL PLAN

MAP 22
Land Use Plan
 June 2006











Land Use Designations

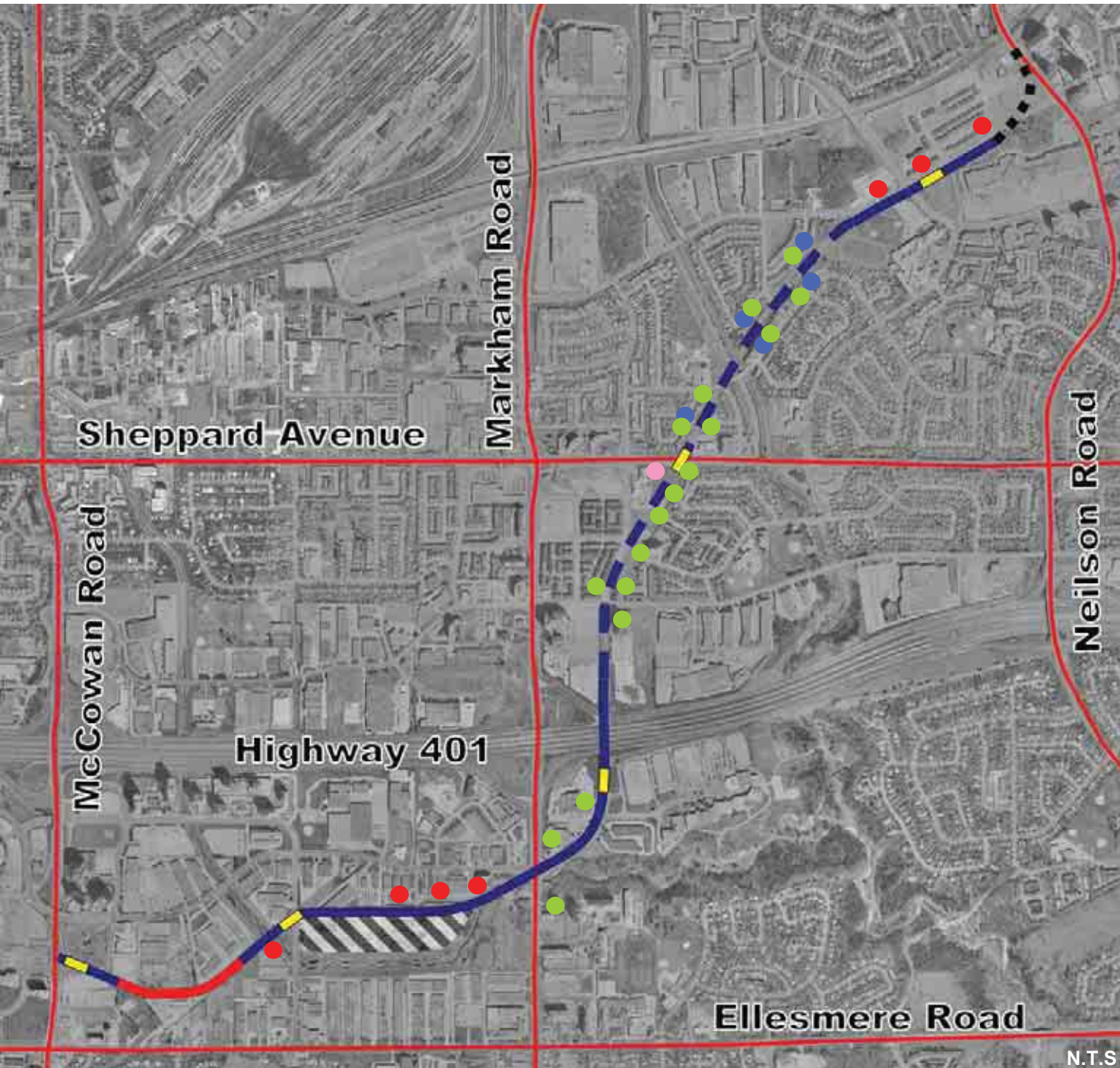
- Neighbourhoods
- Apartment Neighbourhoods
- Mixed Use Areas
- Parks and Open Space Areas
- Natural Areas
- Parks
- Other Open Space Areas (Including Golf Courses, Cemeteries, Public Utilities)
- Institutional Areas
- Regeneration Areas
- Employment Areas
- Utility Corridors



Noise & Vibration

LEGEND

-  SRT station locations
-  Elevated
-  At grade
-  Below grade
-  Yard
-  Possible future extension
-  Locations where field measurements taken for ambient noise
-  Location of possible noise exceedances where mitigation may be required
-  Location of possible vibration exceedances where mitigation may be required
-  Modeled receptors with no impacts identified

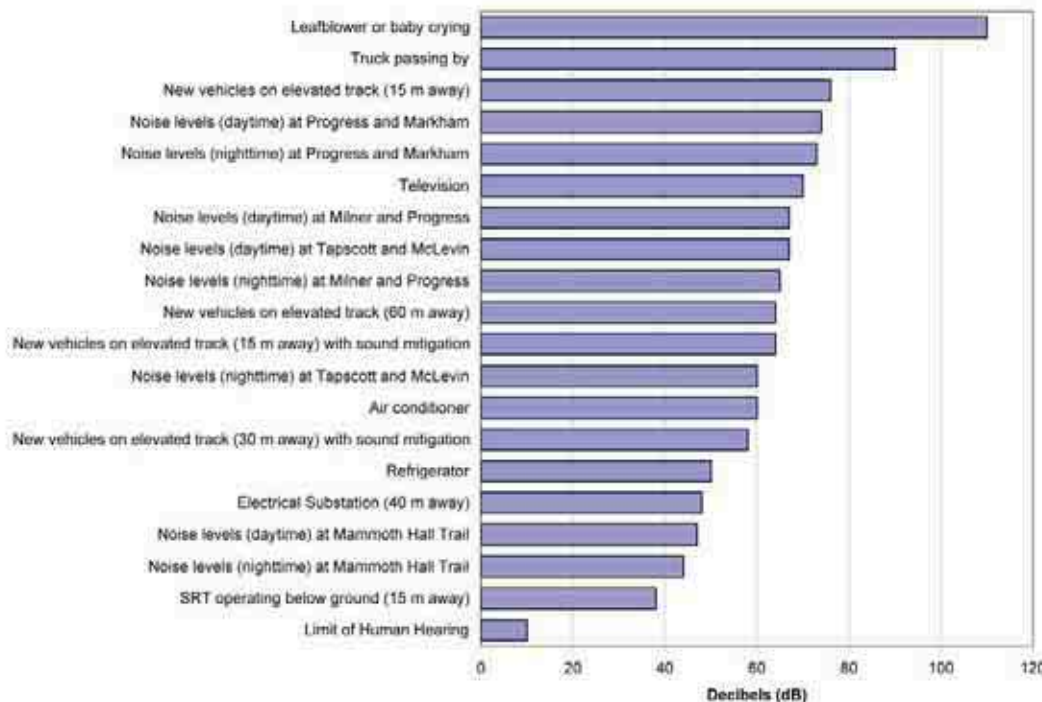


N.T.S

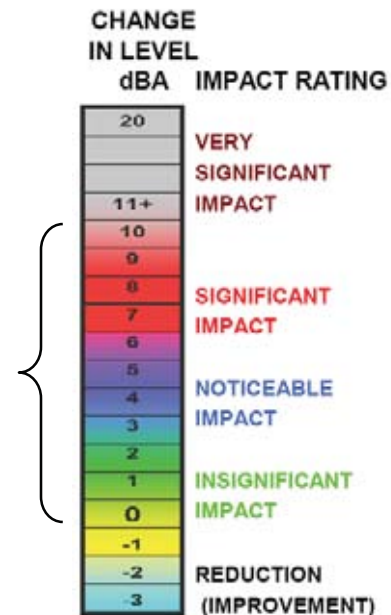


Mitigating Noise

Noise levels may vary depending on the transit vehicle in use along the exclusive right of way and distances from the track to the sensitive receptor. As part of a commitment to mitigate noise in accordance with the Ministry of the Environment protocol, TTC will determine the location and requirements for mitigation as part of the design. Where necessary, walls with sound absorptive materials can be built into the running structure in order to mitigate sound.



To the human ear, an increase of 10 dB is perceived as being twice as loud.



Mitigating Vibration

TTC vehicles typically generate vibration levels of 0.01 mm/s at a distance of 12 metres. At distances beyond 12 m from the track, the vibration levels are considered as not detectable. As most receptors are greater than 15 metres from the track, vibration will not be an issue along the majority of the corridor.

To minimize the impact of vibration, TTC uses:

- Rubber pads in structures that reduce the transmission of vibrations to the ground
- Continuously welded rail
- Ongoing maintenance of tracks and vehicles.

Higher Order Transit Corridors



*Official Plan – Map 4 – Requires amendment

Property

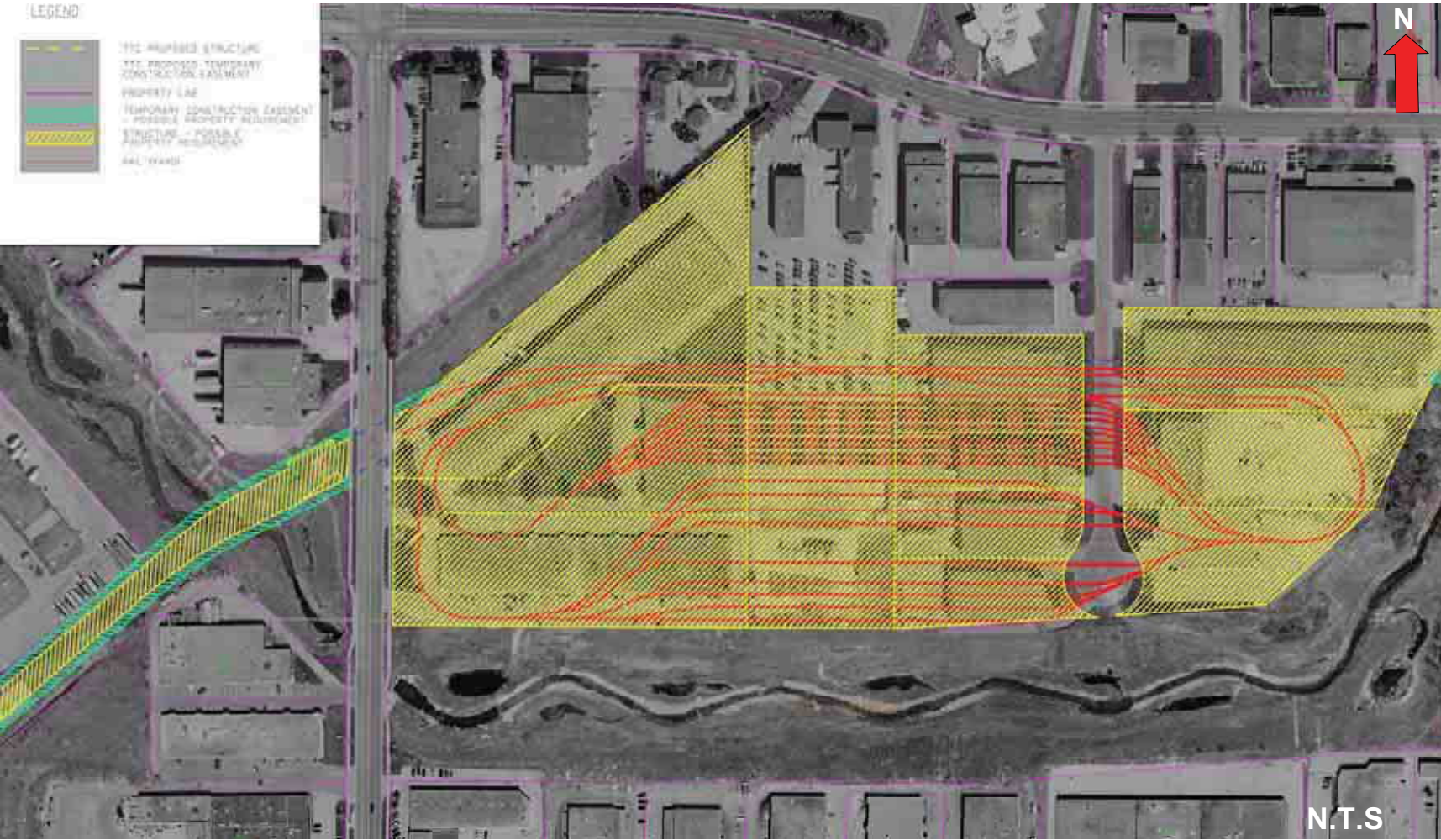


N.T.S

Property

LEGEND

-  1112 PROPOSED STRUCTURE
-  1112 PROPOSED - TEMPORARY CONSTRUCTION EASEMENT
-  PROPERTY LINE
-  TEMPORARY CONSTRUCTION EASEMENT - PROPOSED PROPERTY ADJUSTMENT
-  1112 PROPOSED - PUBLIC
-  ALL OTHERS



Property



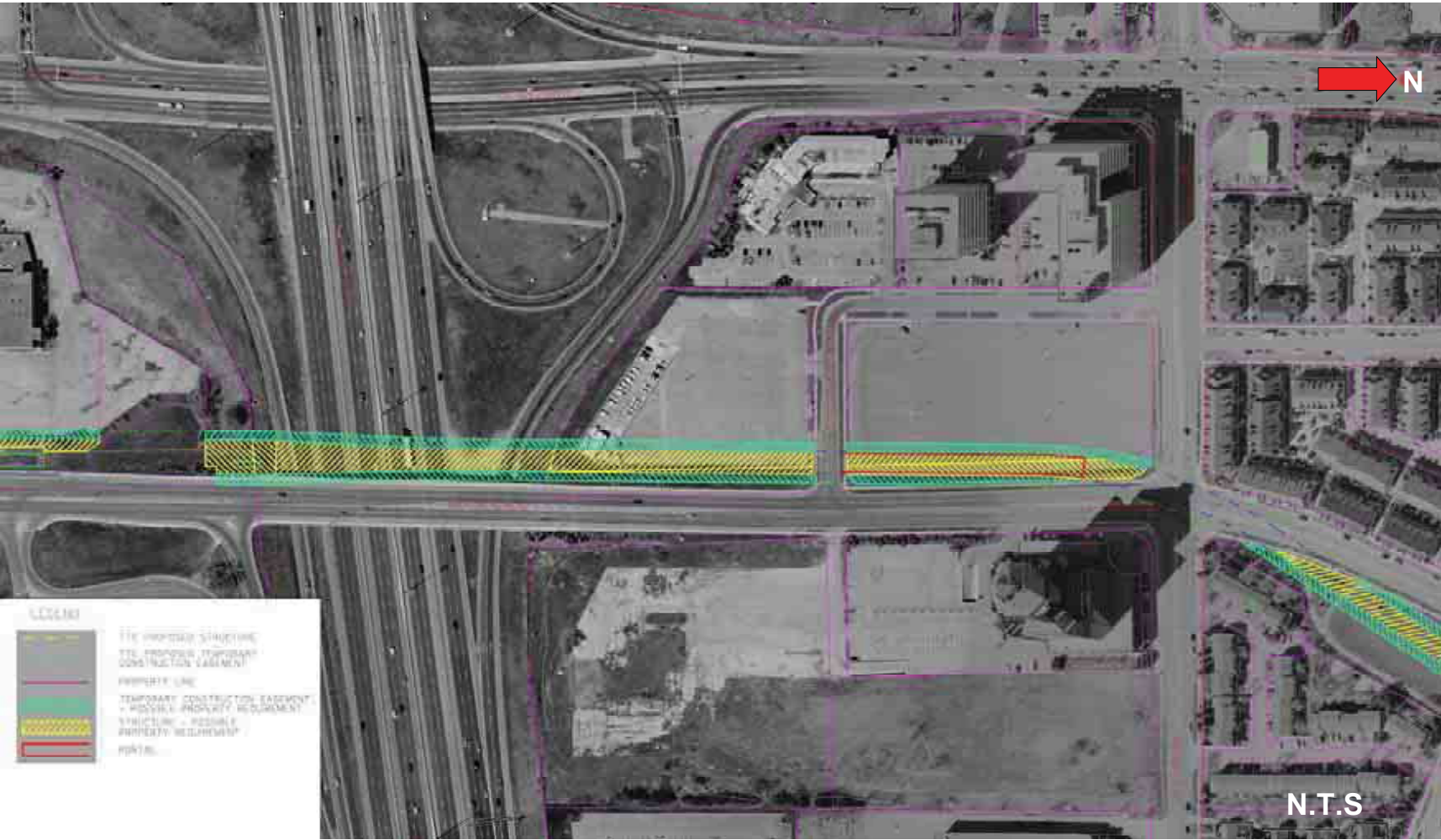
LEGEND

- TTT Proposed Structure
- TTT Proposed Temporary Construction Element
- PROPERTY LINE
- TEMPORARY STRUCTURE OR ELEMENT - POSSIBLE PROPERTY ACQUISITION
- STREETLINE, DRIVE & PROPERTY ACQUISITION



N.T.S

Property



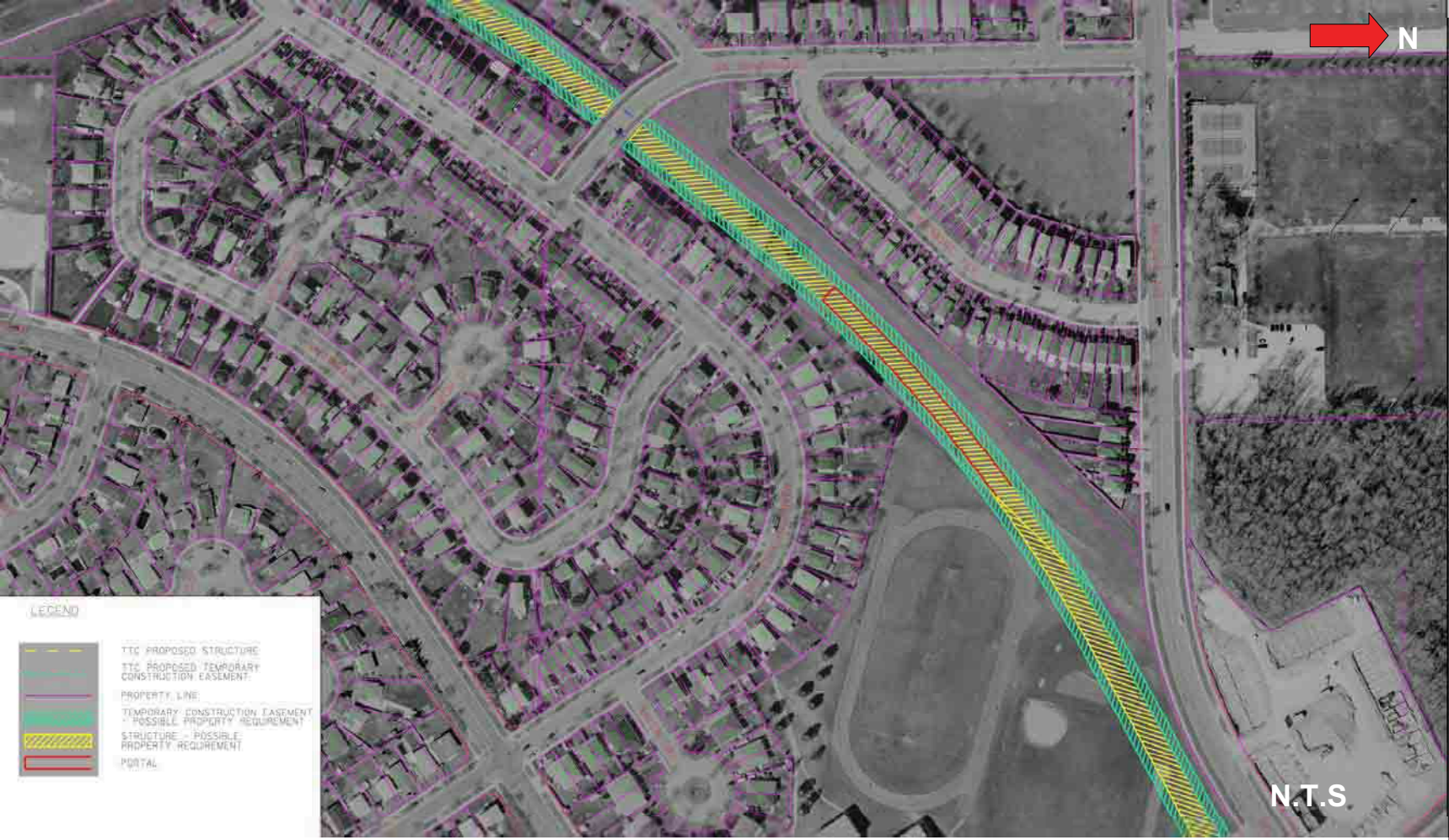
LEGEND

	TIE PROPOSED STRUCTURE
	TIE PROPOSED TEMPORARY CONSTRUCTION EASEMENT
	PROPERTY LINE
	TEMPORARY CONSTRUCTION EASEMENT - POTENTIAL PROPERTY REQUIREMENT
	STRUCTURE - POTENTIAL PROPERTY REQUIREMENT
	PORTAL

Property



Property

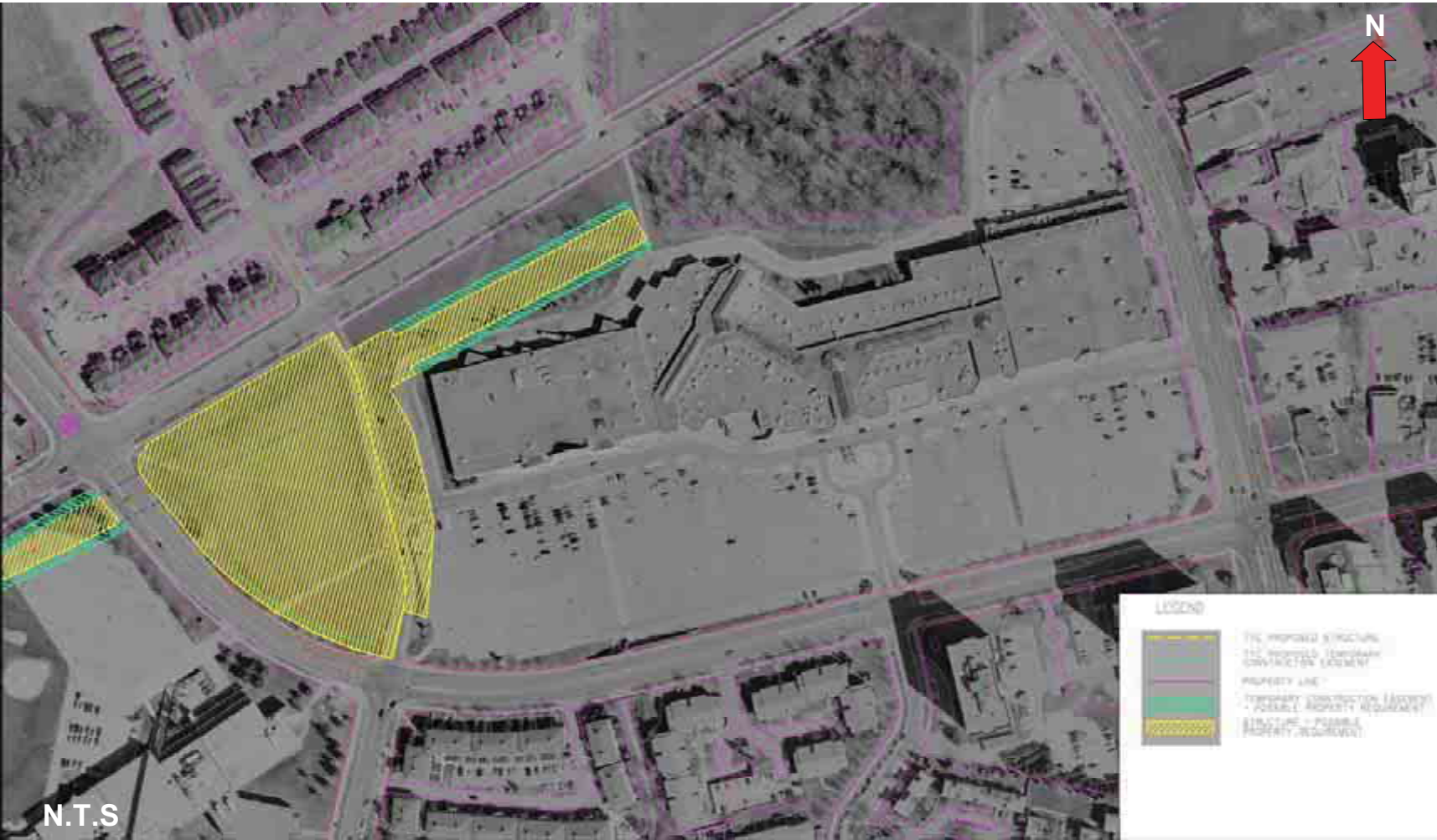


LEGEND

- TTC PROPOSED STRUCTURE
- TTC PROPOSED TEMPORARY CONSTRUCTION EASEMENT
- PROPERTY LINE
- TEMPORARY CONSTRUCTION EASEMENT - POSSIBLE PROPERTY REQUIREMENT
- STRUCTURE - POSSIBLE PROPERTY REQUIREMENT
- PORTAL



Property

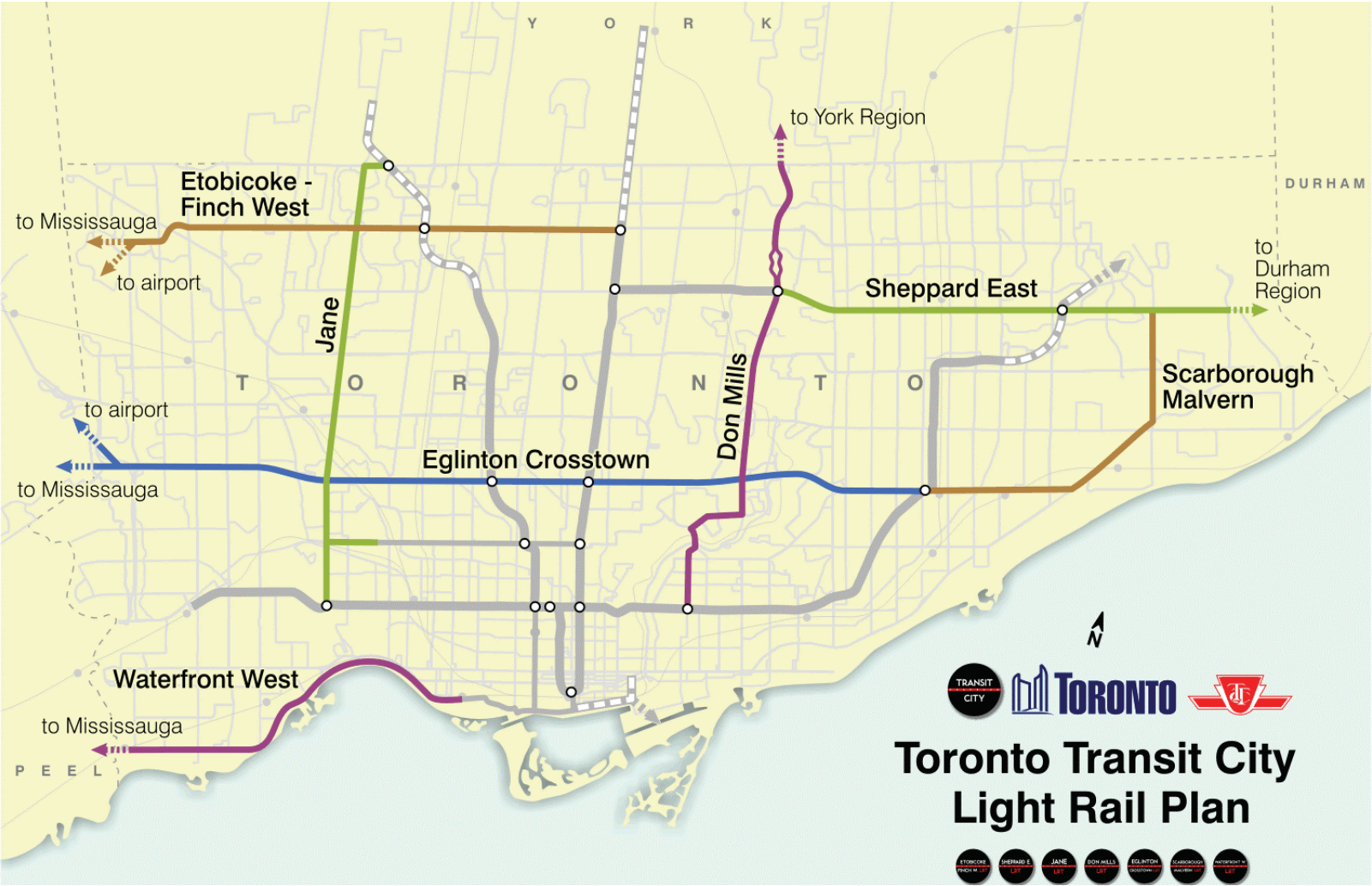


LEGEND

-  THE PROPOSED STRUCTURE
-  THE PROPOSED STRUCTURE CONSTRUCTION FOOTPRINT
-  PROPERTY LINE
-  TEMPORARY ACCESSIBLE WALKWAY - POSSIBLE PROPERTY ENCROACHMENT



Transit City Map



Toronto Transit City Light Rail Plan

Proposed Costs/Schedule

- The extension of the Scarborough RT into the Malvern community will have many direct benefits:
 - Reduces travel time
 - Increases access to employment, services, health care and educational facilities
 - Increases rider convenience and comfort
 - Decreases overall consumption of fossil fuels
 - Enhances the attractiveness of transit
- Funding has been approved by the Province
- Scheduled Completion - 2015

Your Comments are Important!

There are five ways to submit your comments:

1. Hand in comments before you leave

2. E-mail

srt@toronto.ca

3. Phone:

416-338-2830

416-397-0831 (TTY)

4. Fax:

416-392-2974

5. By Mail:

David Nagler
Scarborough RT Extension
Public Consultation
City of Toronto
Metro Hall, 19th Floor
55 John Street
Toronto, M5V 3C6



***Fax Alert**

Sending personal information by fax is not a secure means of transmission. It is recommended that you complete and return the comment form by regular mail to the address noted above.

**THANK YOU FOR
COMING**