

# York Region Rapid Transit Corporation



Yonge Subway Conceptual Design – Final Report  
Development Services Committee | May 15, 2012  
Town of Markham

**VIVAnext**  
way to go. way to grow.

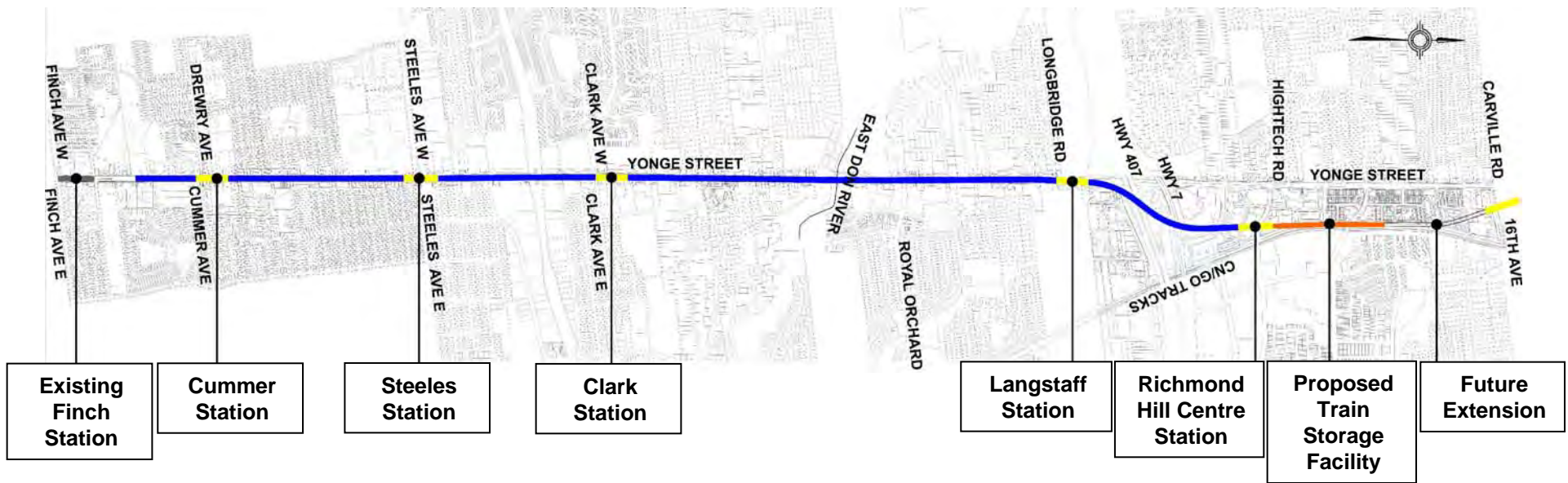
## **Agenda**

- › Project Background
- › Conceptual Design Study Purpose
- › Final Conceptual Design Report Overview
- › Next Steps

# Yonge Subway Extension Conceptual Design - Final Report



## Background



## Background

- › In September 2009, York Regional Council authorized the Yonge Subway Extension conceptual design assignment
- › The YSE Conceptual Design Study Draft Final Report was circulated for review and comment to staff at Vaughan, Richmond Hill and Markham in December 2011
- › Comments have been received from all Stakeholder Municipalities
- › YRRTC Board endorsed the Final Report in April 2012

## Study Purpose

- › Build upon the work completed by the Transit Project Assessment Process (TPAP)
  - › Gather additional geotechnical information
  - › Refine subway alignment
  - › Further develop station concepts
  - › Identify property to be protected
- › Complete a project cost estimate
- › Address comments from the Metrolinx Benefits Case Analysis (BCA)
- › Maintain a state of readiness should Preliminary Engineering funding become available

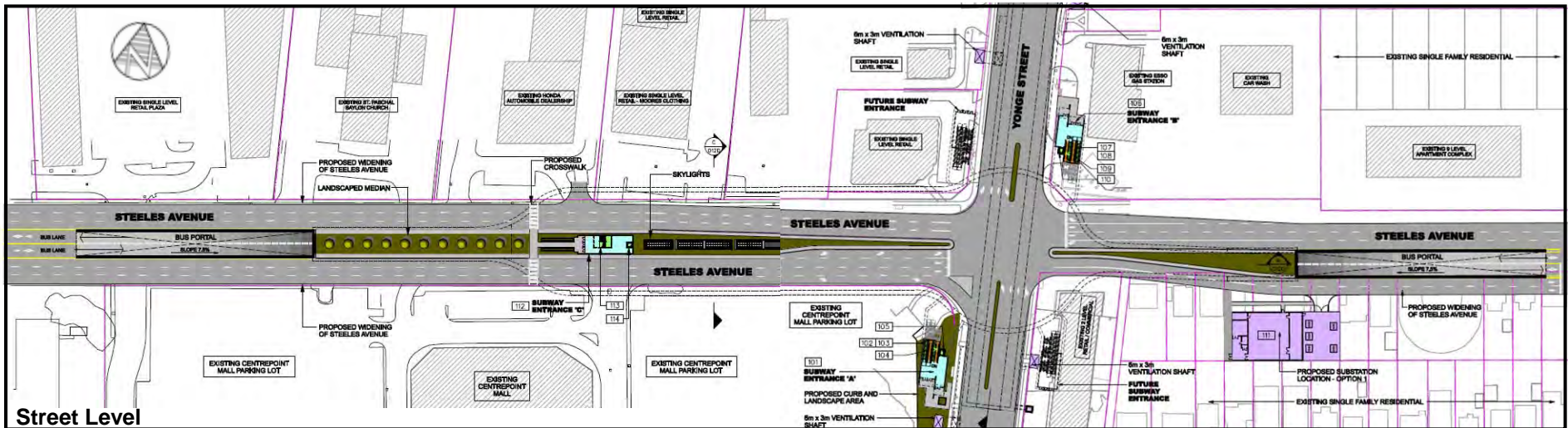
## Final Conceptual Design Report Overview

- › Since the TPAP, refinements have been made to the design:
  - › Some YRT routes have been redirected from Steeles Station to Clark Station
  - › Added a bus loop to Clark Station
  - › Reduced the number of bays at Steeles Station
  - › Eliminated the Yonge Street bus portal at Steeles Station
  - › Analyzed and selected a preferred location for a train storage facility north of Richmond Hill Centre
  - › Forecasted ridership at Royal Orchard Station is too low to justify the cost of the station, however, YRRTC will examine best practices for station planning and will continue to monitor changes to land use that increase ridership potential

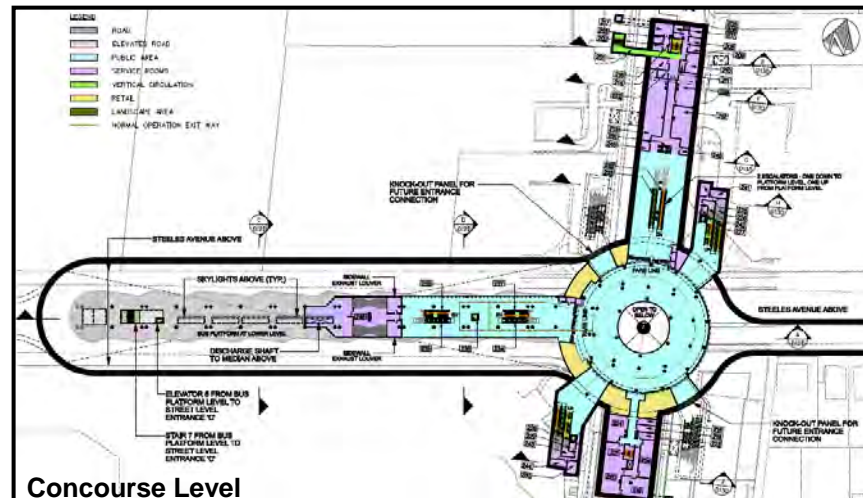
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## Steeles Station



Street Level

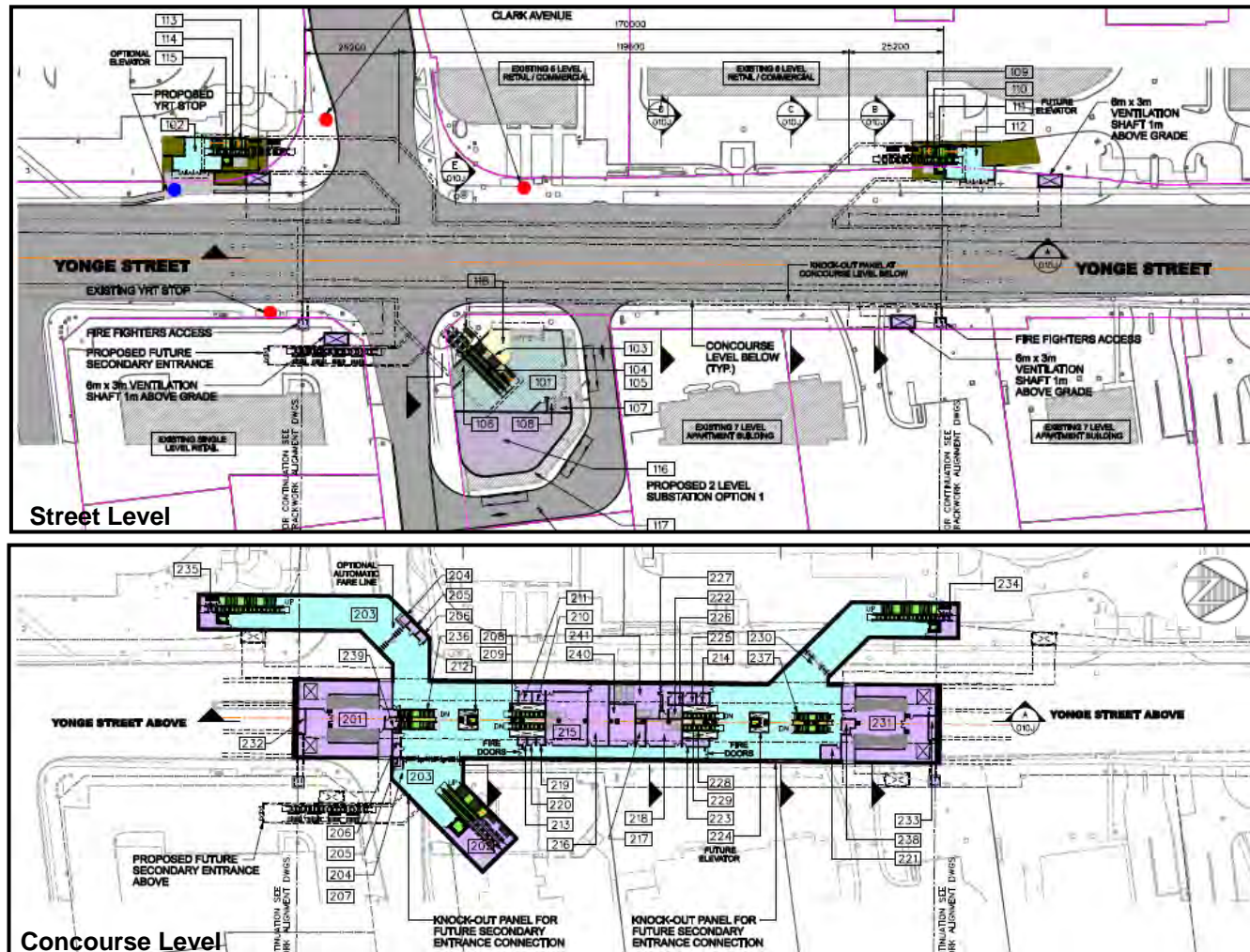


Concourse Level

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## Clark Station



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## Royal Orchard Station

- › Projected population and employment growths are low – a result of limited redevelopment potential



## Royal Orchard Station

- › Ridership forecasts are too low to justify the cost of building a subway station
- › 2031 Estimated AM Peak Hour Ridership:
  - › Royal Orchard Station 340
- › Existing AM Peak Hour Ridership Comparison:
  - › Bessarion Station (Sheppard Line) 540
- › Royal Orchard ridership in 2031 is approximately 66% of existing Bessarion Station ridership – the lowest in the TTC system
- › Bessarion Station will experience growth as redevelopment occurs in the vicinity of the station
- › YRRTC and TTC will continue to monitor changes to land use at Royal Orchard Station that may increase ridership potential

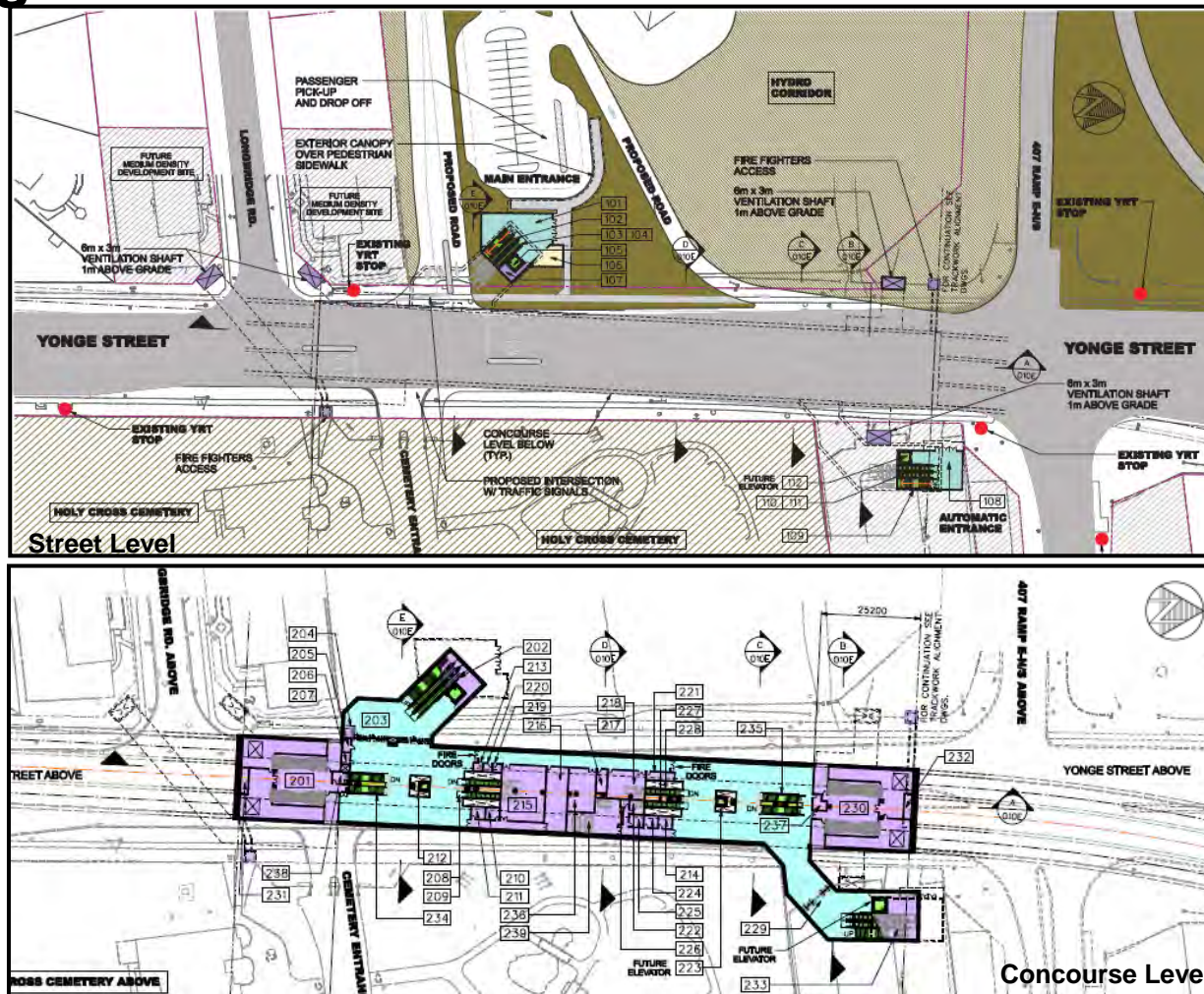
## Royal Orchard Station

- › YRT service will connect the Royal Orchard community to Langstaff and Clark Stations
- › An emergency exit building and electrical substation are still required in the vicinity of Royal Orchard Station
- › Royal Orchard Station will not be removed from the TPAP at this time
- › YRRTC will analyze best practices for station planning and will continue to monitor changes to land use that increase ridership potential at Royal Orchard Station
- › Project cost estimate does not include Royal Orchard Station

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## Langstaff Station

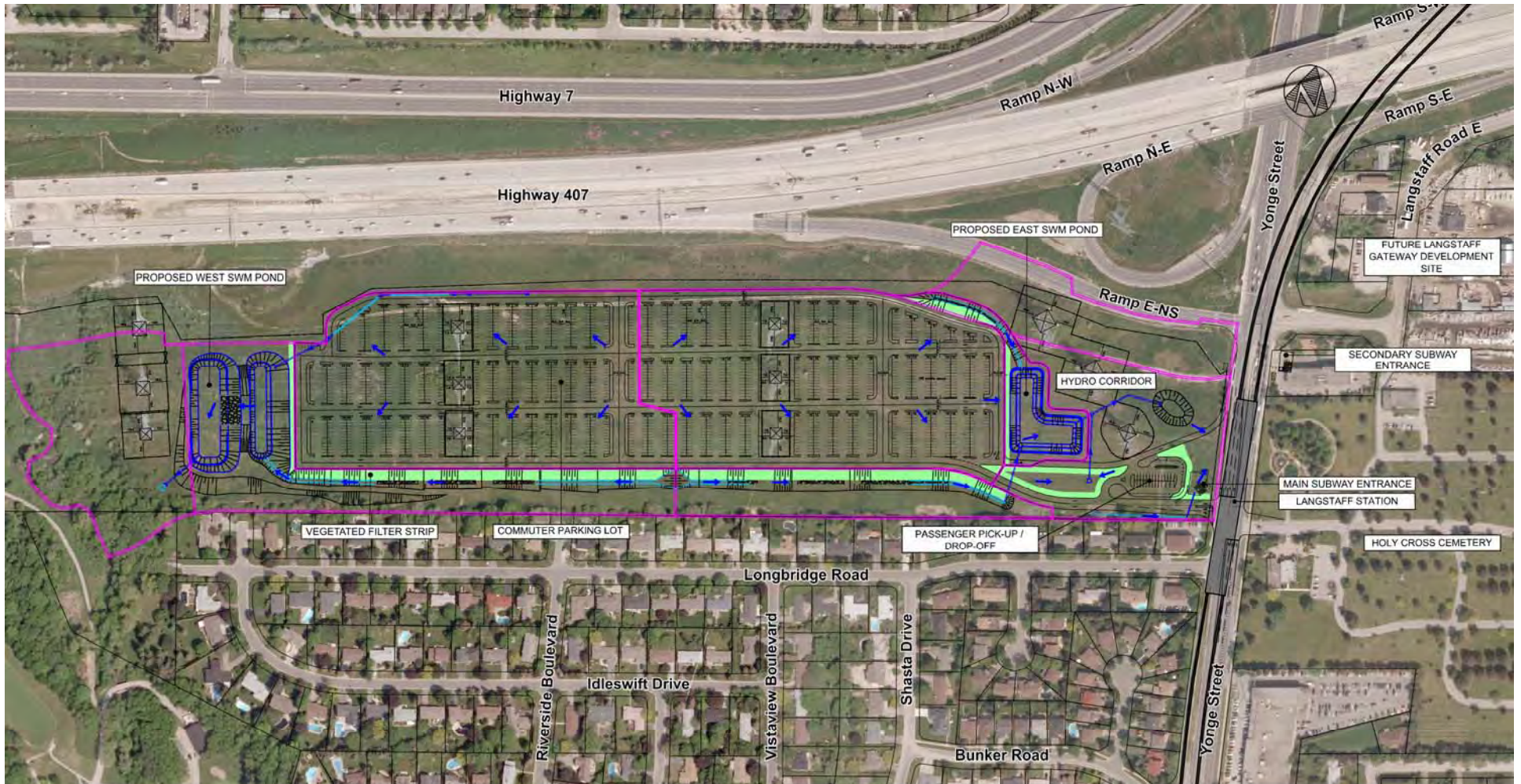


Options to provide a passenger pick-up drop-off facility east of Yonge Street will be assessed during detailed design

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## Langstaff Station



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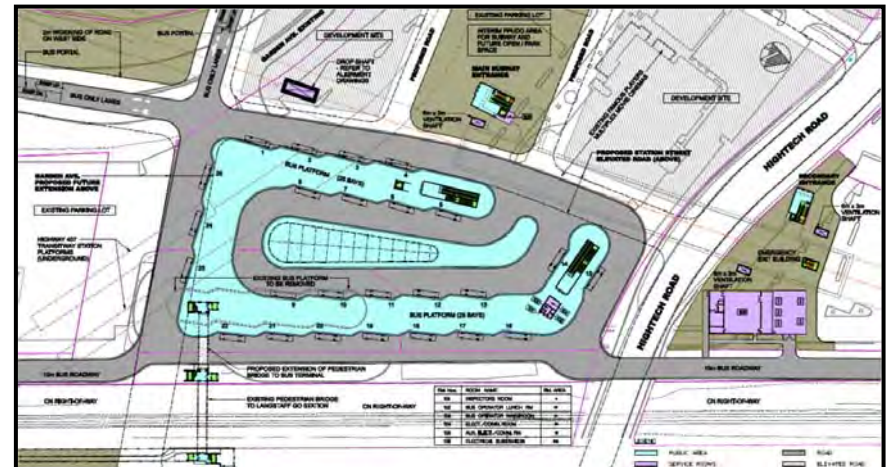
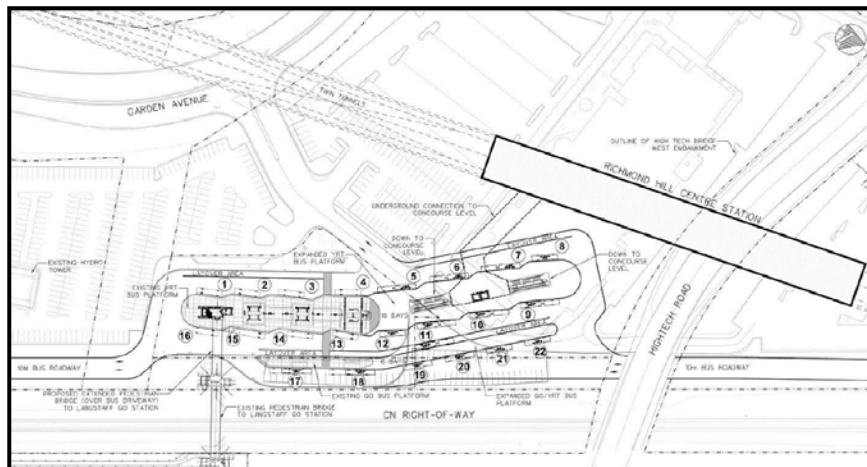
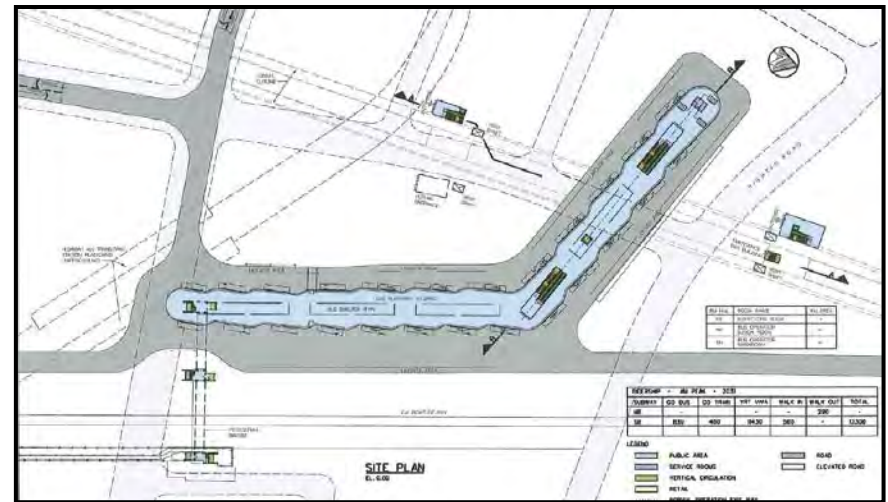
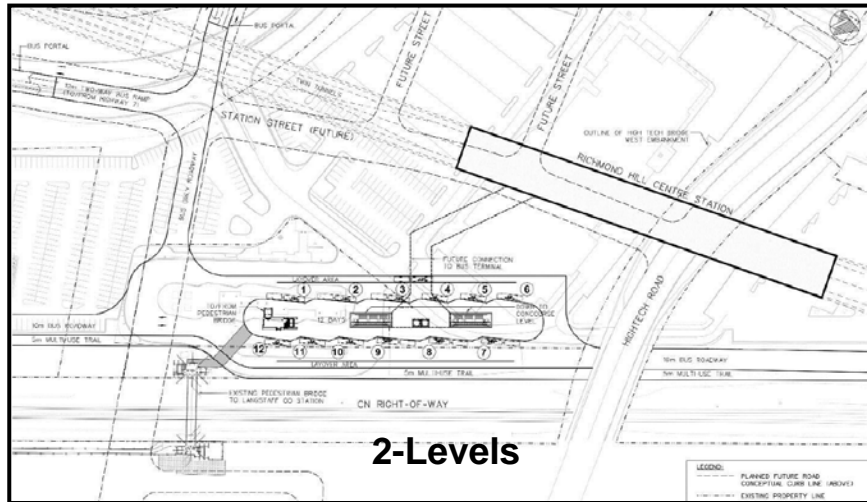
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## Richmond Hill Centre Station



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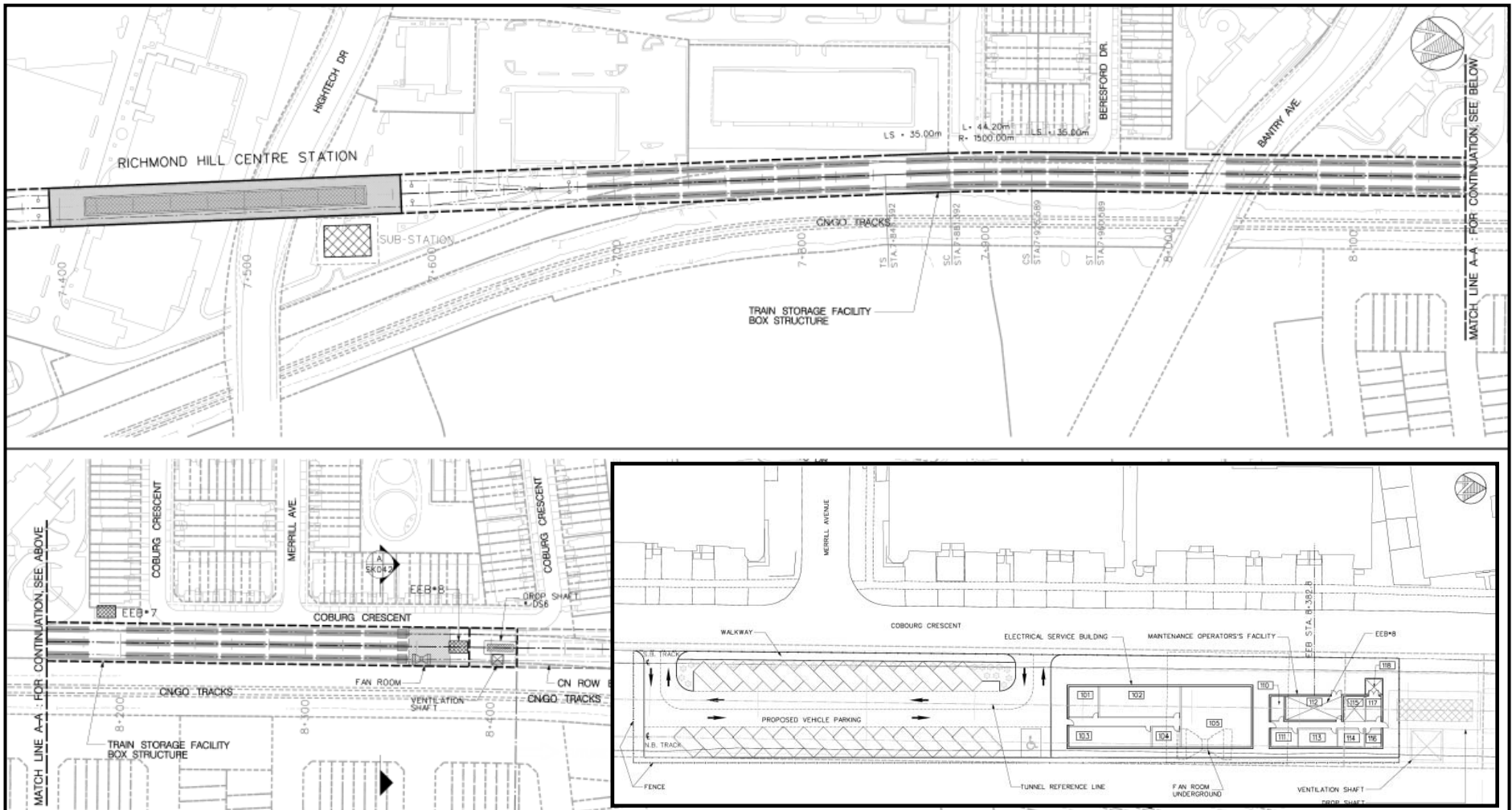
## **Proposed Train Storage Facility**

- › TTC Subway Rail Yard Needs Study identified the need for a train storage facility near Richmond Hill Centre
- › Technical analysis proposes the facility be located north of Richmond Hill Centre
- › TTC will complete light-duty maintenance/cleaning of trains on a nightly basis at this facility
- › Operational requirements include 30 parking spaces, office facilities, garbage disposal, vents shafts, emergency exit buildings
- › Alignment considered future station proximity to the intersection of Yonge Street and 16th Avenue/Carville Road
- › TPAP is required to secure approval for this facility

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## Proposed Train Storage Facility



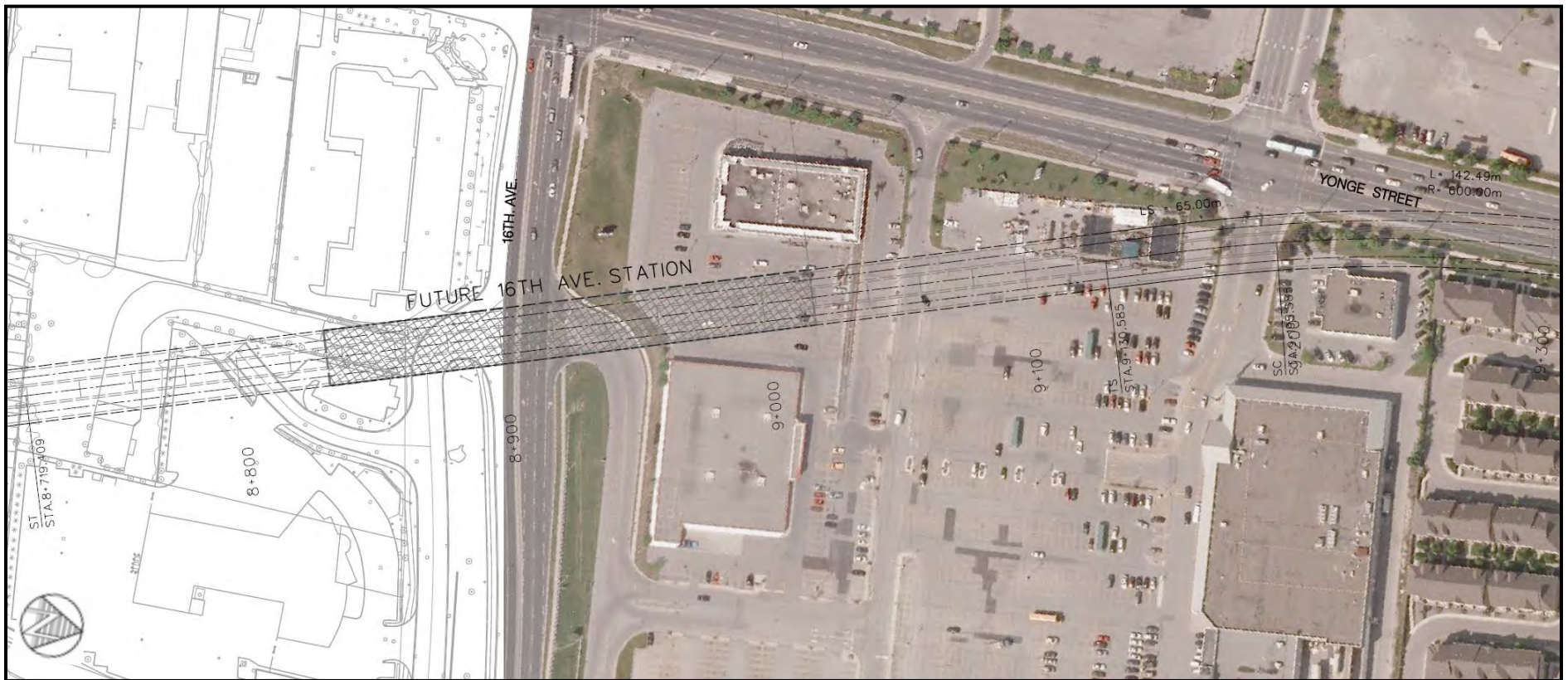
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## Proposed Train Storage Facility



## Final Conceptual Design Report Overview

- › Cost estimate in 2011 dollars is \$3.1 Billion
- › Comments received from Markham:
  - › Ensure population, employment and ridership forecasts are consistent with the Town's projections
  - › Review storm water management and other issues associated with the proposed commuter parking lot at Langstaff Station including the interface with Yonge Street
  - › Consult the Town throughout the subway station design process
  - › Provide technical reports for future works to the Town for review
  - › Review the rationale for the removal of Royal Orchard Station
- › Comments and responses have been included in Attachment 3 of the Final Conceptual Design Study Report

## Status of Yonge Subway Line Capacity Improvements

- › Toronto Rocket Trains
  - › 70 trains scheduled to be in service by mid-2014
  - › Will increase ridership capacity to 33,000/hour (based on 2 minute headways)
- › Downtown Rapid Transit Expansion Study
  - › Draft Phase 1 report is being reviewed internally by TTC
  - › Approximates ridership demand on the Yonge line at 40,000/hour
- › Yonge-Bloor Station Capacity Improvements
  - › Eglinton Crosstown shifts some transfers to the Yonge line from the Bloor-Yonge Station to Eglinton Station
  - › Revising work plan to account for revised transit plan endorsed by Toronto Council in March 2012
  - › Bloor-Yonge Station modification cost estimate is \$340M (in 2010)
- › Automatic Train Operation/Automatic Train Control
  - › Scheduled to be in full operation by 2019 on the Yonge line
  - › Will increase ridership capacity on the Yonge line to 38,000/hour (based on 1:05 minute headways)

## Next Steps

- › Presentations to local municipalities to share the findings of the Final Conceptual Design Study
- › YRRTC and TTC staff will develop a scope of work and complete the TPAP for the Train Storage Facility
- › Assess options to continue work on the YSE project
  - › Complete to 10% Design ~ \$10M
  - › Complete to 30% Design ~ \$75-100M

## Questions?