



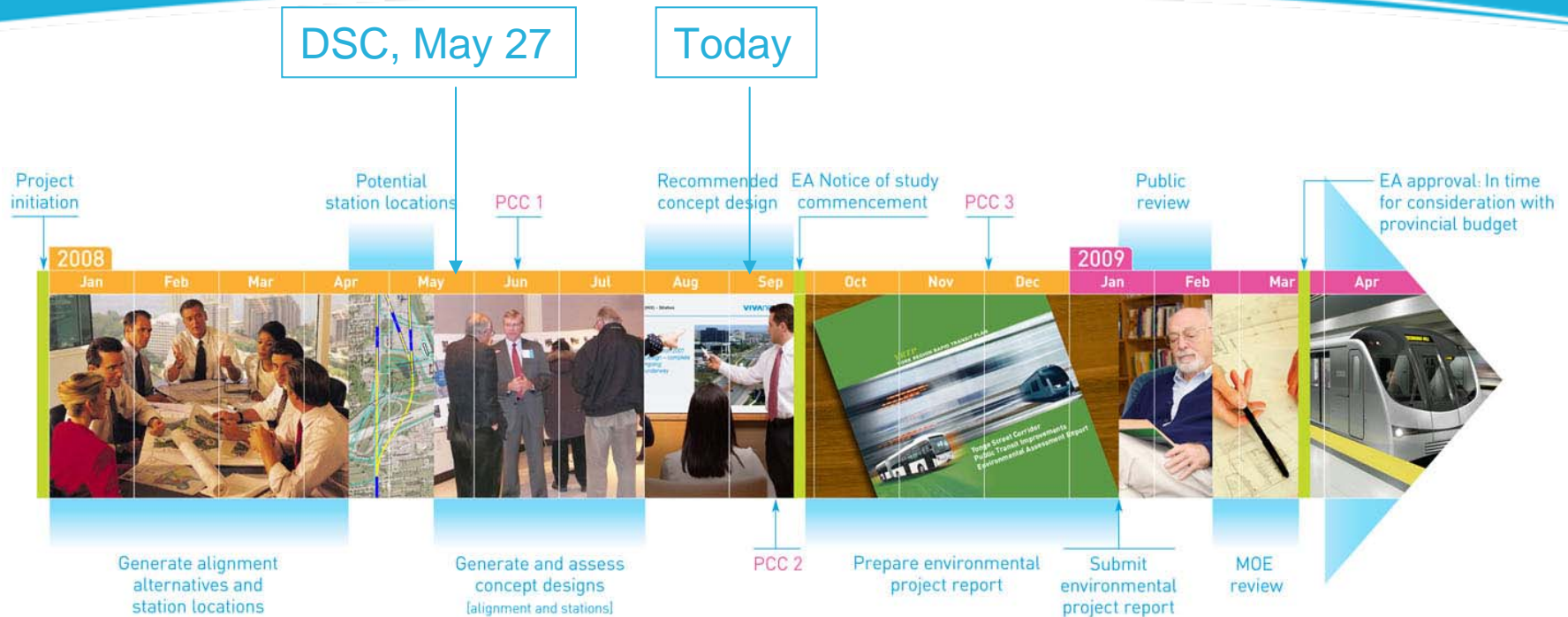
# Yonge Subway Extension

## Preliminary Planning for Transit Project Assessment



# 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



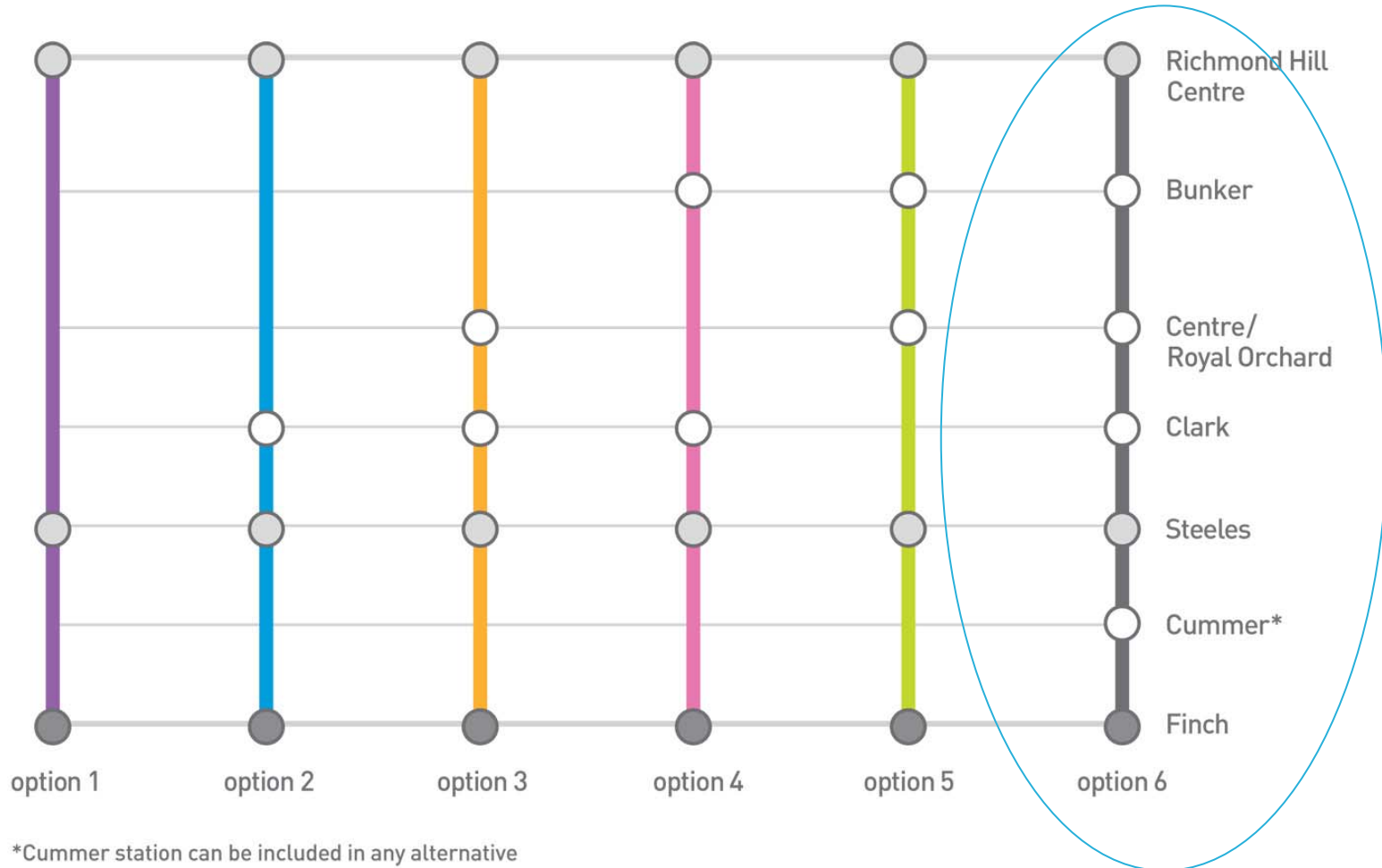
- Overall Schedule
- Construction Techniques
  - Cut and Cover
  - Tunnelling
- Options for number of stations
- Options for crossing the East Don River
- Steeles Station Bus Terminal Requirements
- Richmond Hill Centre Bus Terminal Requirements
- Next Steps for the study
  - Consultation throughout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

# public consultation centres – June 17 & 18

## survey summary results

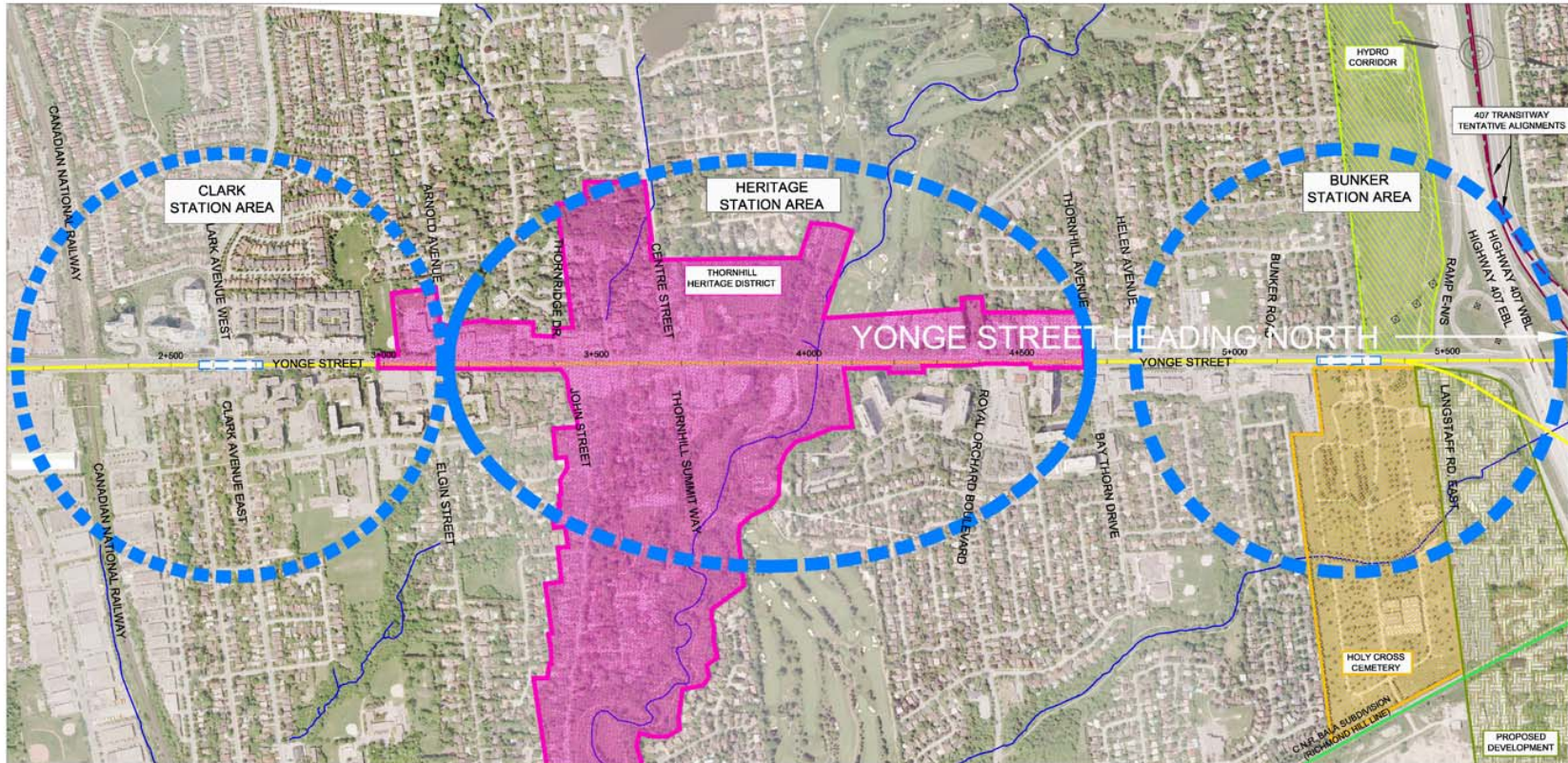
	Option 1/ Over	Option 2 / Above River	Option 3/ Under				Total Surveys
<b>Bridge/ Don River Crossing:</b>	94	12	20				126
	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	
<b>Subway Stations:</b>	10	5	14	23	29	46	127
	Option 1 Convenient	Option 2 Services	Option 3 Yearly	Option 4 Stations	Option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

# potential station locations...what we heard



The majority (36%) chose option 6

# heritage district station options



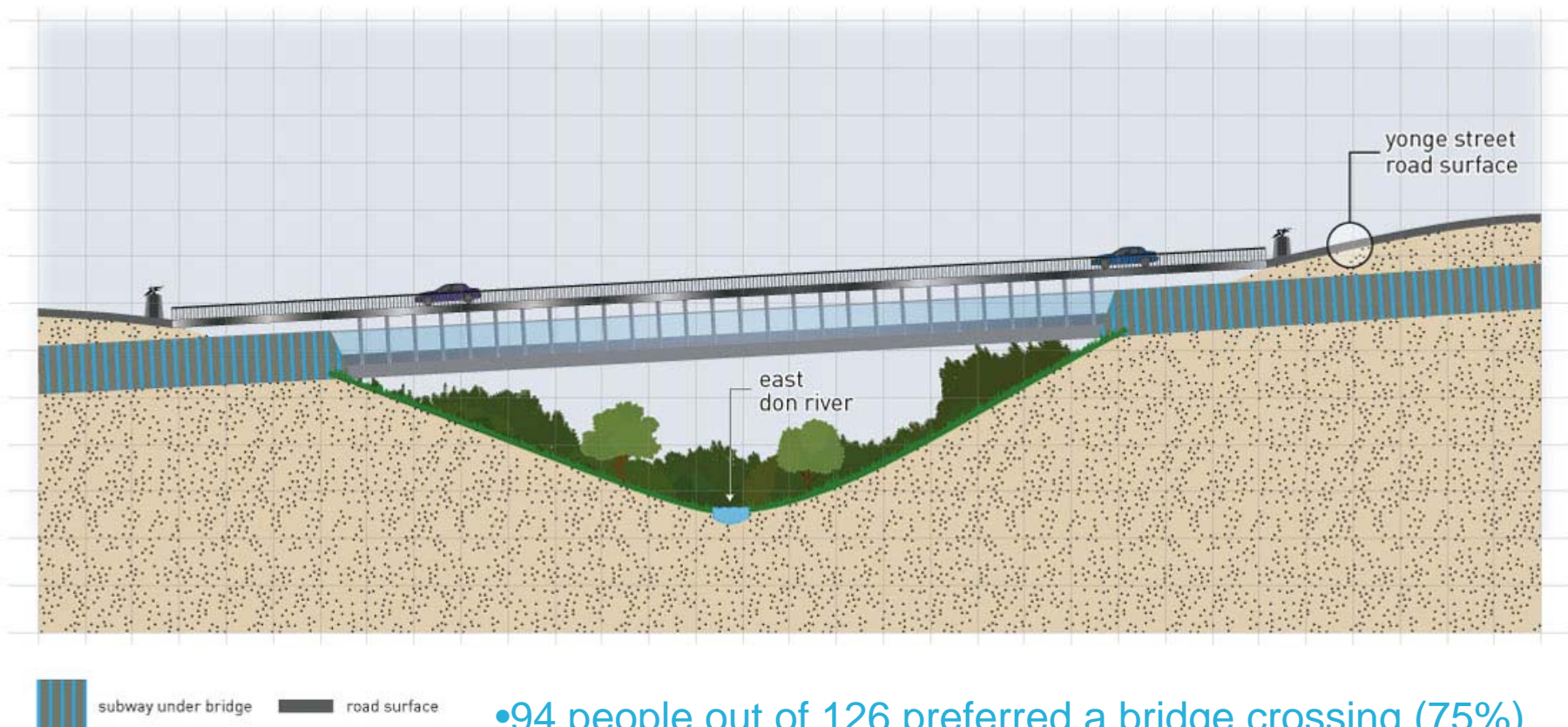
- 177 people engaged in the discussions
- 66 preferred Royal Orchard as the preferred option (57%)
- 30 preferred no station in the heritage district
- 21 preferred Centre Street



# east don river crossing option 1 | bridge – choice of the majority

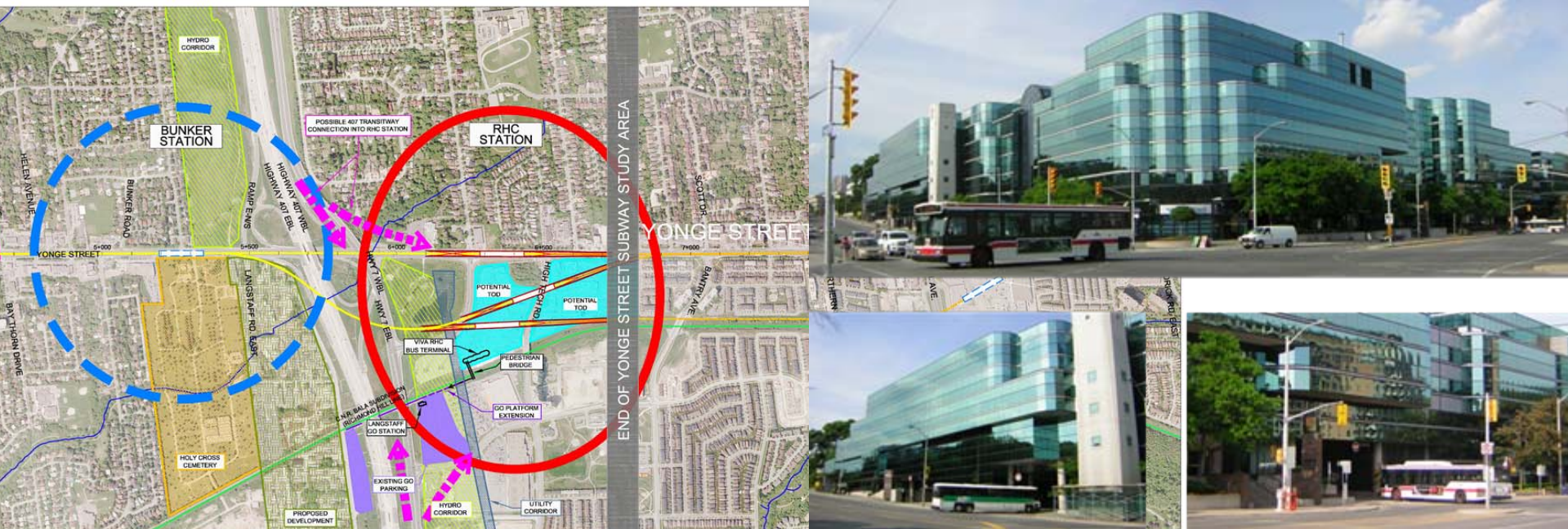


## option 1 | bridge



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

# what's important when planning the richmond hill centre station?



- 144 people gave feedback
- When ask to rank their top three priorities:
  - Connections to transit services was the top priority
  - Year round weather protection and comfort was second
  - Convenient pedestrian access was third



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

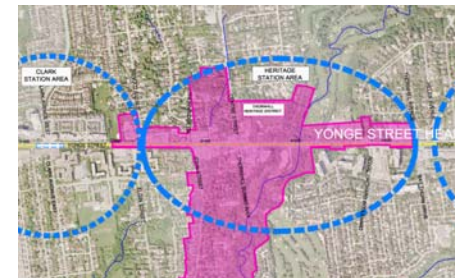


- 132 people engaged in this discussion
- When asked to rank their top three priorities:

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

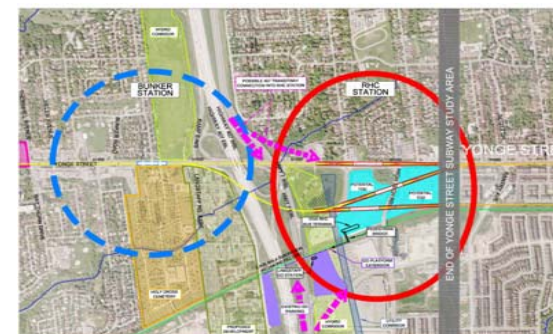
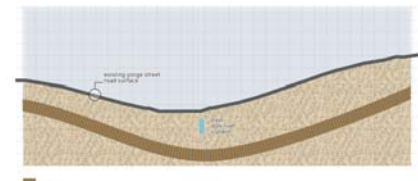
- Provided an overview of the Study
- Summarized results from the Subway Team's technical analysis
  - 2 mandatory stations
  - 4 other potential stations (with 2 options in Heritage Area)
  - East Don River crossing options (under and over the river)
  - Richmond Hill Centre alignment alternatives (3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



option 1 | bridge



option 3 | under the river

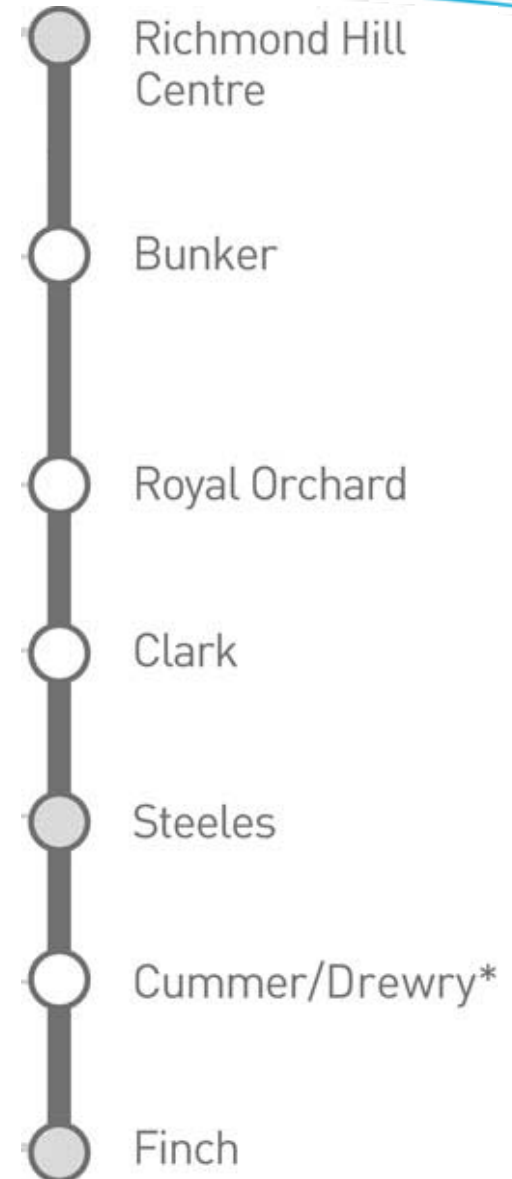




- Approximately 45 people attended the session
- What we heard from attendees:
  - Favoured 6 stations (Cummer/Drewry, Steeles, Clark, Royal Orchard, Bunker, Richmond Hill Centre)
  - Preferred subway crossing over the East Don River via a heritage-style bridge
  - A preference for alignments east of 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


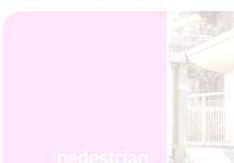




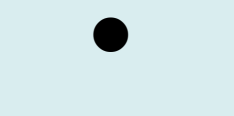

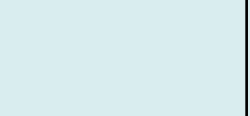
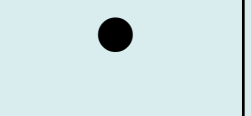










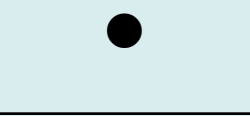
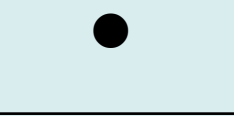
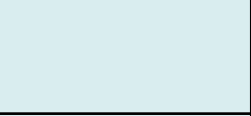
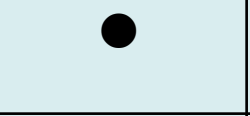
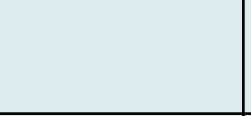



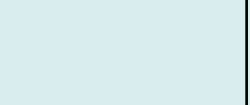







- Cummer/Drewry, Clark, Royal Orchard, and Bunker/Longbridge are preferred in addition to Steeles and Richmond Hill Centre:
  - **Cummer/Drewry** – today's density close to 100 people/hectare; good intensification potential around station in the future
  - **Clark** – today's density meets 100 people/hectare 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

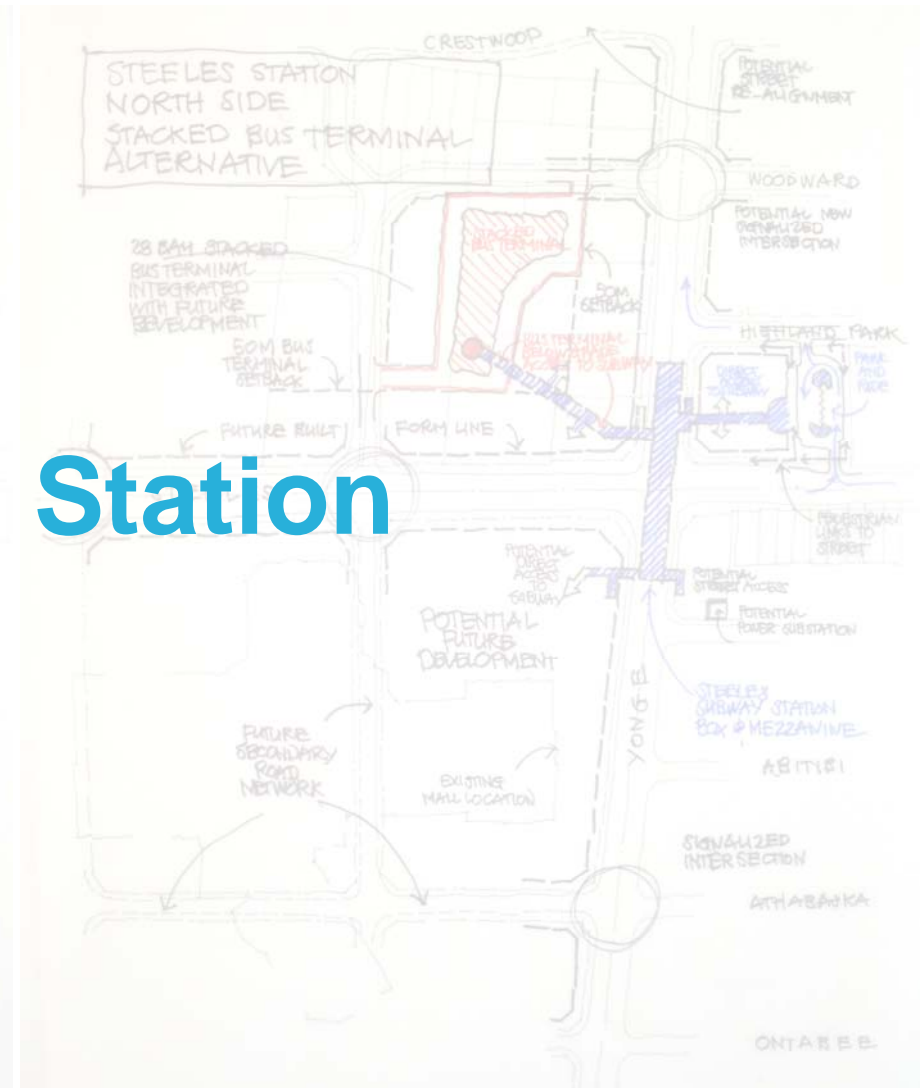
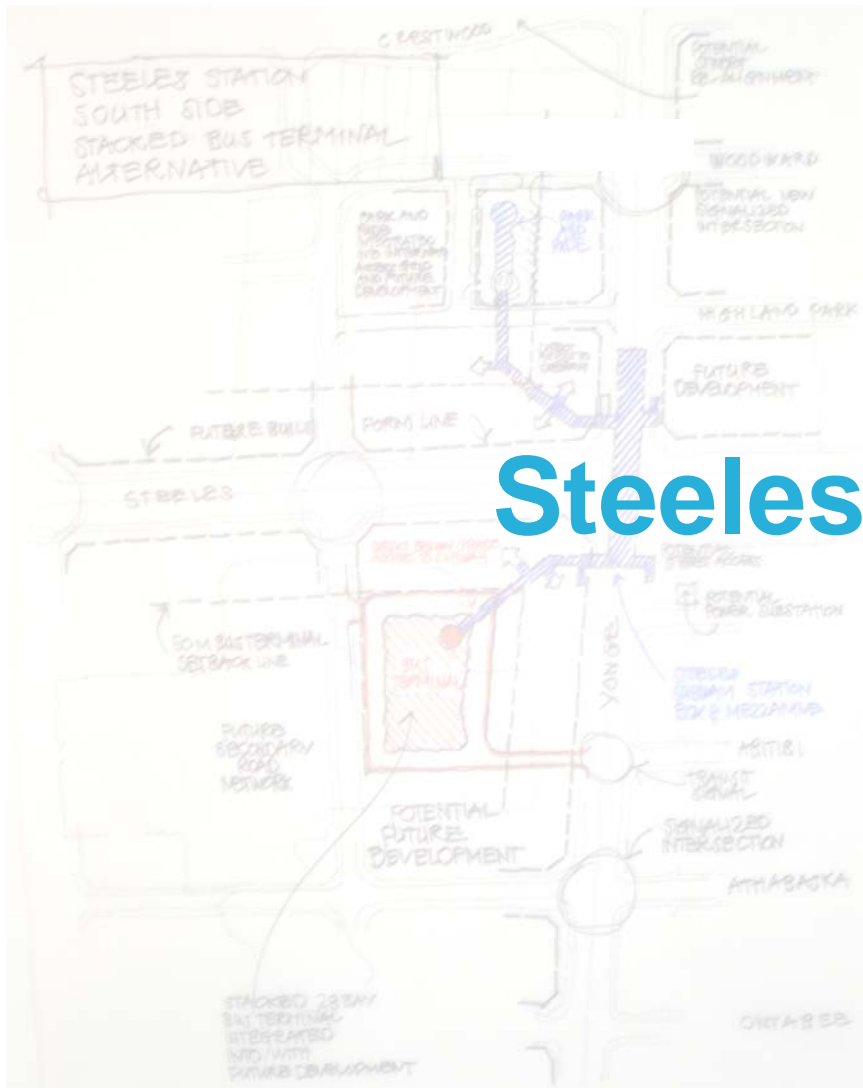
# what comes with the subway stations?

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

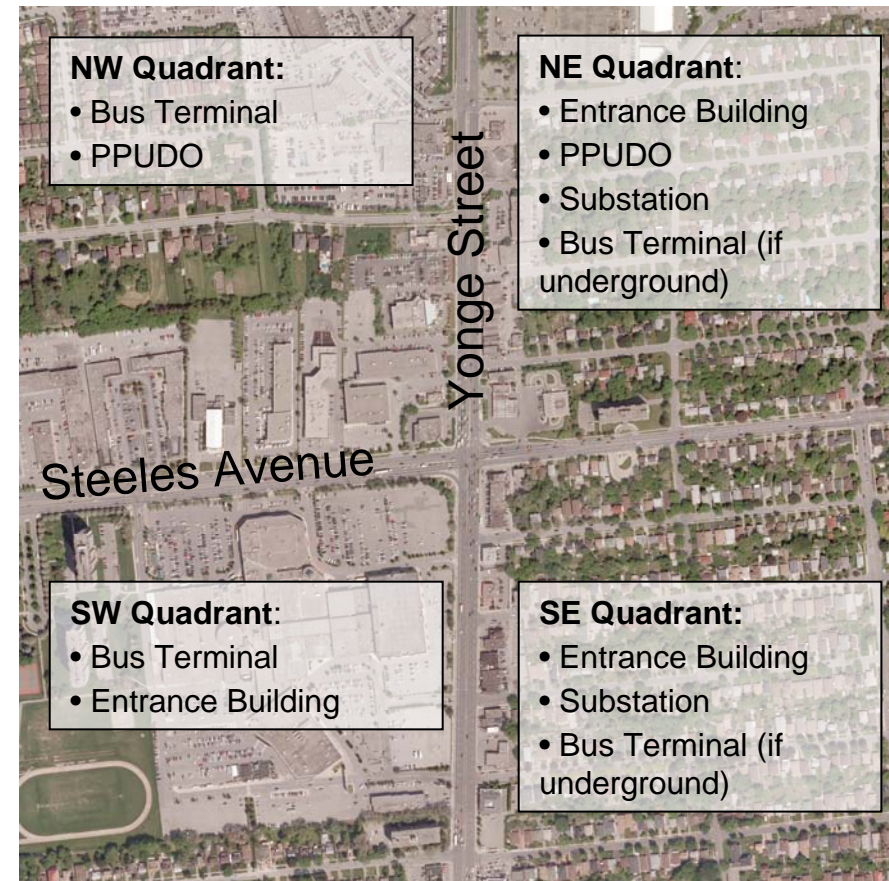


# development of station layout concepts

## - 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



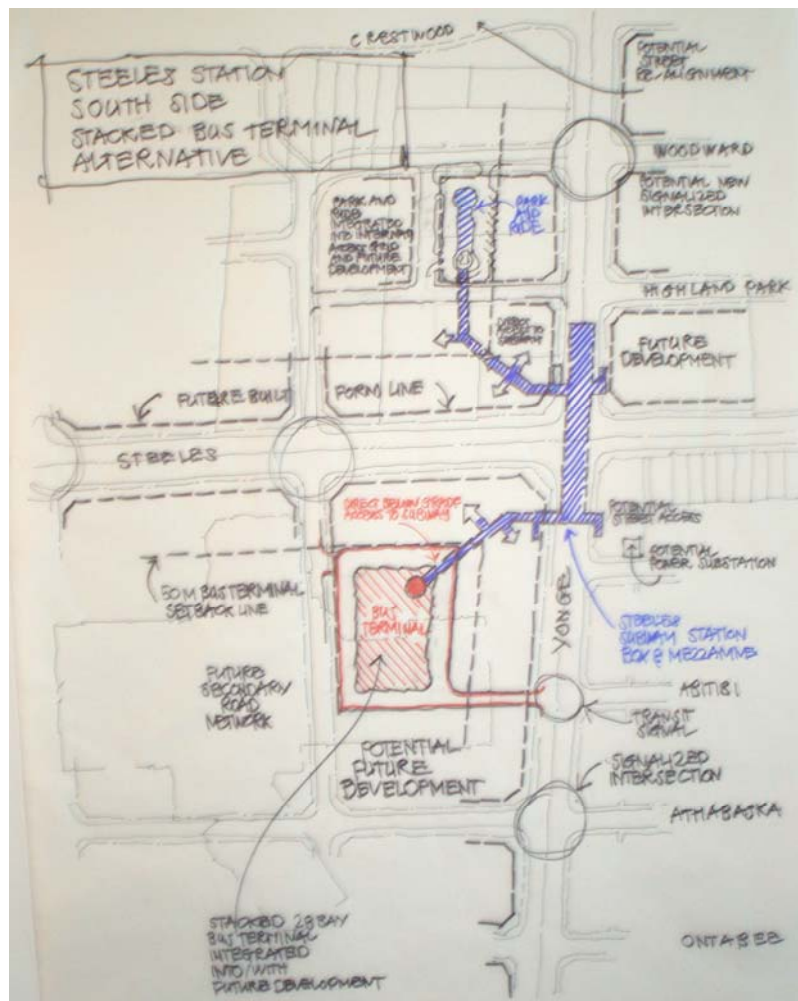
# development of station layout concepts

- preliminary concepts from August 25 Steeles Workshop

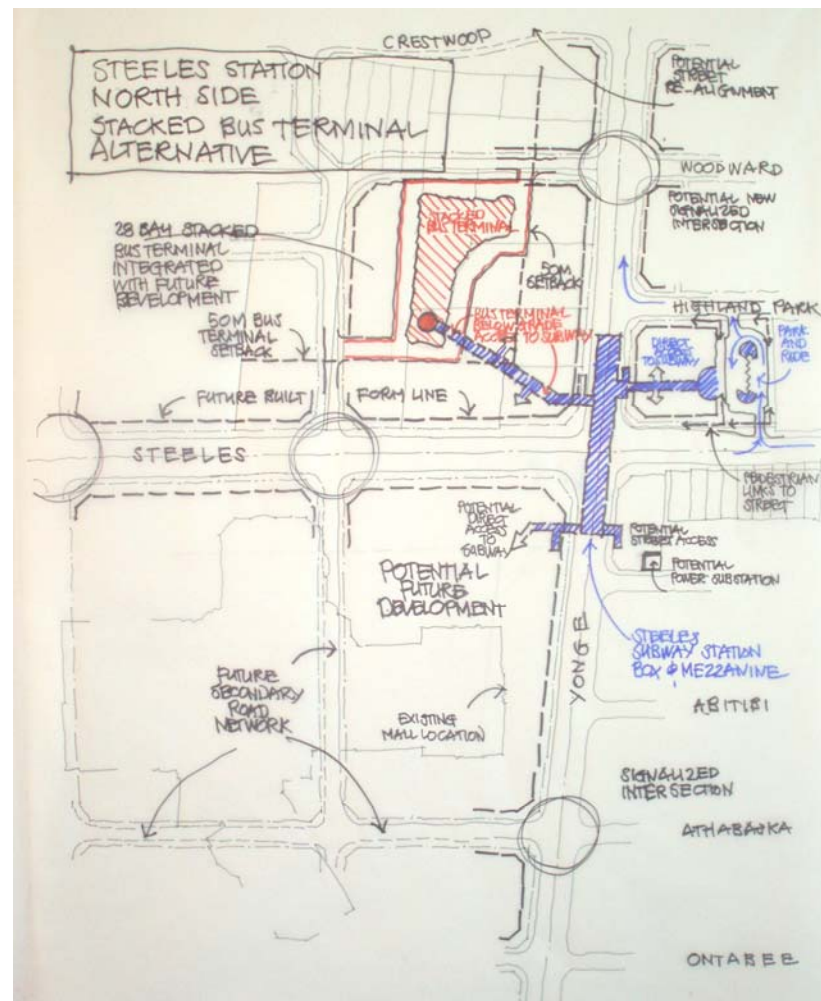
VIVAnext



## Southwest Quadrant



## Northwest Quadrant







## Legend



## Underground Bus Terminal

What about a station under the road?

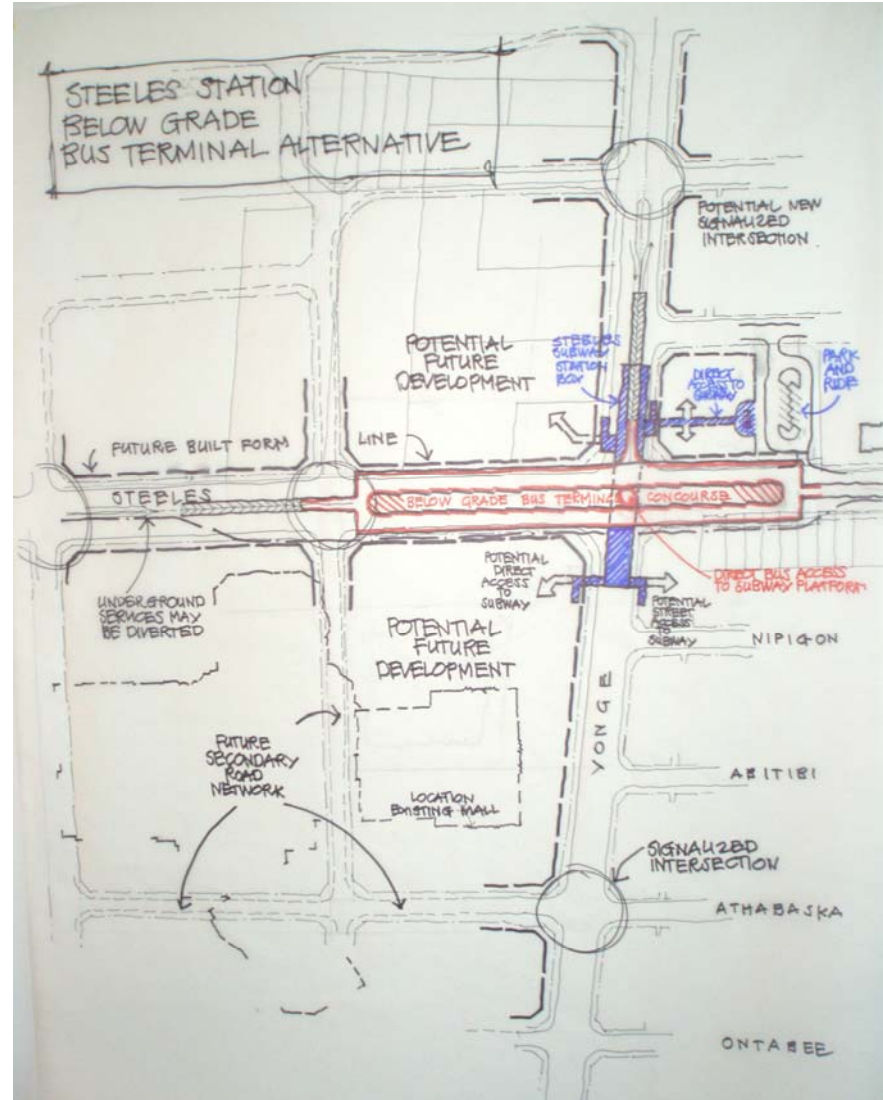
- Minimizes impacts to developable lands
- Despite the terminal being underground, there are impacts at the surface such as street widening / property impacts and entrance impacts. All entrances within the impacted zone become right-in/right-out.
- Issues
  - Impacts access / entrances
  - Higher capital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

## development of station layout concepts

- preliminary concepts from August 25 Steeles Workshop**



# Underground Bus Terminal





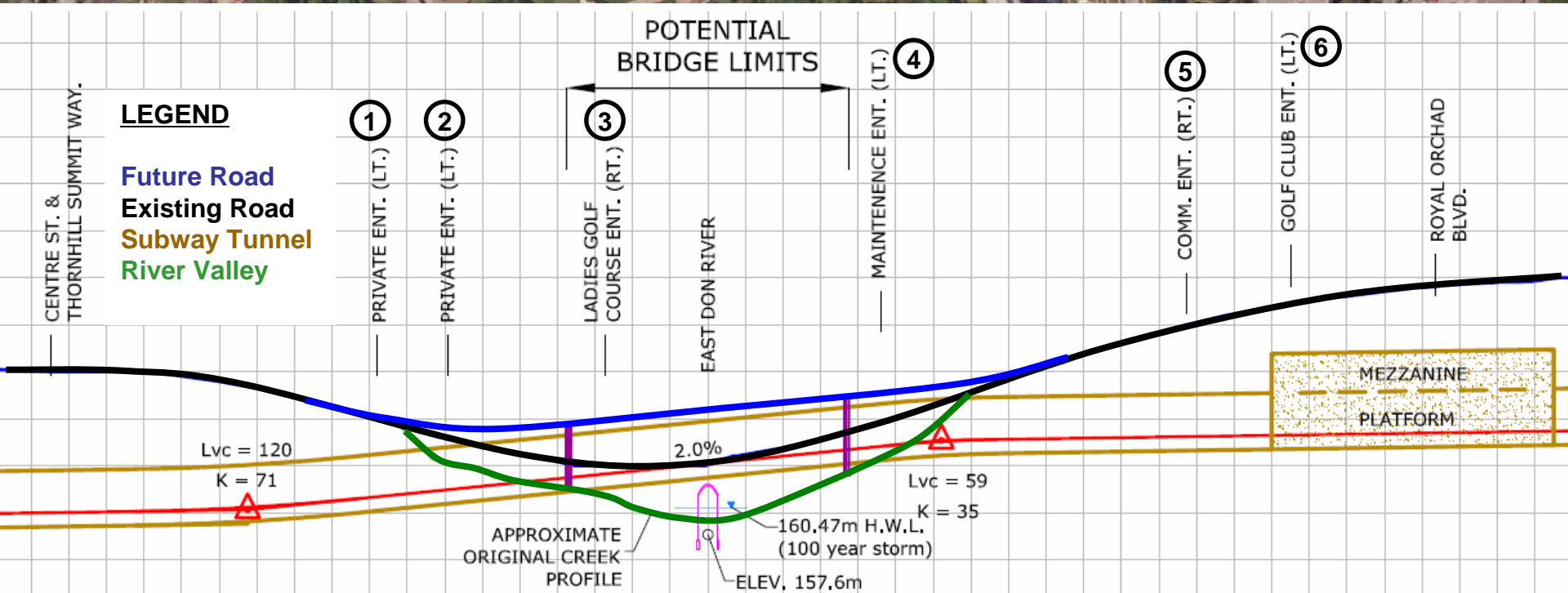
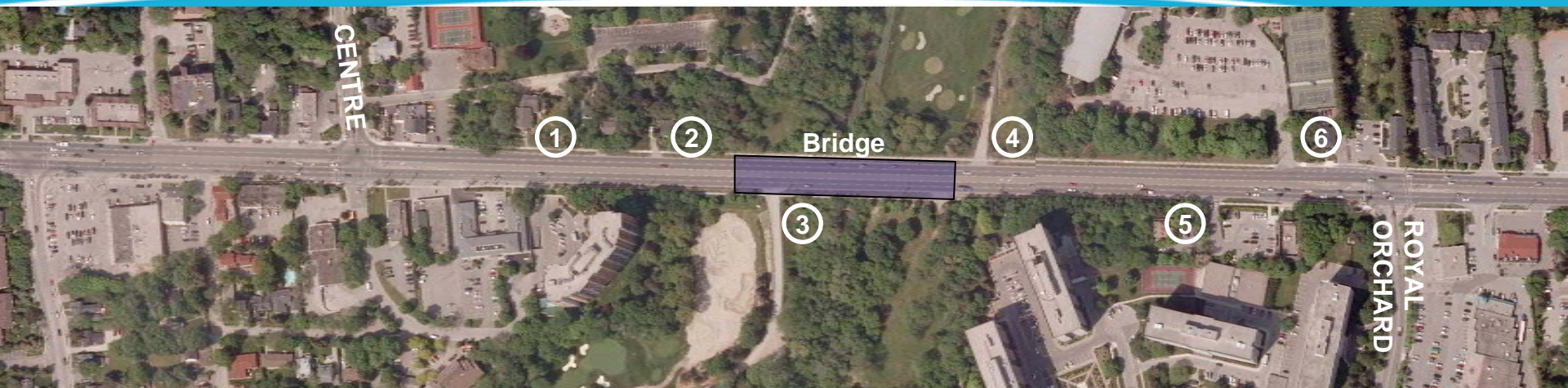


# East Don River Crossing



- 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



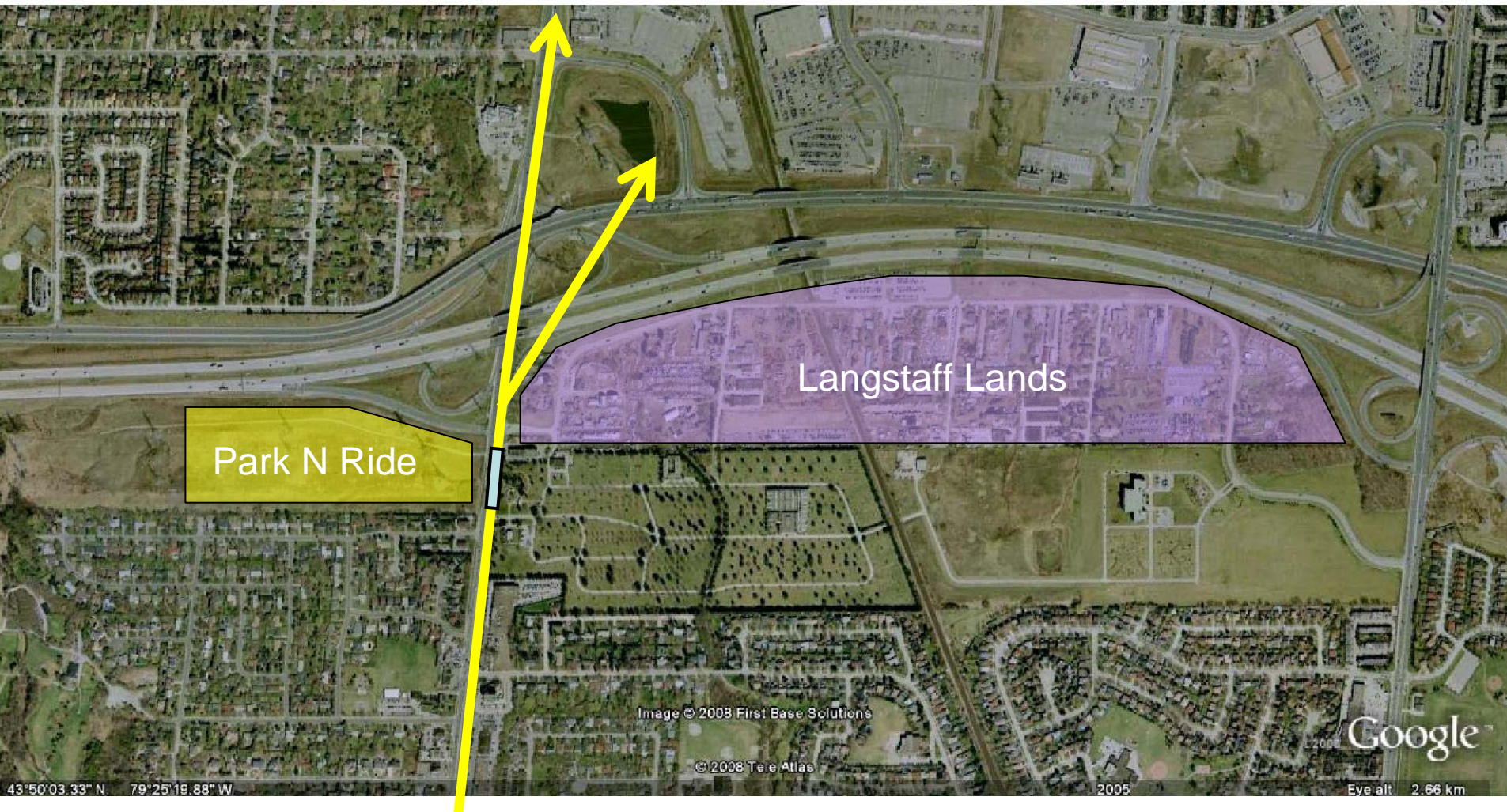
# development of station layout concepts

## - 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



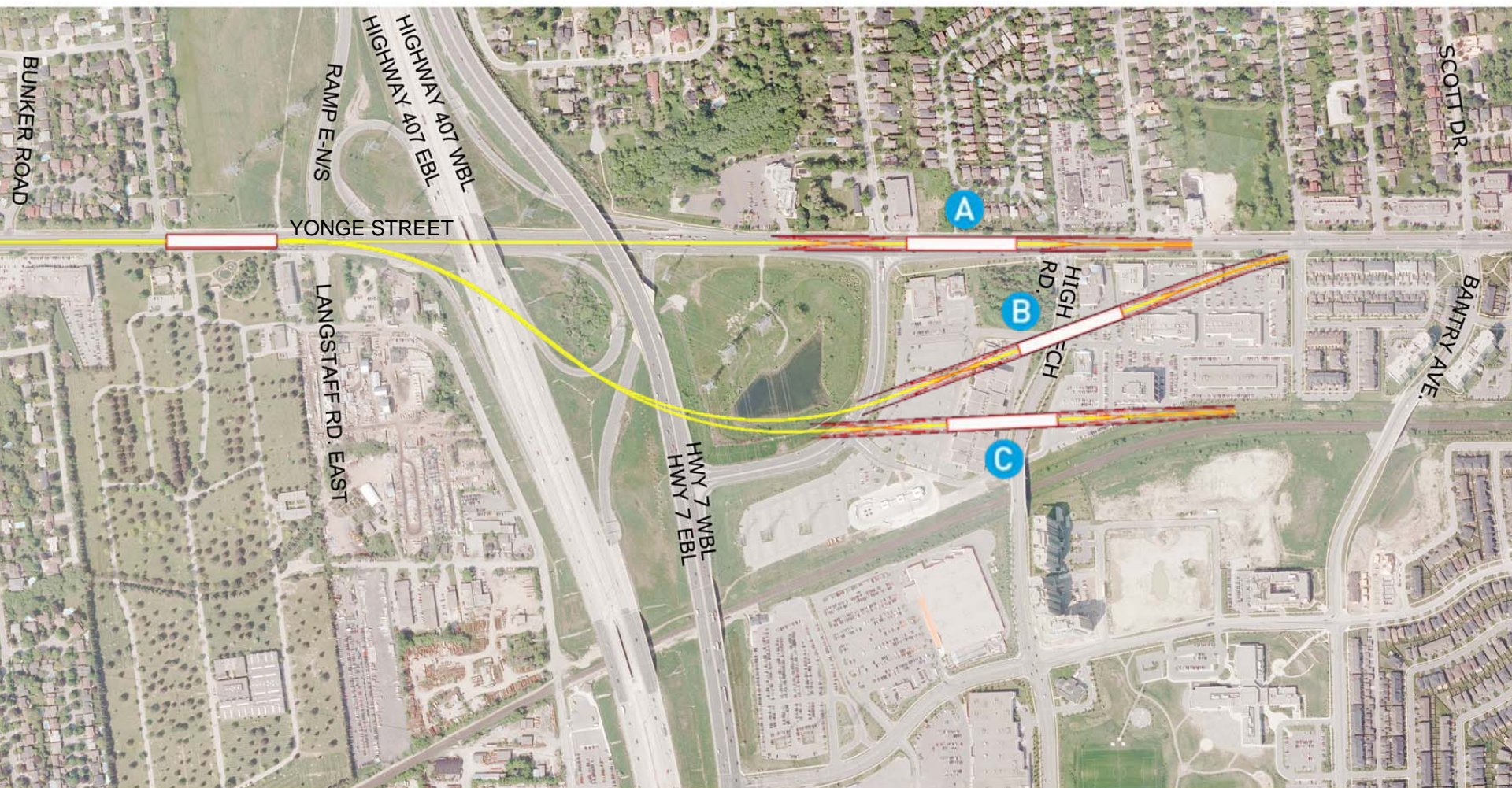


An aerial photograph of the Richmond Hill Centre Station area. The image shows a large, modern building complex with multiple wings and a central courtyard. A prominent white rectangular marker is placed on the roof of one of the buildings. To the left of the main building complex is a large, irregularly shaped pond. A multi-lane road runs horizontally across the middle of the image, with a curved section on the left. To the right of the main building complex, there is a parking lot with several cars and a smaller building. The overall scene is a mix of urban development and natural landscape.

# **Richmond Hill Centre Station**



# richmond hill centre alignments



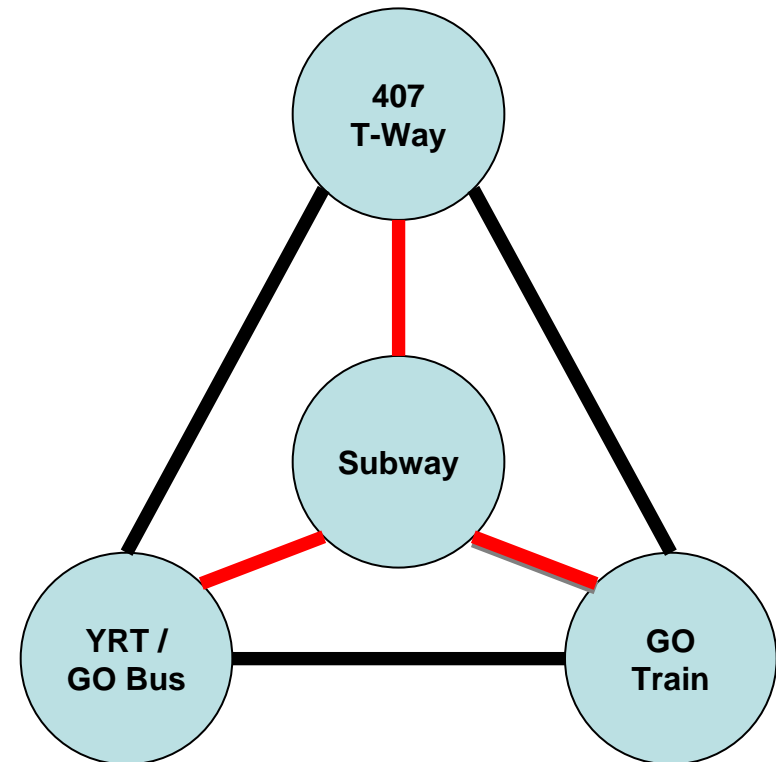
# development of station layout concepts

## - key considerations @ richmond hill centre station

VIVAnext



- 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