



Yonge Subway Extension

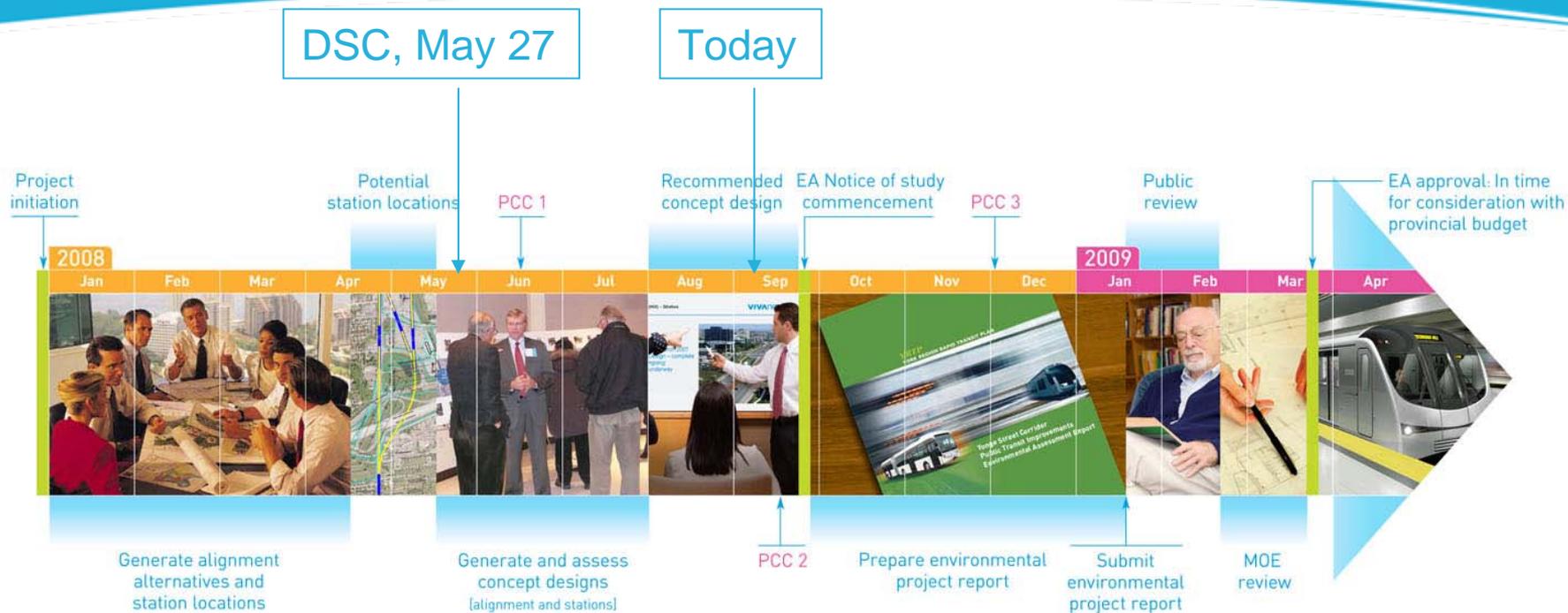
Preliminary Planning for Transit Project Assessment



Markham DSC – September 9, 2008

yonge subway study

recap since we last presented to you at DSC, May 27



be involved

- > public consultation centre 2: september 25
- > public consultation centre 3: late november

- Overall Schedule
- Construction Techniques
 - Cut and Cover
 - Tunnelling
- Options for number of stations
- Options for crossing the East Don River
- Steeles Station Bus Terminal Requirements
- Richmond Hill Centre Bus Terminal Requirements
- Next Steps for the study
 - Consultation throughout summer
 - Commence formal EA in late fall

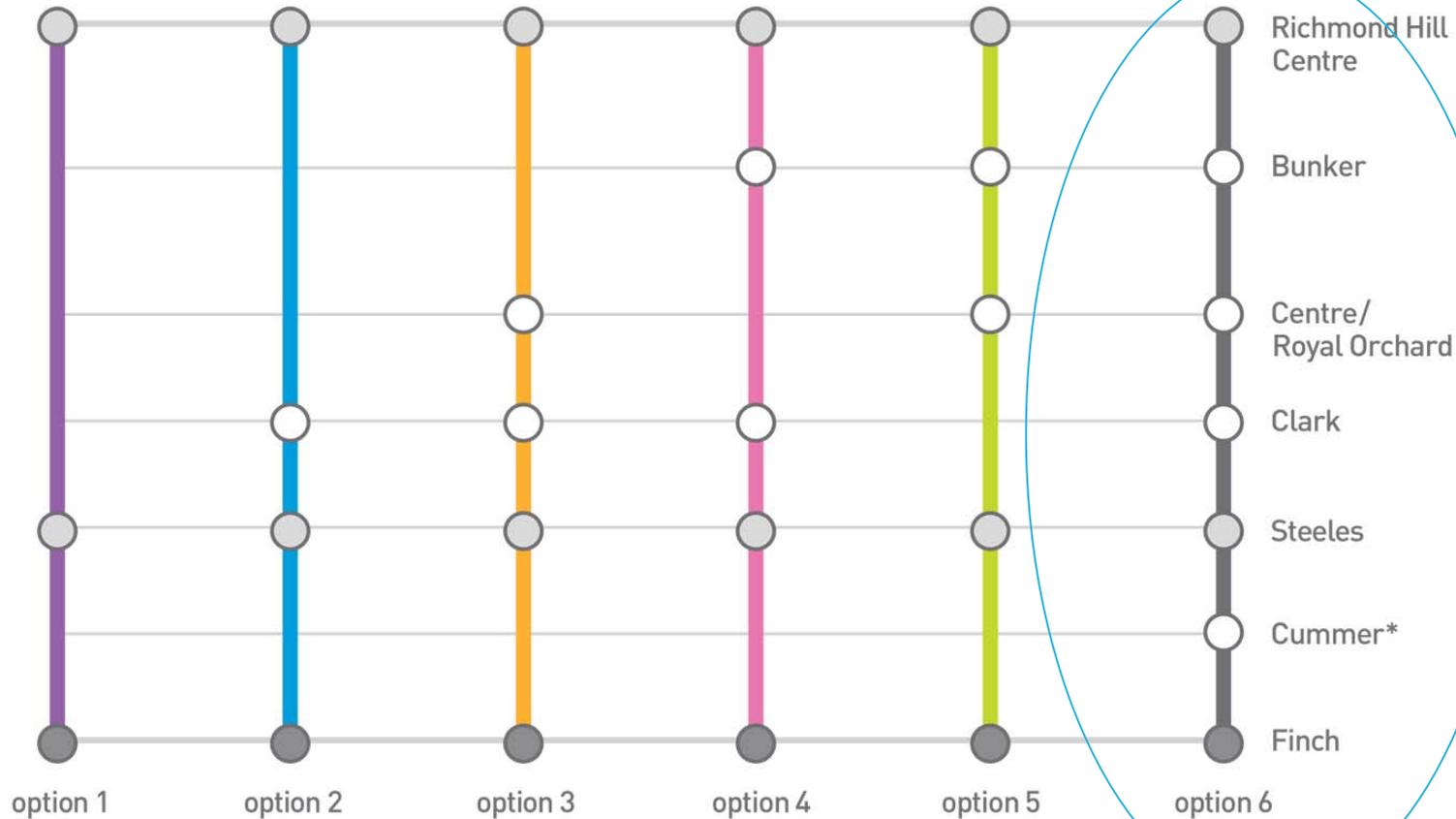
public consultation centres – June 17 & 18

survey summary results



	Option 1/ Over	Option 2 / Above River	Option 3/ Under				Total Surveys
Bridge/ Don River Crossing:	94	12	20				126
	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	
Subway Stations:	10	5	14	23	29	46	127
	Option 1 Convenient	Option 2 Services	Option 3 Yearly	Option 4 Stations	Option 5 Shoppin g		
Richmond Hill Centre:	87	102	89	23	7		114
	Option 1 Connection s	Option 2 Destination	Option 3 Local Env.	Option 4 Amenitie s	Option 5 Planning		
What's important when planning a subway?	132	47	47	15	73		132
	Centre St.	Royal Orchard	None				
Heritage Station Options:	46	67	30				143

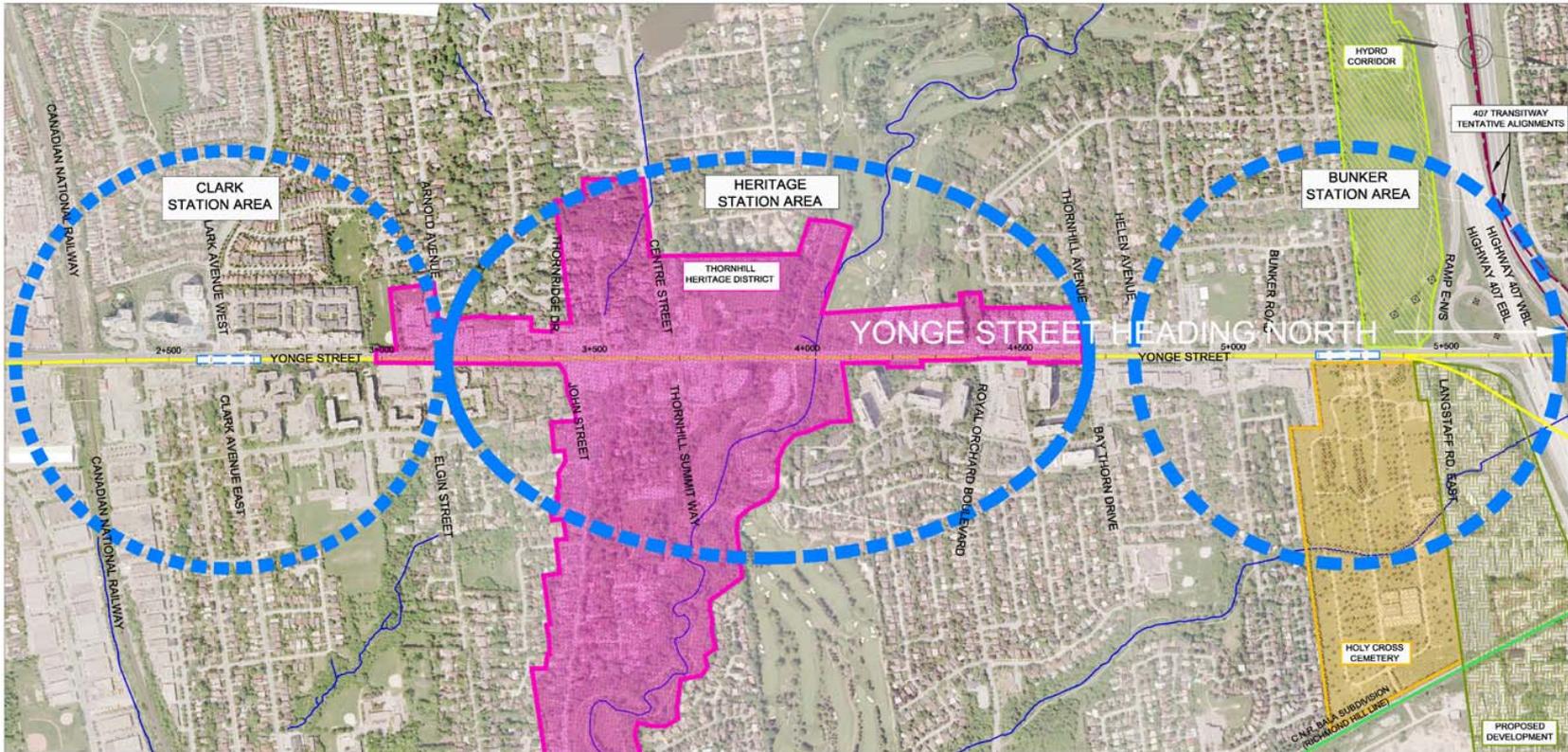
potential station locations...what we heard



*Cummer station can be included in any alternative

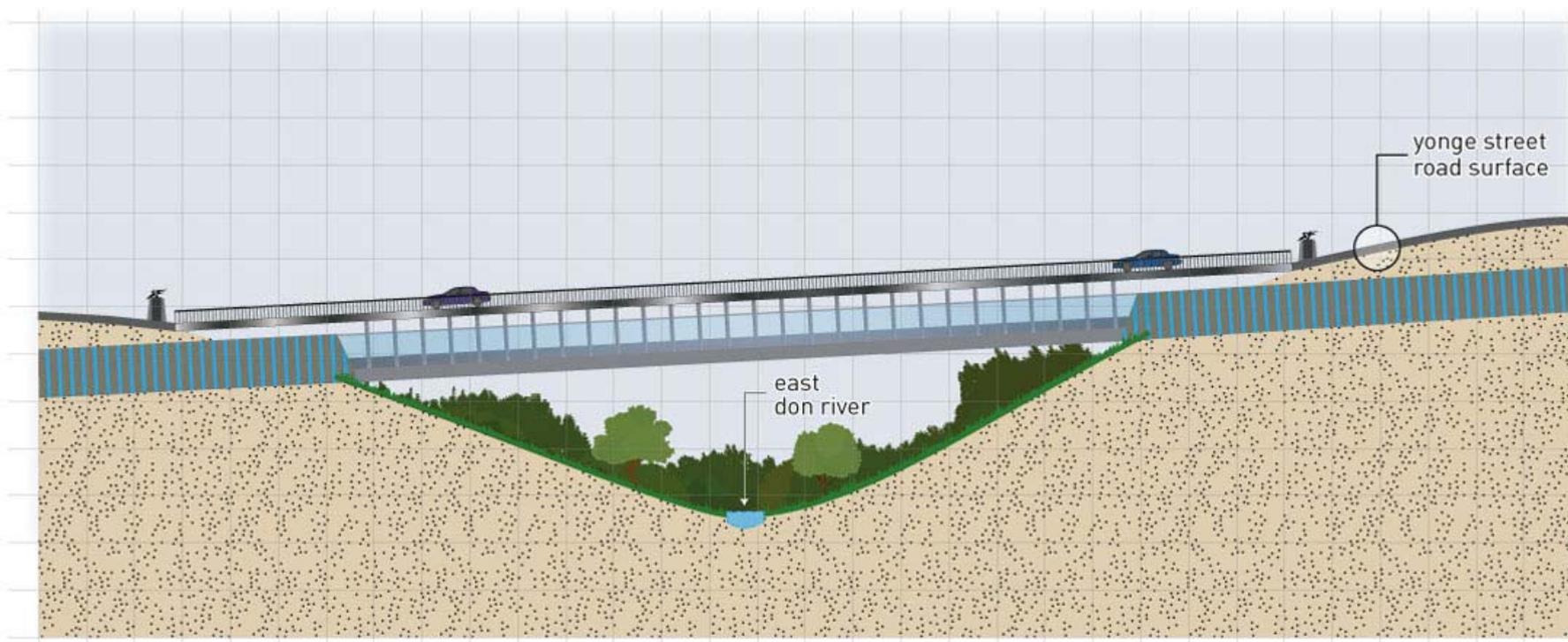
The majority (36%) chose option 6

heritage district station options



- 177 people engaged in the discussions
- 66 preferred Royal Orchard as the preferred option (57%)
- 30 preferred no station in the heritage district
- 21 preferred Centre Street

option 1 | bridge



 subway under bridge  road surface

•94 people out of 126 preferred a bridge crossing (75%)

public consultation centres - what's important when planning a subway?



- 132 people engaged in this discussion
- When asked to rank their top three priorities:
 1. Connections to other transit was their number one priority
 2. The second priority was careful planning of existing neighbourhoods and future growth
 3. Destinations, places to go and sensitivity to the local environment were tied for the third priority

recap of july 31 public workshop

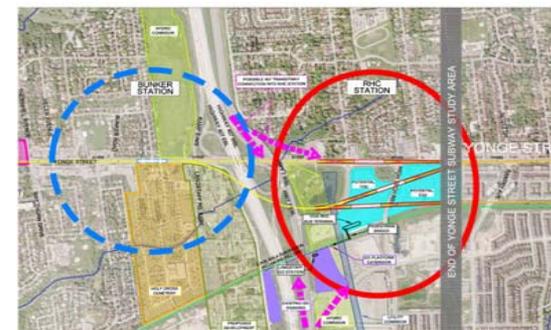
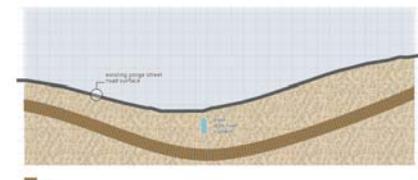
- Provided an overview of the Study
- Summarized results from the Subway Team's technical analysis
 - 2 mandatory stations
 - 4 other potential stations (with 2 options in Heritage Area)
 - East Don River crossing options (under and over the river)
 - Richmond Hill Centre alignment alternatives (3 options)



option 1 | bridge



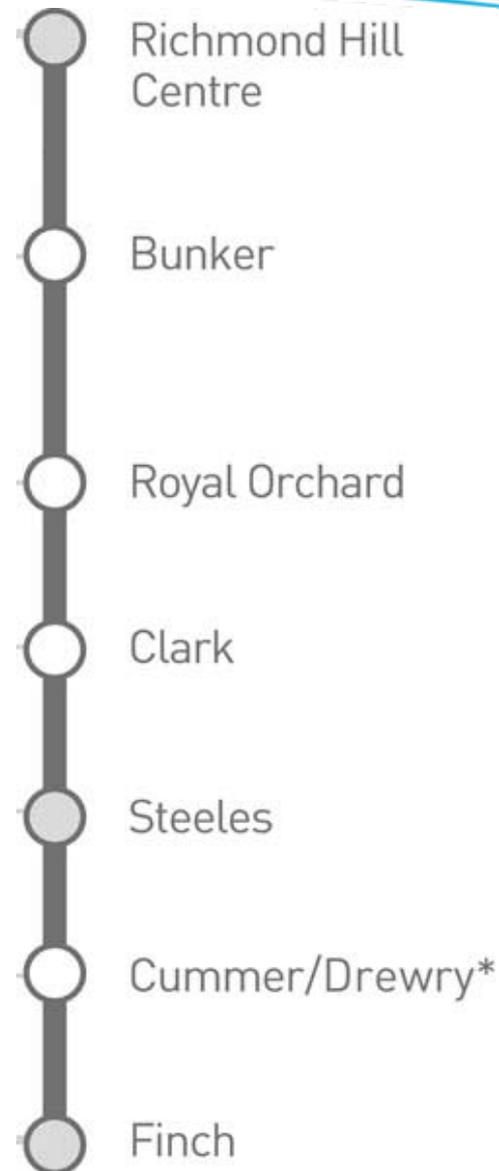
option 3 | under the river



- Approximately 45 people attended the session
- What we heard from attendees:
 - Favoured 6 stations (Cummer/Drewry, Steeles, Clark, Royal Orchard, Bunker, Richmond Hill Centre)
 - Preferred subway crossing over the East Don River via a heritage-style bridge
 - A preference for alignments east of Yonge Street with a concern expressed regarding the potential future station location at 16th.
- Over 850 surveys received over the summer

Recommended Yonge Subway Extension

- 6 stations
 - Steeles – Bus Terminal
 - RHC – Bus Terminal
- Bridge over East Don River
- 3 alignment alternatives in Richmond Hill





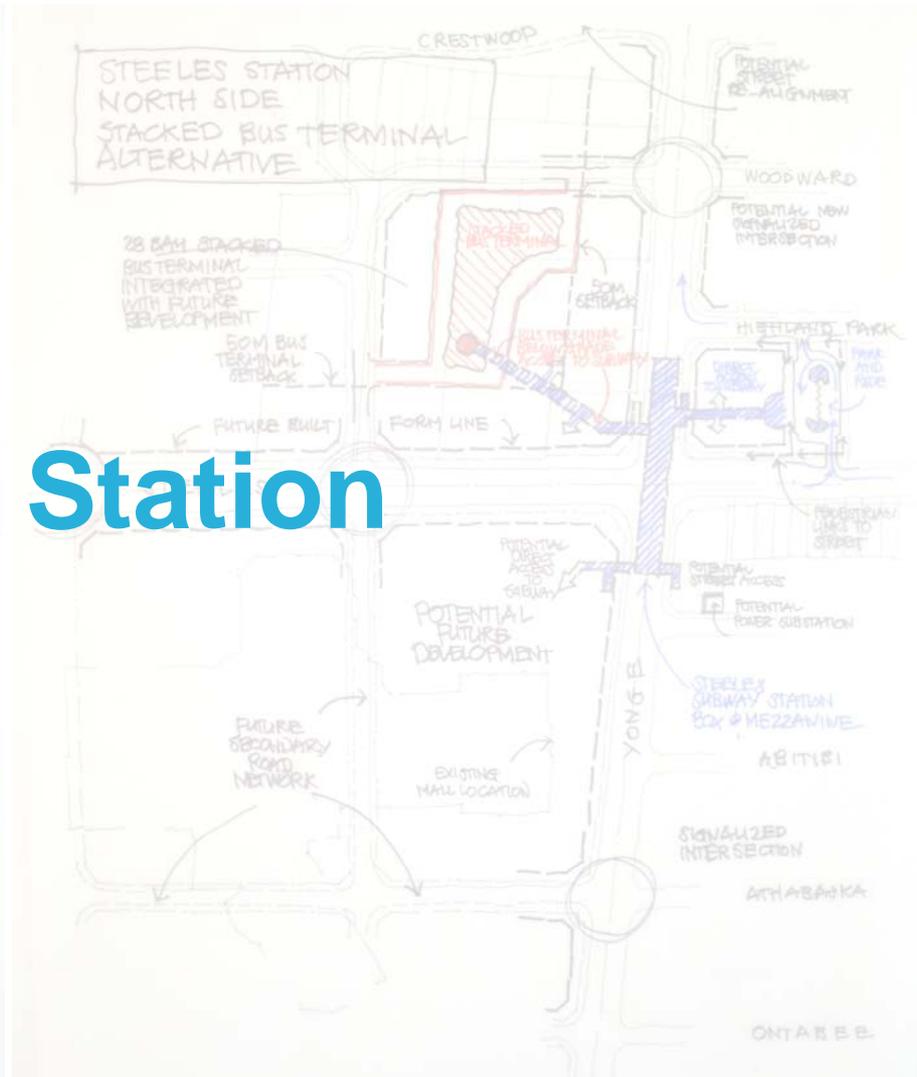
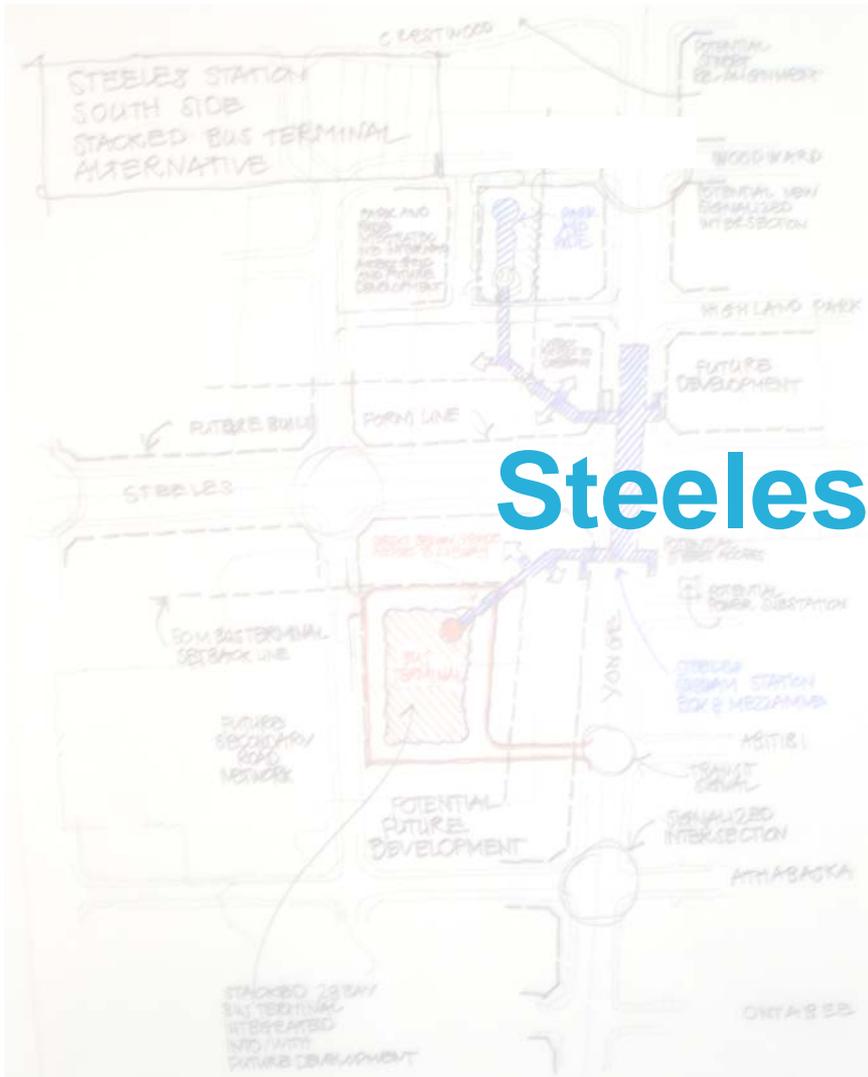
- Cummer/Drewry, Clark, Royal Orchard, and Bunker/Longbridge are preferred in addition to Steeles and Richmond Hill Centre:
 - **Cummer/Drewry** – today’s density close to 100 people/hectare; good intensification potential around station in the future
 - **Clark** – today’s density meets 100 people/hectare threshold; good intensification potential in Markham and Vaughan
 - **Royal Orchard** – today’s density close to 100 people/hectare; has good intensification potential particularly in Markham
 - **Bunker/Longbridge** – key location to provide commuter parking, a PPUDO facility and significant intensification potential

what comes with the subway stations?

Station	Pedestrian Entrances	PPUDO	Bus Terminal	Park'n Ride	Substation	SUMMARY
Cummer / Drewry						Line station with minimal surface requirements
Steeles						Transit hub
Clark						Line station with minimal surface requirements
Royal Orchard						Line station with minimal surface requirements
Bunker / Longbridge						Commuter hub
Richmond Hill Centre						Transit hub



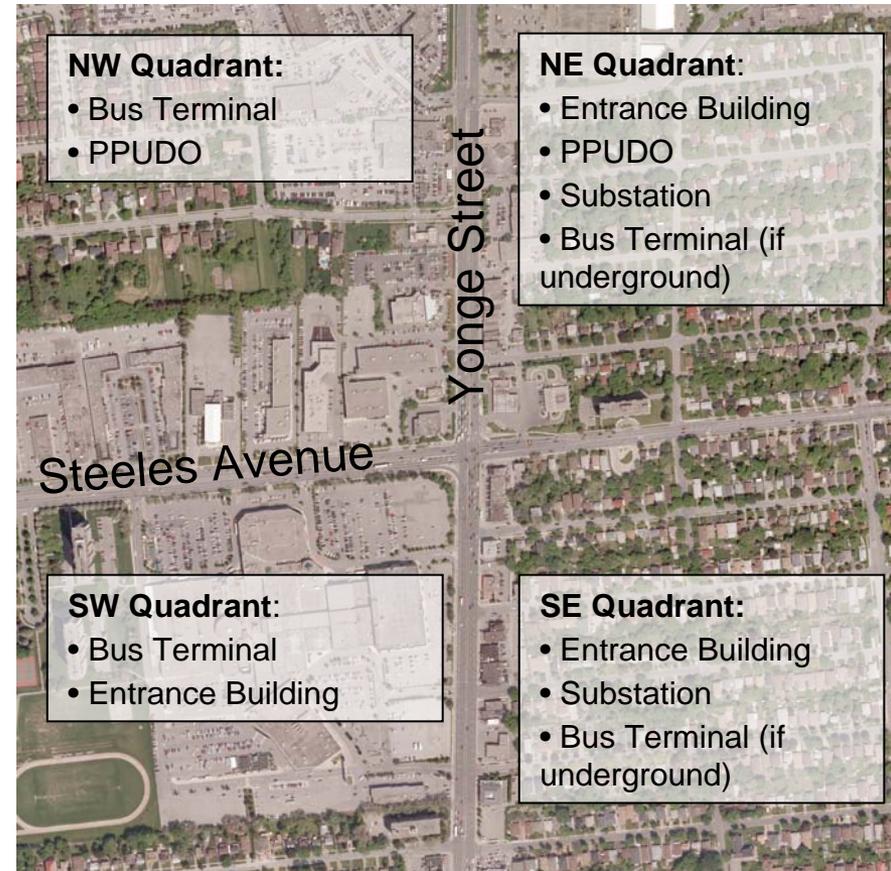
Steeles Station



development of station layout concepts - key considerations @ steeles station



- Large volume of TTC and YRT buses from the north, east, and west
- Special traffic signals for buses to accommodate bus movements in/out of bus terminal
- Protection for a 50m buffer to Yonge Street and potentially Steeles Avenue to preserve developable frontage
- Property impacts
- Walking distances between the subway and the bus
- Relationship with future redevelopment in the area
- Location of bus terminal access roads/driveways

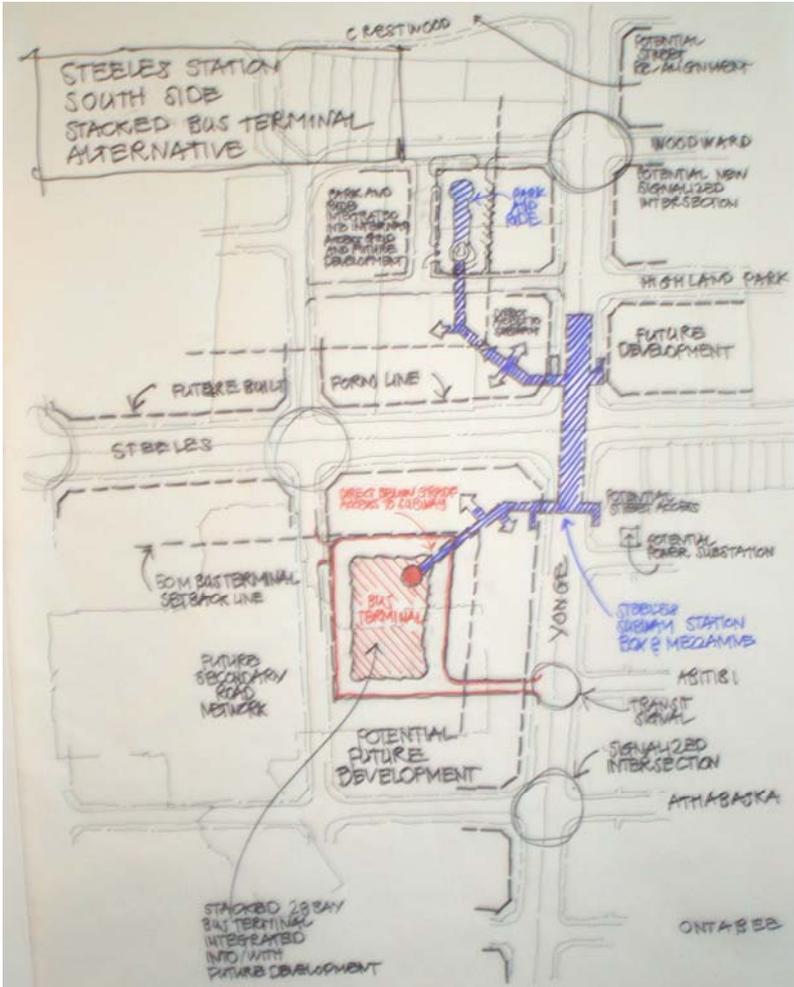


development of station layout concepts

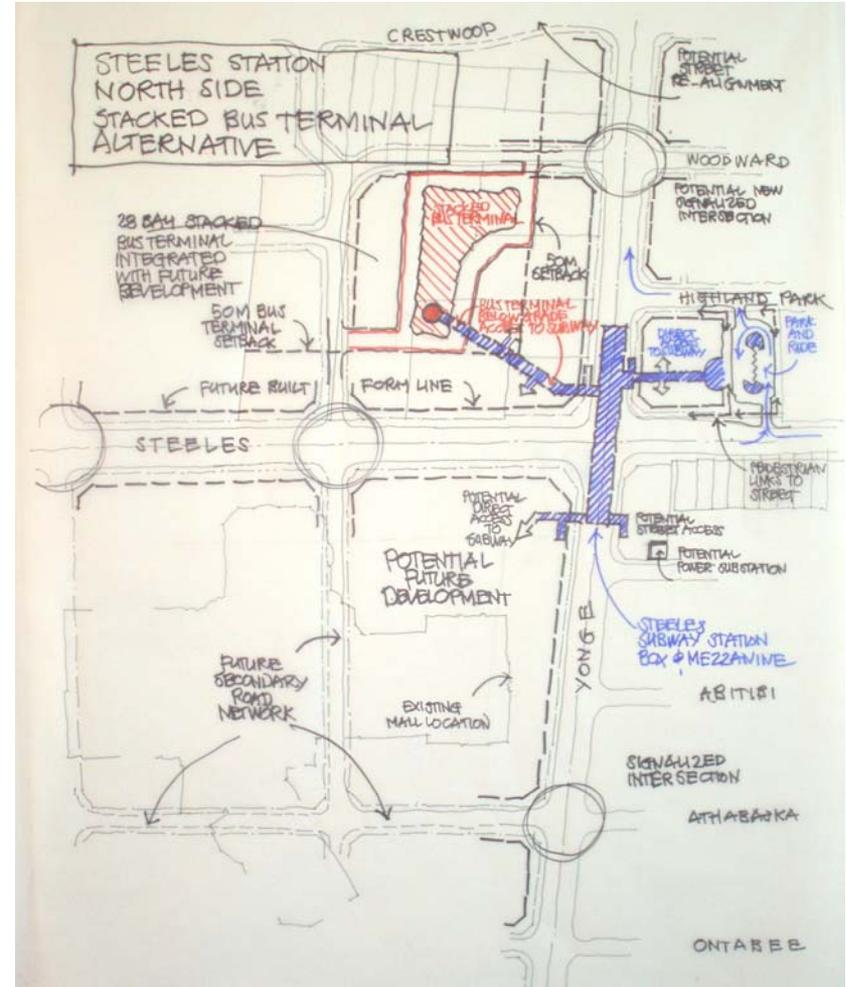
- preliminary concepts from August 25 Steeles Workshop



Southwest Quadrant



Northwest Quadrant





Legend

-  Street Widening
-  Station Box

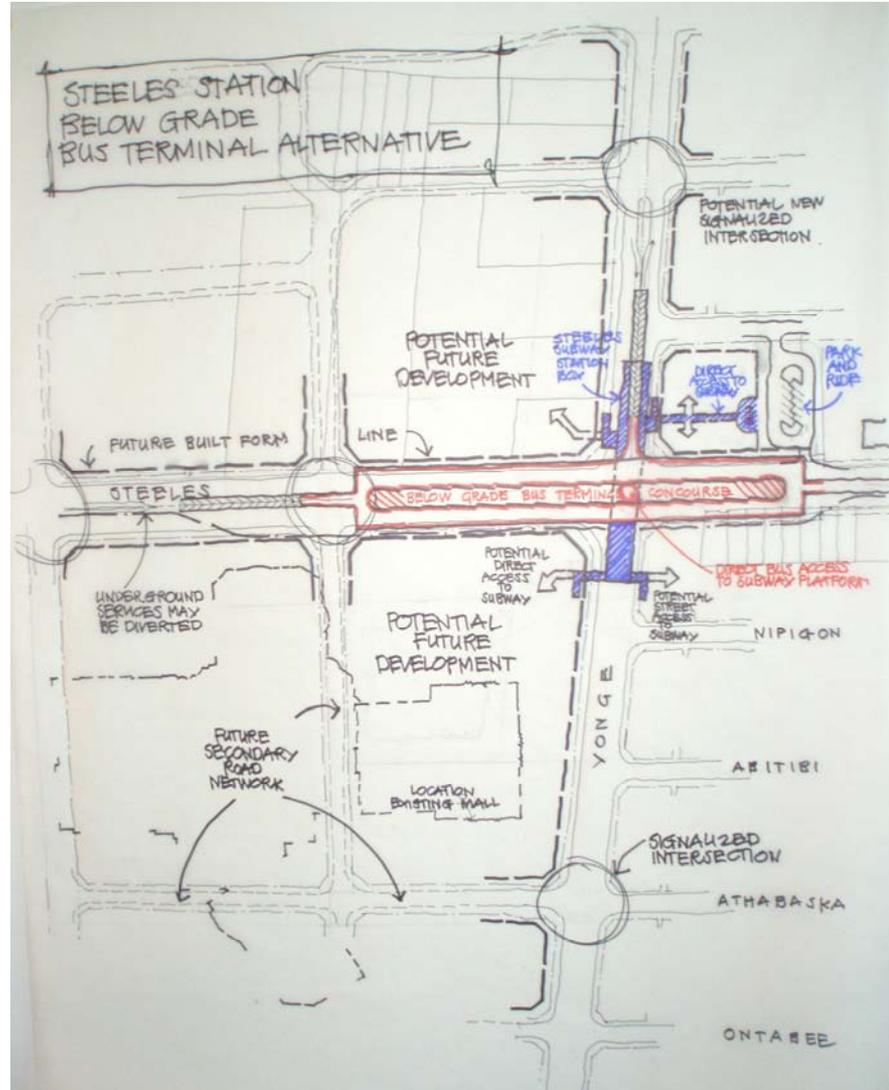
Underground Bus Terminal

What about a station under the road?

- Minimizes impacts to developable lands
- Despite the terminal being underground, there are impacts at the surface such as street widening / property impacts and entrance impacts. All entrances within the impacted zone become right-in/right-out.
- Issues
 - Impacts access / entrances
 - Higher capital cost
 - Higher operating and maintenance cost
 - Air quality
 - Natural light
 - Disruption during construction
 - Future flexibility

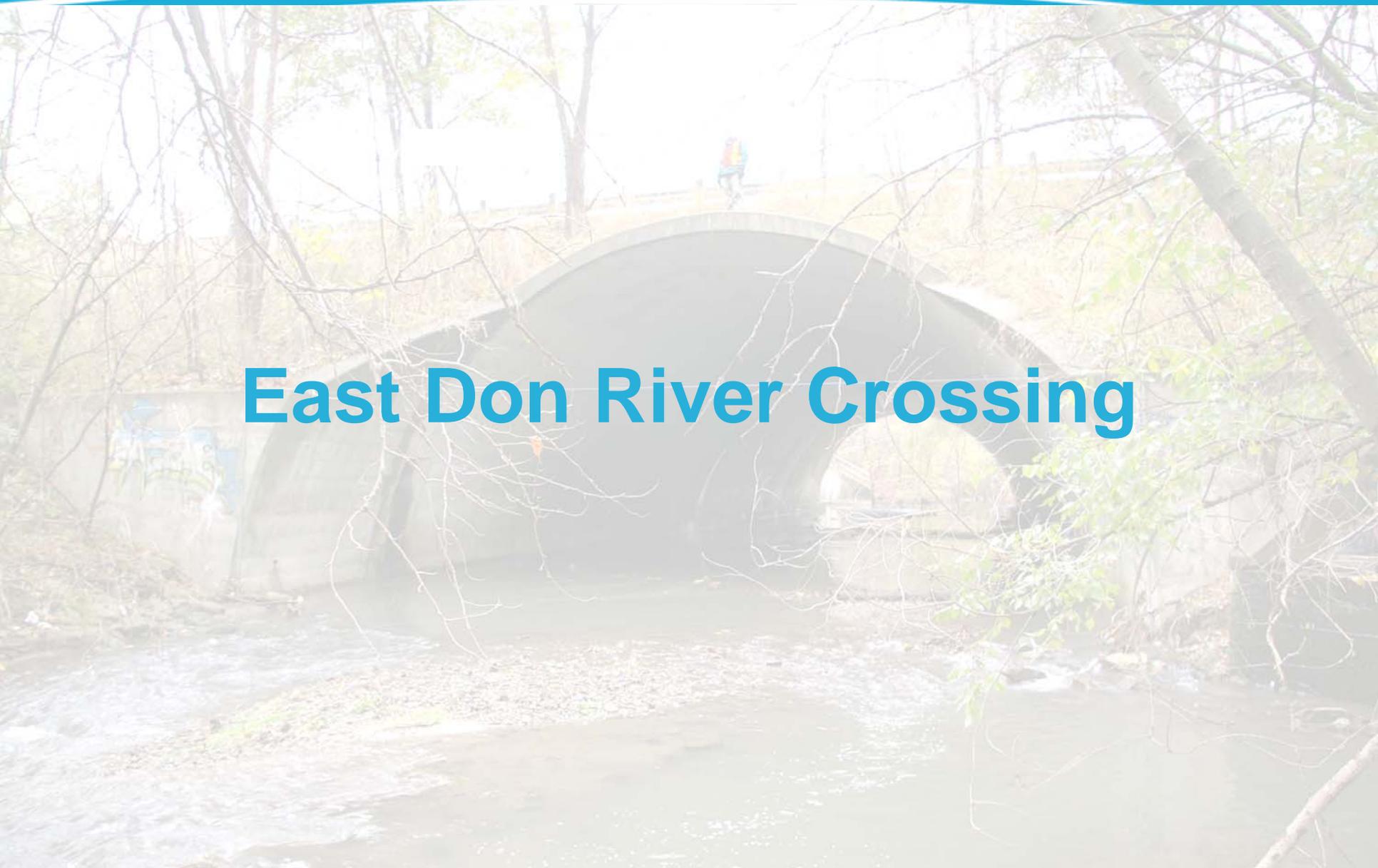


Underground Bus Terminal



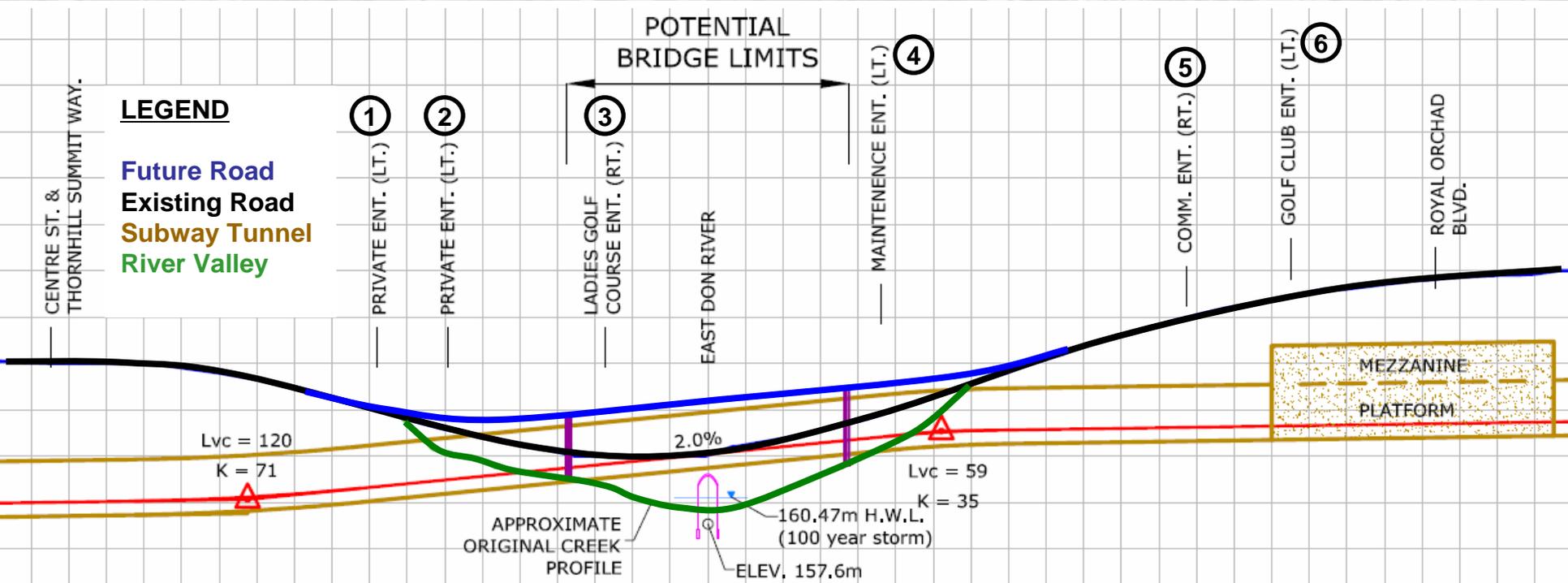


East Don River Crossing



- Bridge preferred:
 - Allows for shallow, relatively flat subway tunnel that will be operationally least costly
 - Allows for a shallow subway station at Royal Orchard – easier pedestrian access, quicker emergency response, and lower station cost
 - Presents an opportunity to improve road profile on Yonge Street for pedestrians and drivers
 - Presents an opportunity to naturalize the valley

development of east don river bridge concepts





Bunker/Longbridge Station

development of station layout concepts - key considerations @ bunker/longbridge station



- Significant Development Site on Langstaff lands east of Yonge street
- Protection of Holy Cross Cemetery
- Provision of Commuter Parking Facility
 - Access in/out of park'n ride
 - Traffic impact on Yonge Street and Hwy 407 off-ramp
 - Walking distance between the subway and commuter parking facility – should be no more than 500m
 - Property impacts on west side of Yonge Street
 - Impact on local traffic circulation
- Avoid impact to Hydro One's 230/500kV transmission facilities
- Passenger Pick up and Drop Off Facility

urban intensification at bunker/longbridge station

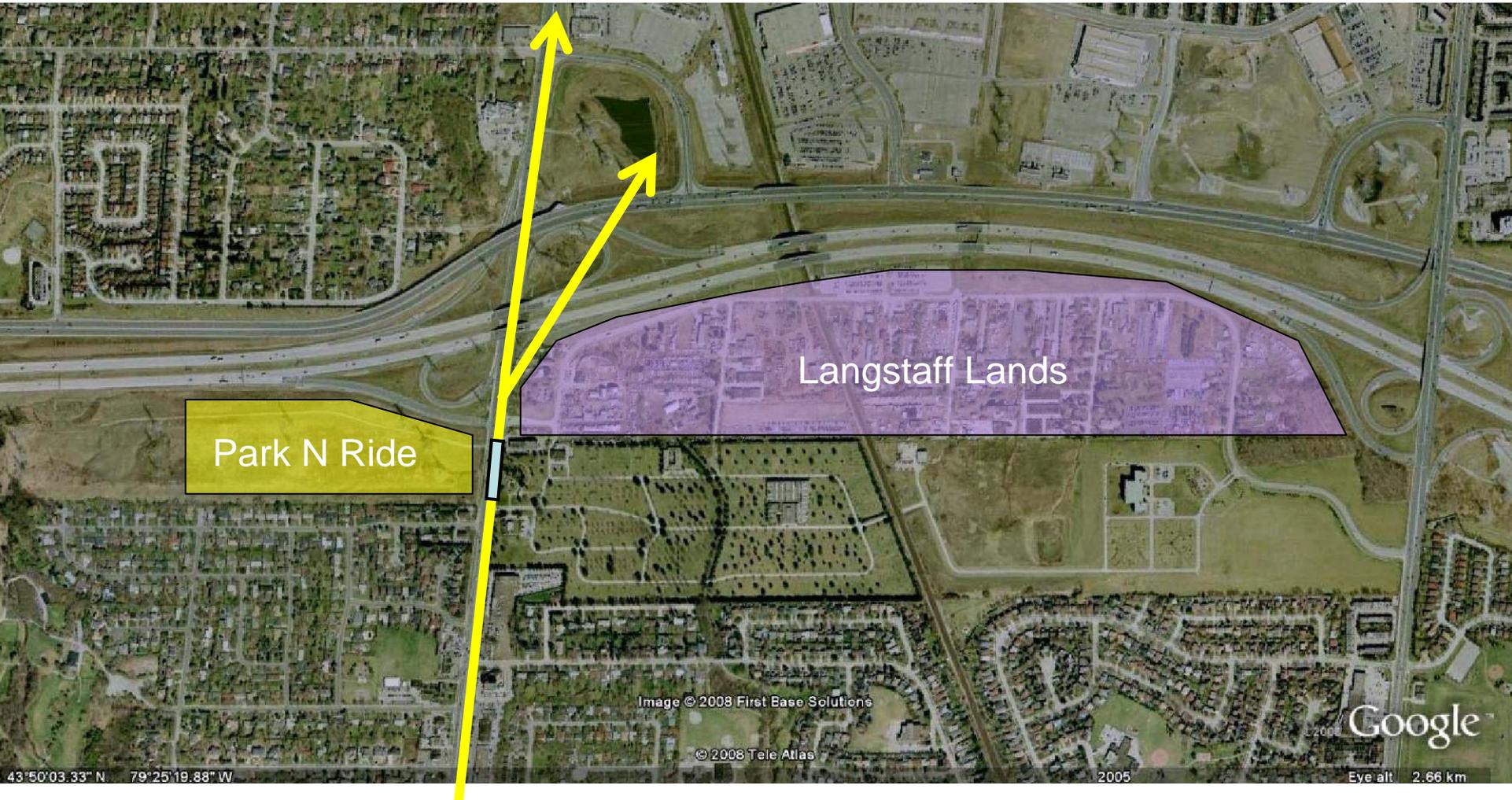


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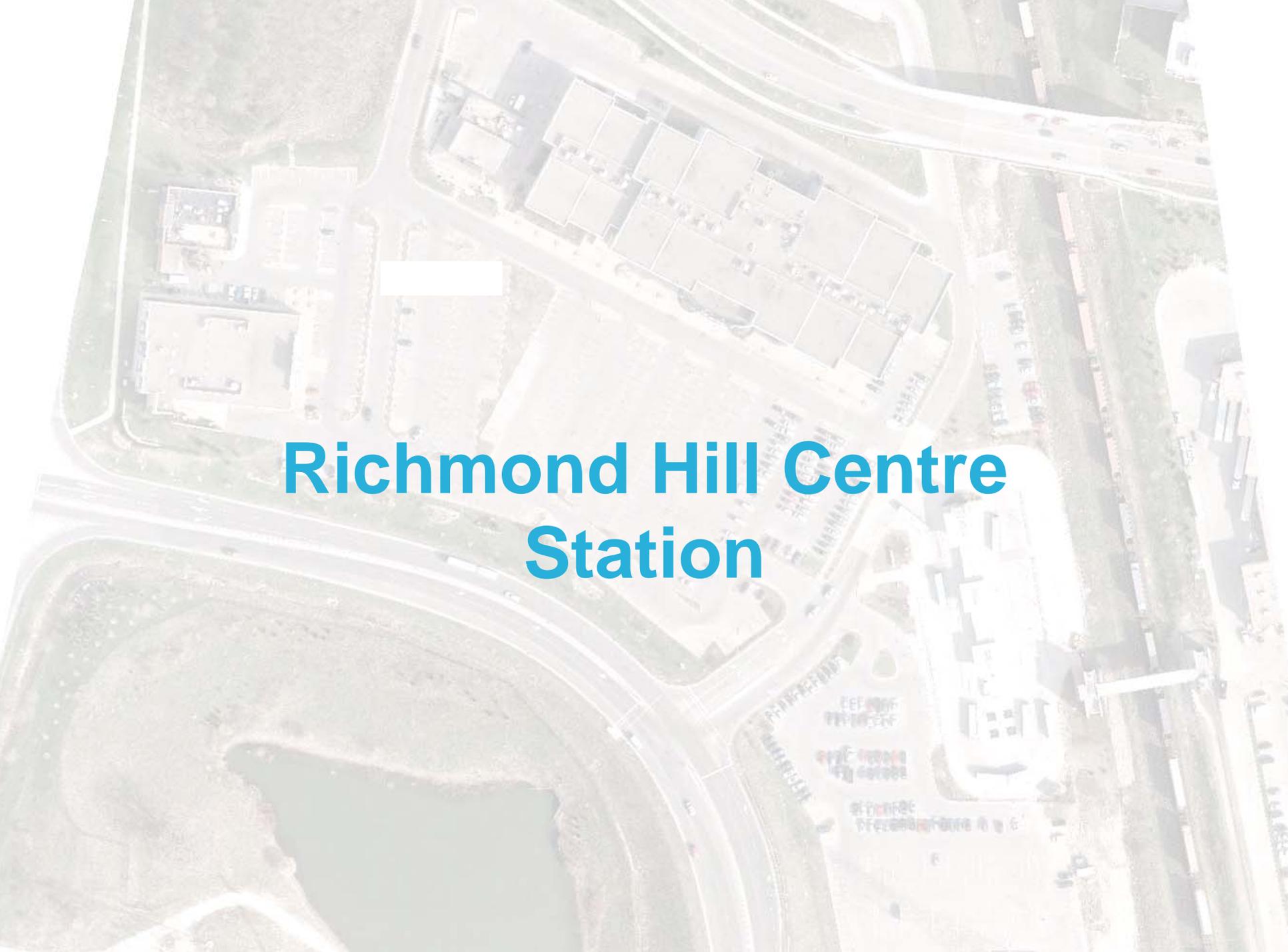
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Google

43°50'03.33" N 79°25'19.88" W

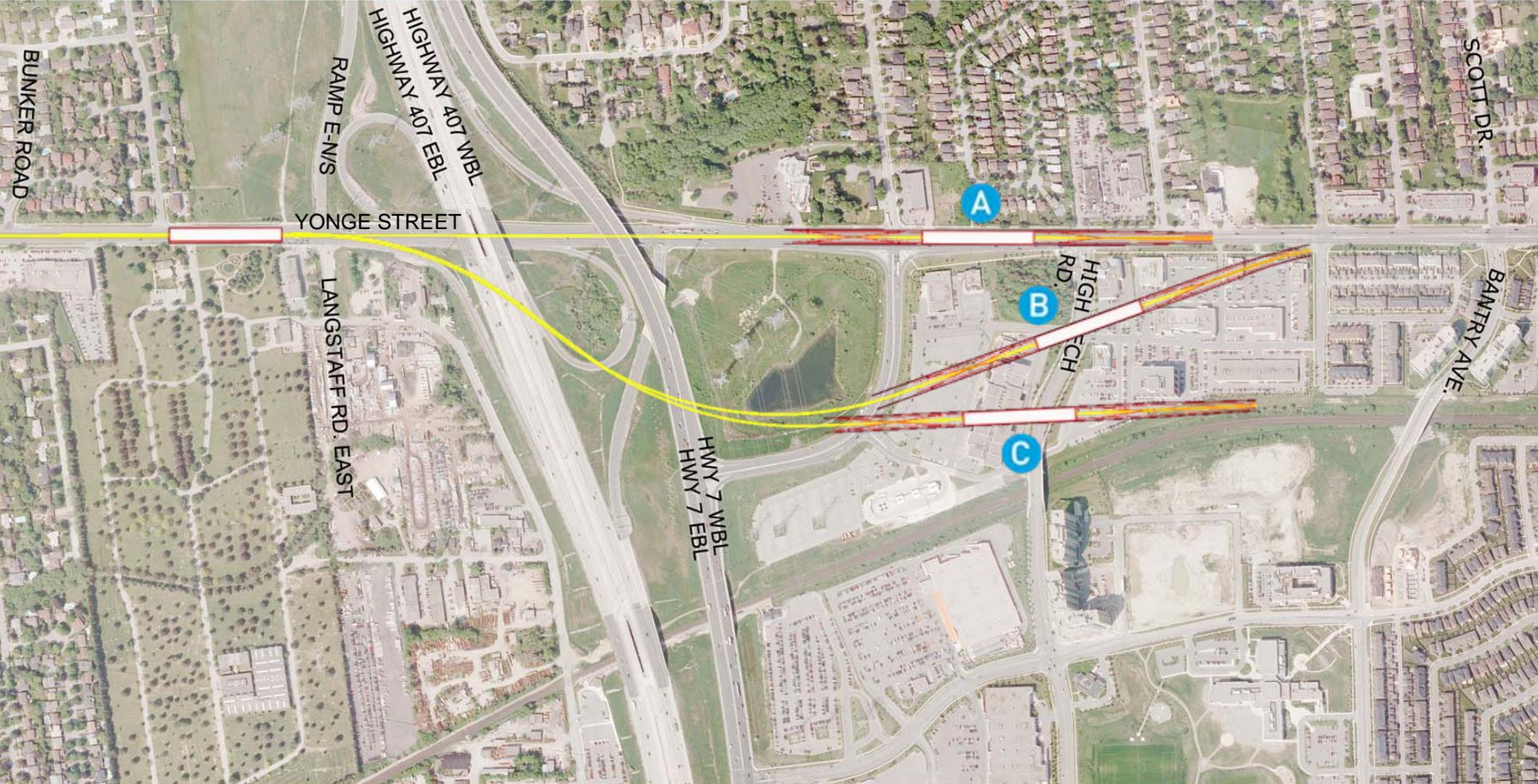
2005

Eye alt: 2.66 km

An aerial photograph of the Richmond Hill Centre Station area. The image shows a large, multi-story building complex with a parking lot, surrounded by roads and greenery. A white rectangular marker is placed on the left side of the image, pointing towards the station. The text "Richmond Hill Centre Station" is overlaid in blue on the image.

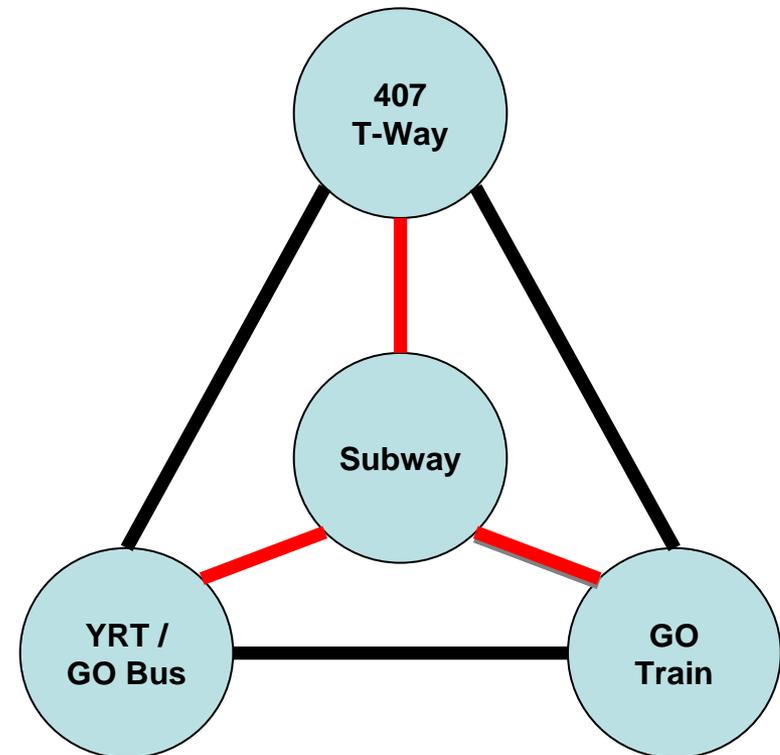
Richmond Hill Centre Station

richmond hill centre alignments





- Surface layout and integration with development will be determined by the *Richmond Hill Centre Land Use and Built Form Master Plan Study* currently underway
- Subway study will specify surface facilities footprint requirements associated with the subway station
 - Bus terminal (28 bus bays)
 - PPUDO
 - Pedestrian entrances
 - Substation
 - Vent shafts
- Multiple inter-modal interfaces:
 - Subway
 - YRT and GO Bus
 - 407 Transitway
 - GO Train



Fall 2008

- September - Municipal presentations to Committees on preferred design including City of Toronto
- Report to Rapid Transit Committee September 11
- Public Meeting #2
 - September 25 (York Region), Premiere Ballroom, 7pm
 - October 15/16 (Toronto), Tentative
- Stakeholder workshops: East Don bridge design, Richmond Hill Centre and Steeles Station – September to November
- Public Meeting #3 – November 26, 2008, Premiere Ballroom, 7pm