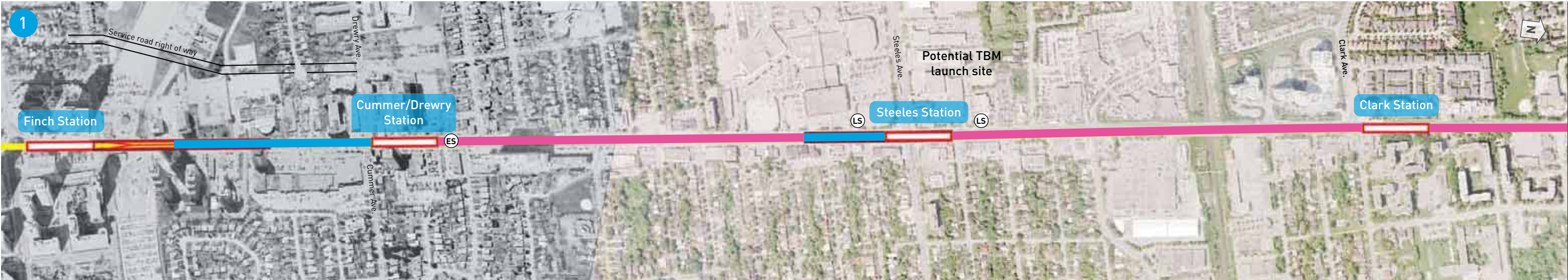


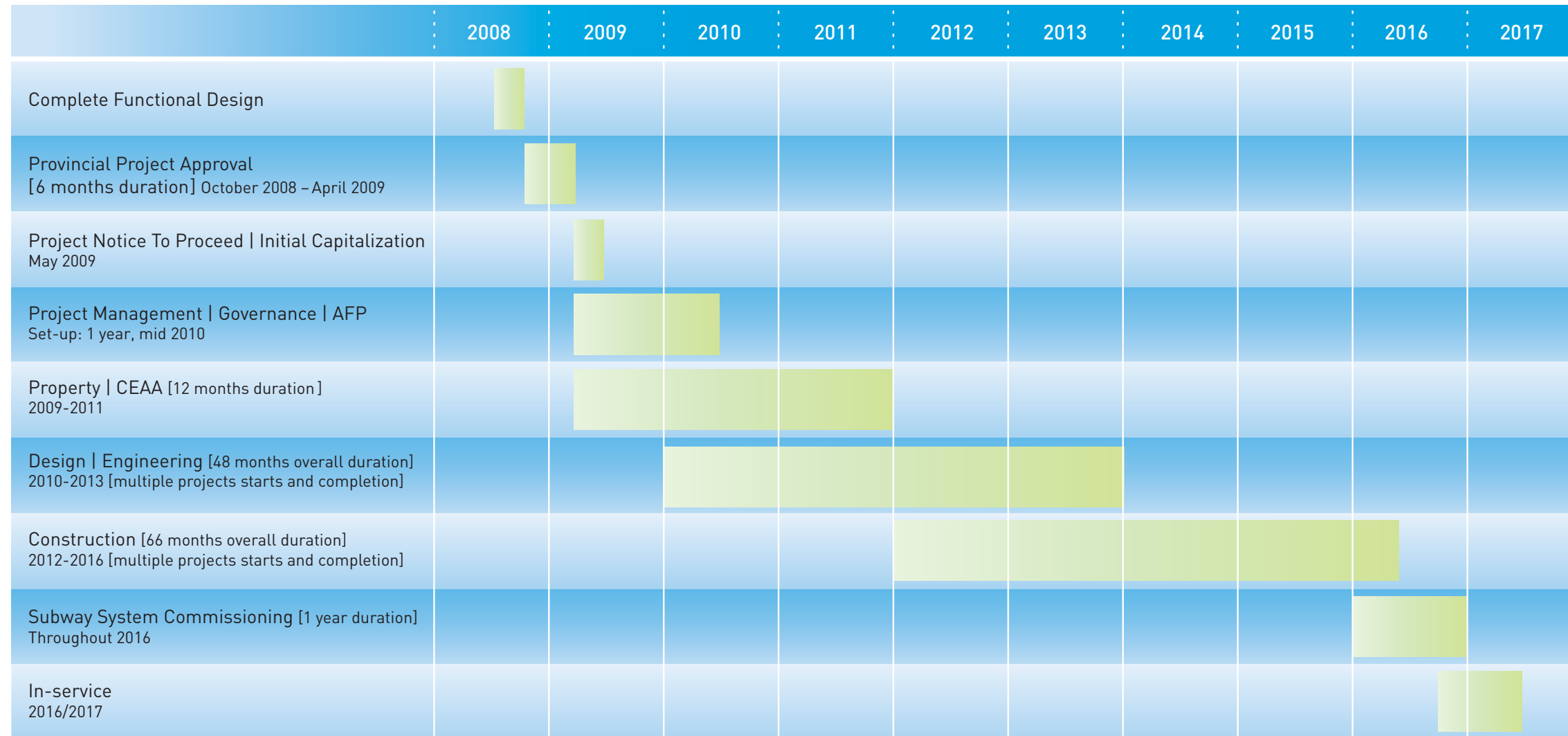
Preliminary construction methodology

While significant lengths of the subway extension will be tunnelled, the construction of subway stations and special track work structure is done using the cut and cover method.



- Legend**
- Subway station
 - Cut and cover
 - Tunnelling
 - Bridge construction
 - Tail tracks
 - LS Launch shaft
 - ES Exit shaft

What are the major phases of planning and building a subway?



Key targets

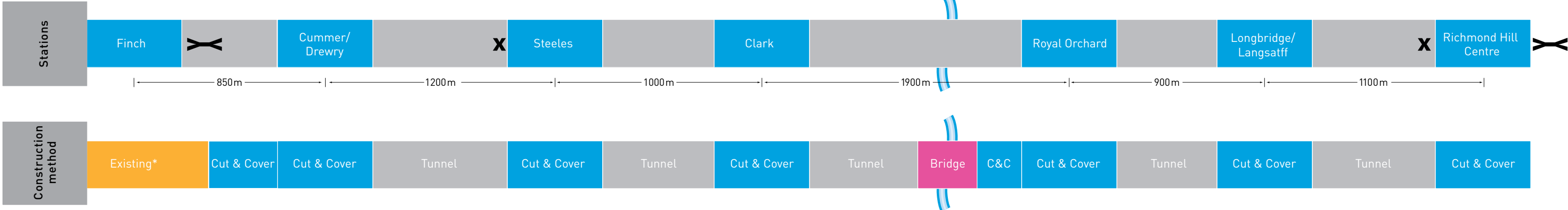
- > project begins: 2009
- > design/engineering: 2009
- > construction: 2012
- > open: 2016/2017

Major project costs

major project elements		cost M\$
stations and area facilities		\$650
Finch improvements	\$5	
Cummer/Drewry	\$70	
Steeles	\$195	
Clark	\$70	
Royal Orchard	\$65	
Langstaff/Longbridge	\$85	
Richmond Hill Centre	\$160	
tunnels, special structures and operating systems		\$600
subway trains		\$240
storage and maintenance facilities for subway trains		\$110
engineering and other costs		\$675
property		\$125
project cost estimate, 2008 dollars		\$2.4 billion



Yonge subway extension: station planning



Surface facilities/connections	Finch	Cummer/Drewry	Steeles	Clark	Royal Orchard	Longbridge/Langsatff	Richmond Hill Centre
13-bay TTC bus terminal [existing]; 6-bay after subway extension**		bus turn-around loop					
17-bay Regional bus terminal [existing]; 4-bay after subway extension			25-bay underground bus terminal				28-bay bus terminal
Proposed Finch West LRT							Proposed 407 Transitway
PPUDO			PPUDO				Richmond Hill GO Rail
3214 park-n-ride (existing)						PPUDO	PPUDO
Substation			Substation	Substation	Substation	Approx. 2000 to 2500 park-n-ride	Substation

Screening criteria

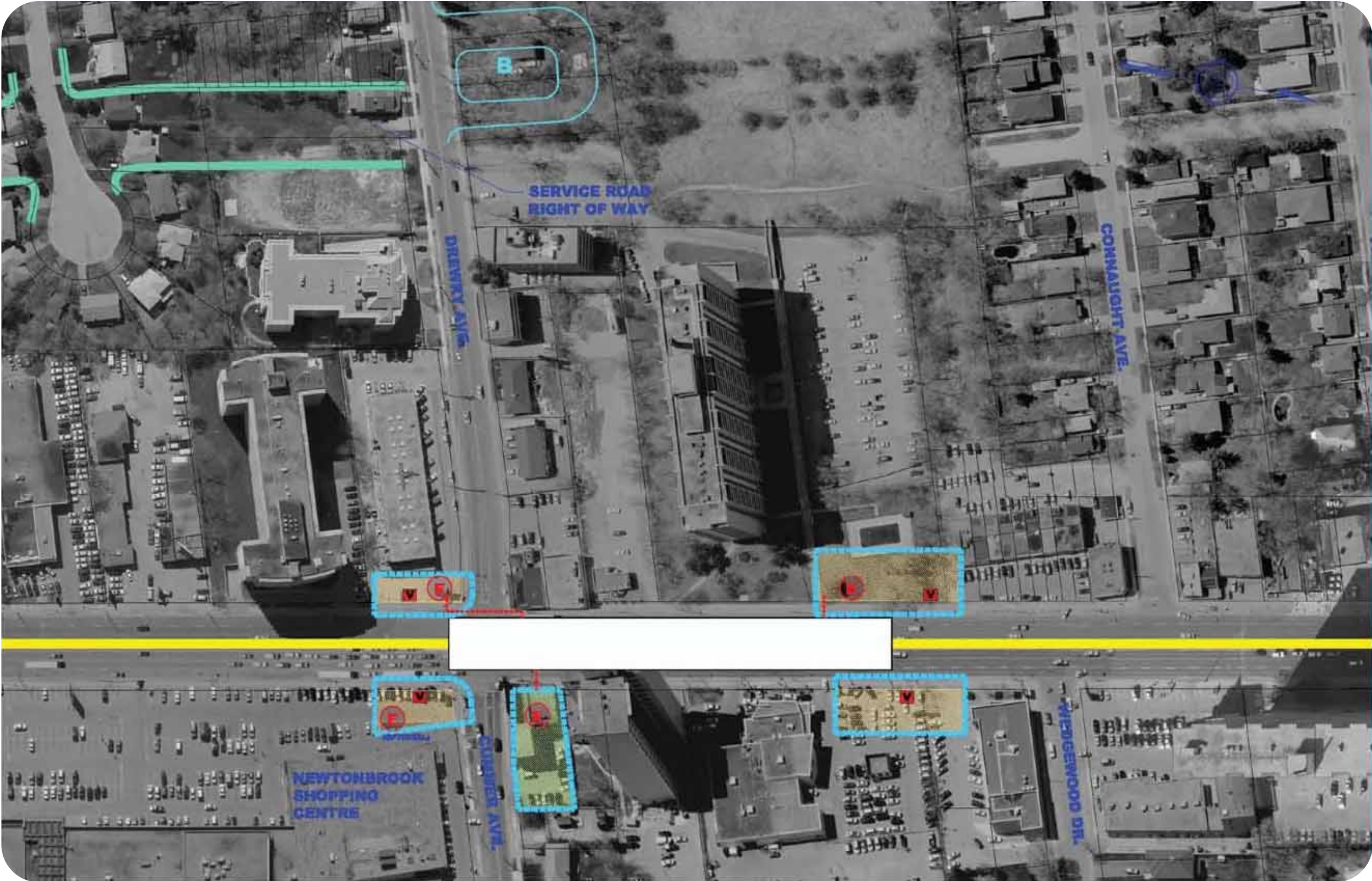
Existing densities		80	85	110	80	30	40
Planned densities†		110 - 120	280 - 520	145 - 180	100 - 130	144 - 266	295 - 550
Transportation connection		✓	✓			✓	✓
Natural environment		✓	✓	✓	✓	✓	✓
Cultural environment		✓	✓	✓	✓	✓	✓

Tail track:
 Cross track:










* Some reconstruction of existing tail tracks will be required
 ** 4-bay after Finch LRT is completed
 † Persons and jobs per hectare

Not to scale

Cummer/Drewry station



Legend

-  Subway station
-  Subway line
-  Entrance
-  Limit of surface elements
-  Underground walkway
-  Full property acquisition
-  Partial property acquisition for surface elements only
-  Vent structure
-  Bus loop

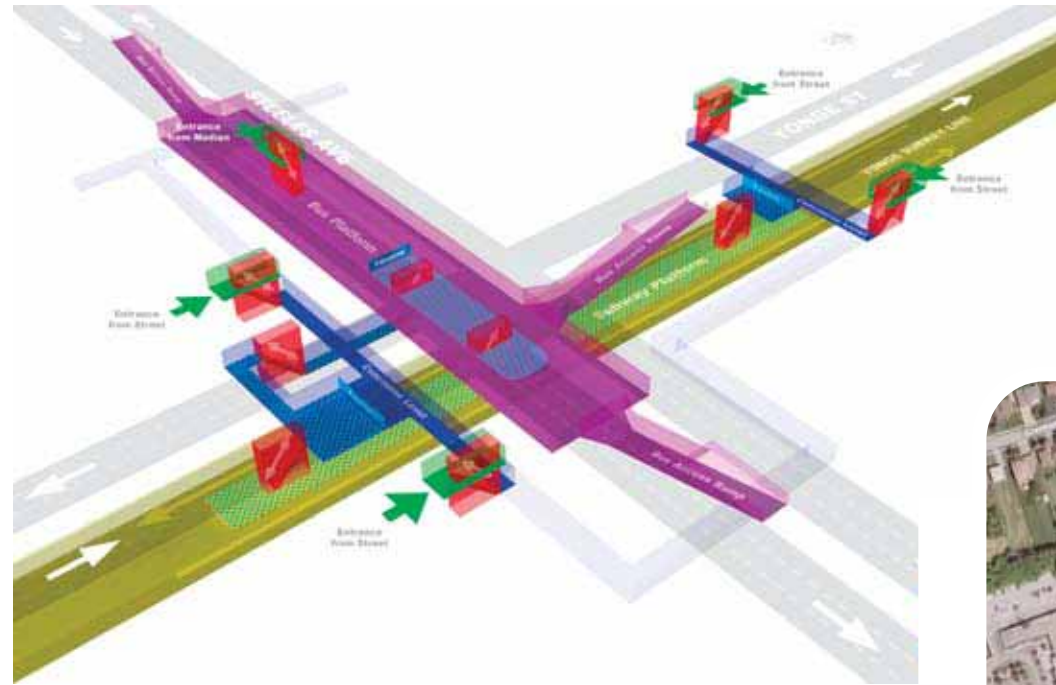


Steeles station

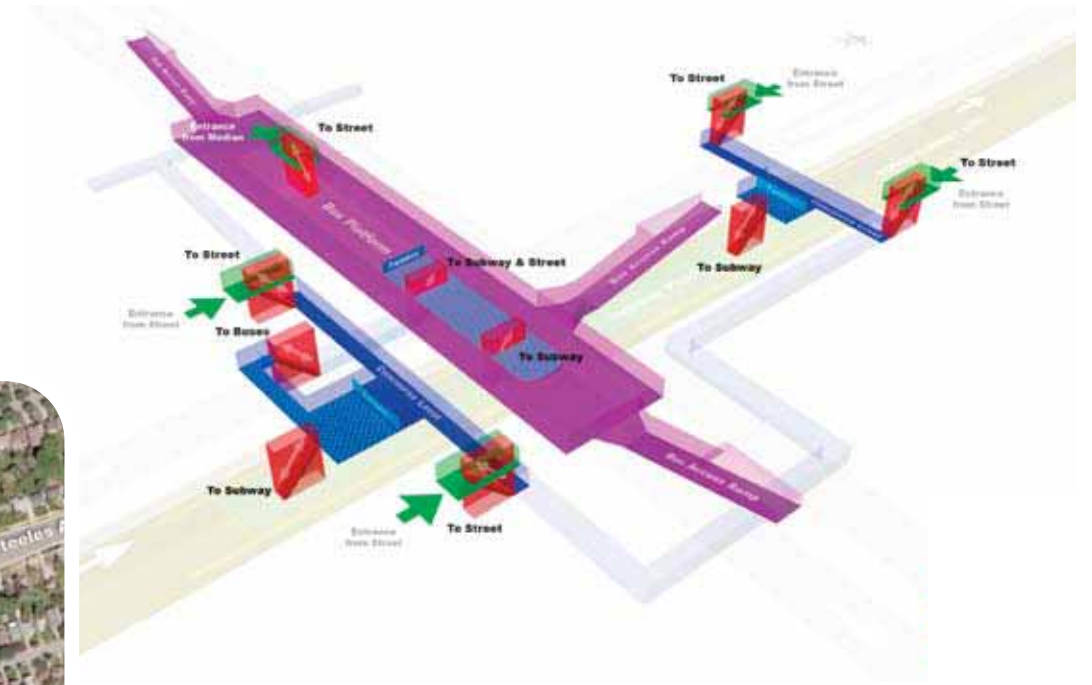


Steeles station | level by level

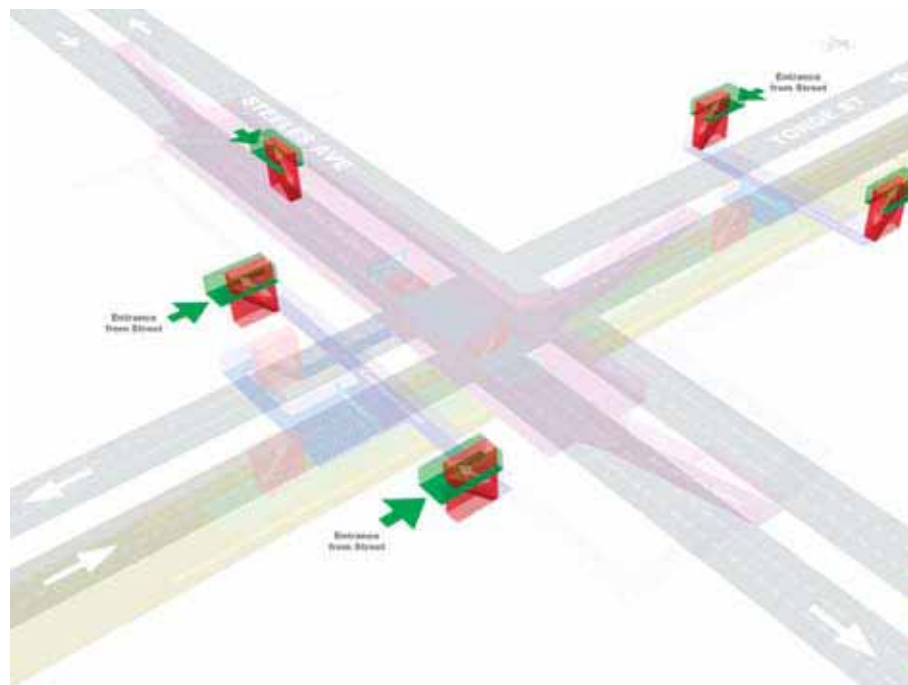
1 station overview all levels



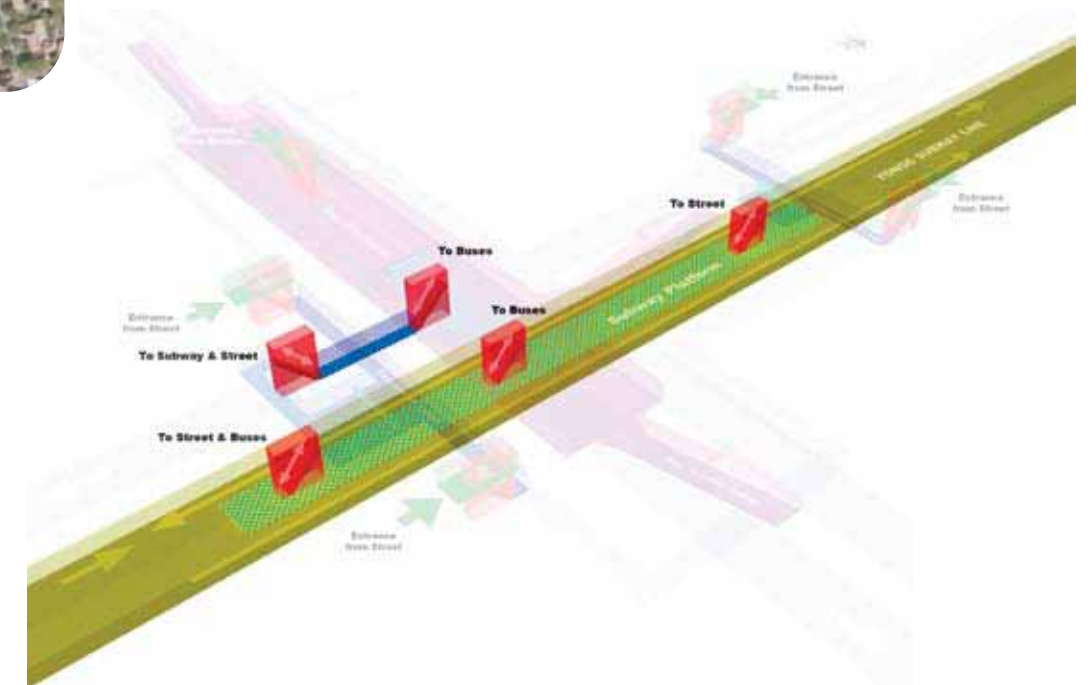
3 bus platform 1 level below street



2 street level



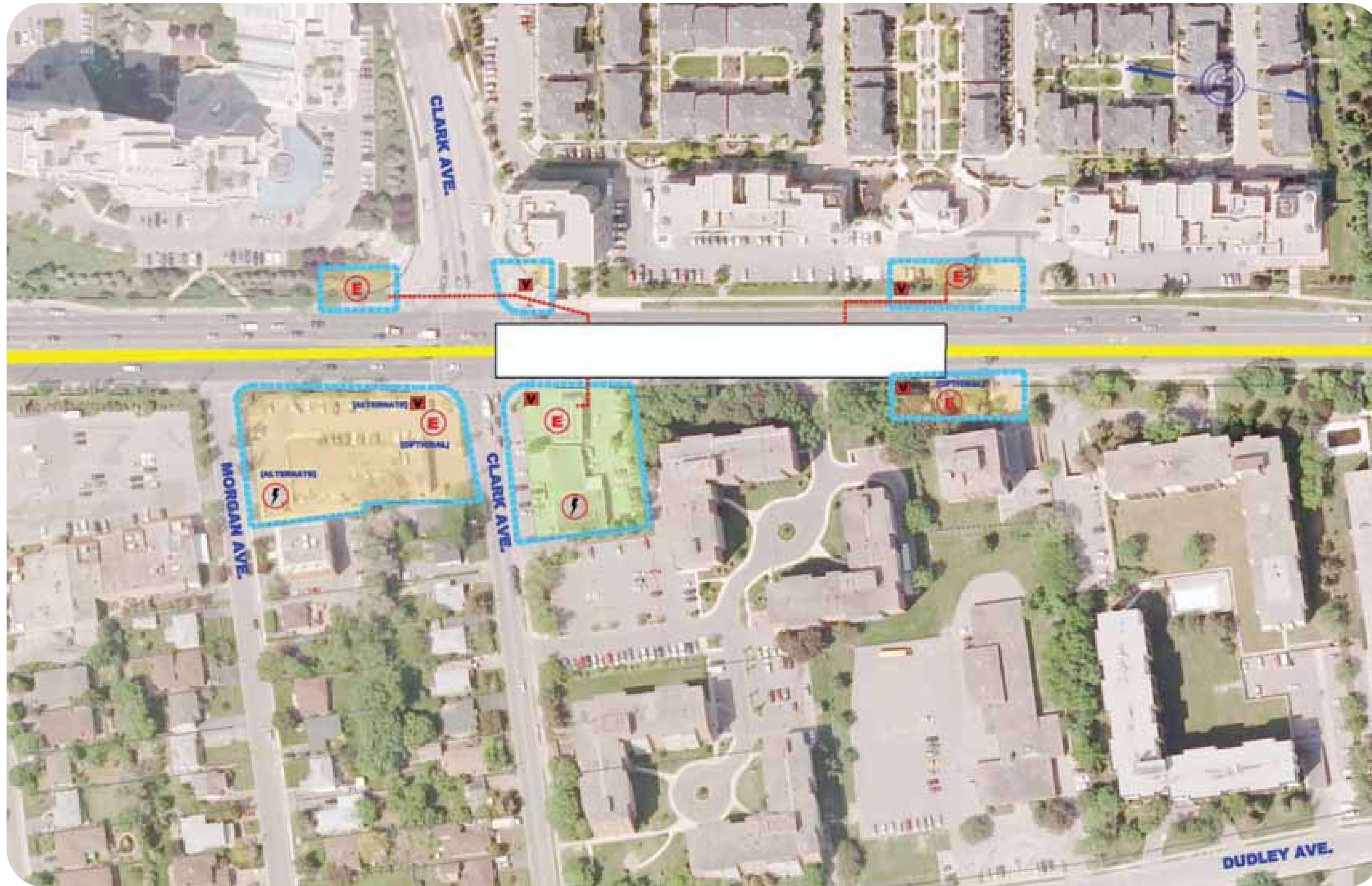
4 subway level 2 levels below street












Legend

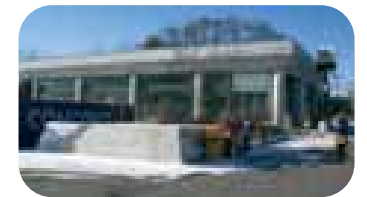
- Street Level
- Entrance
- Bus Platform Level
- Concourse Level
- Future Connections
- Subway Platform Level
- Vertical Movement
- Fare Paid Zone

Clark station



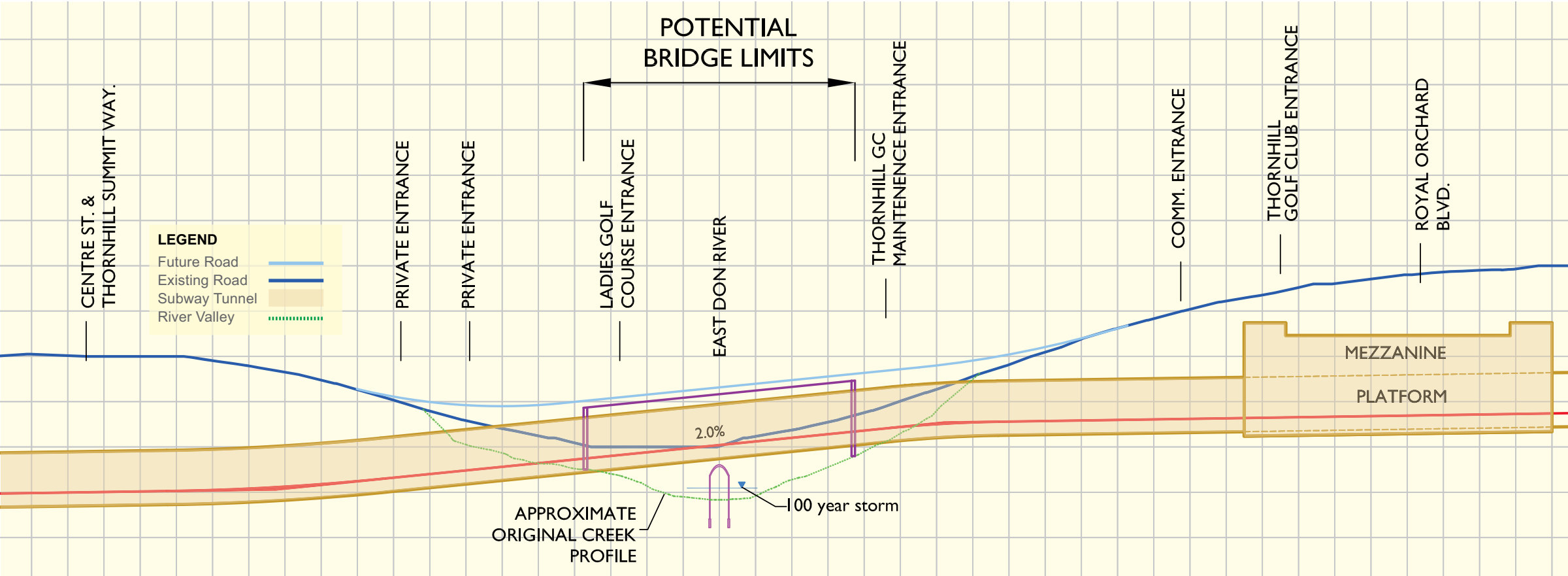
Legend

-  Subway station
-  Subway line
-  Electrical substation
-  Entrance
-  Limit of surface elements
-  Underground walkway
-  Full property acquisition
-  Partial property acquisition for surface elements only
-  Vent structure



East Don River crossing

- Heritage features will be designed into the bridge in consultation with the community.



Crossing the East Don River



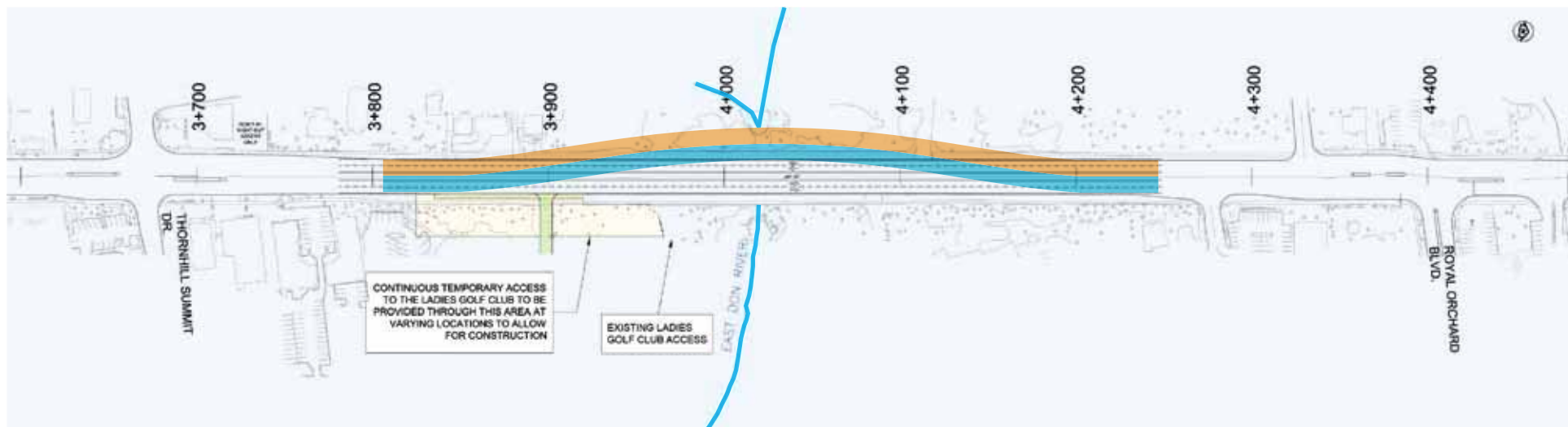
- 1 Restore the valley to its natural state
- 2 Level Yonge Street to provide continued access to adjacent sites
- 3 Ensure the bridge design includes heritage features in context with the community
- 4 Ensure lighting is designed to be sensitive to adjacent uses in the community
- 5 Provide a safe pedestrian environment to cross between the heritage community north and south of the bridge
- 6 Meet Ministry of Environment guidelines for attenuating traffic and subway noise

South aerial view from York Condominium 300
Artists rendering ~ concept only

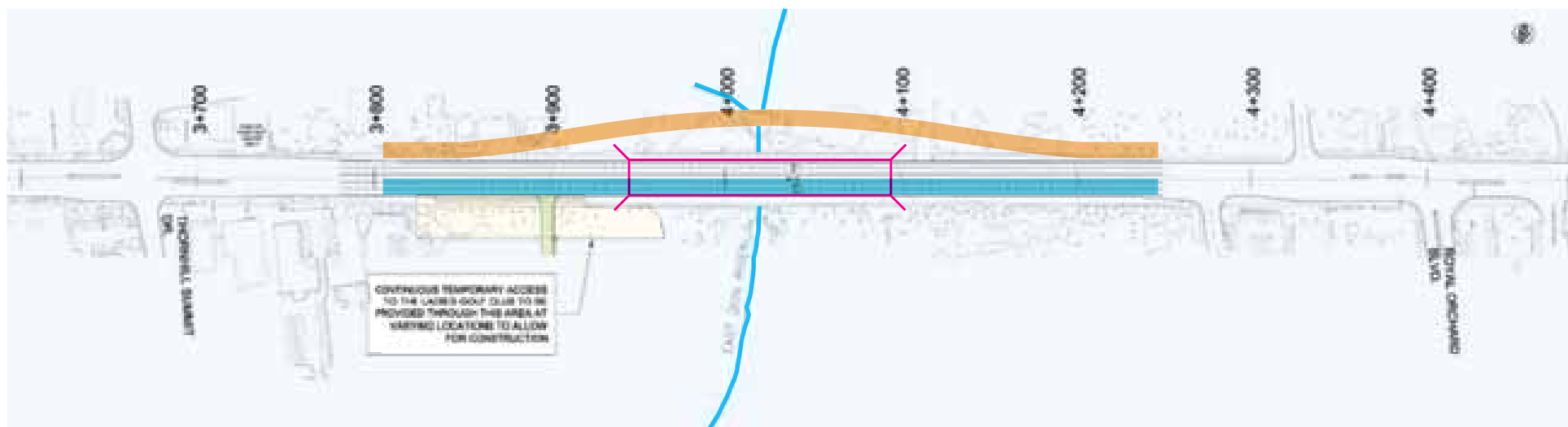
East Don River proposed traffic staging

- Careful removal of existing culvert and embankments will minimize local disruption.

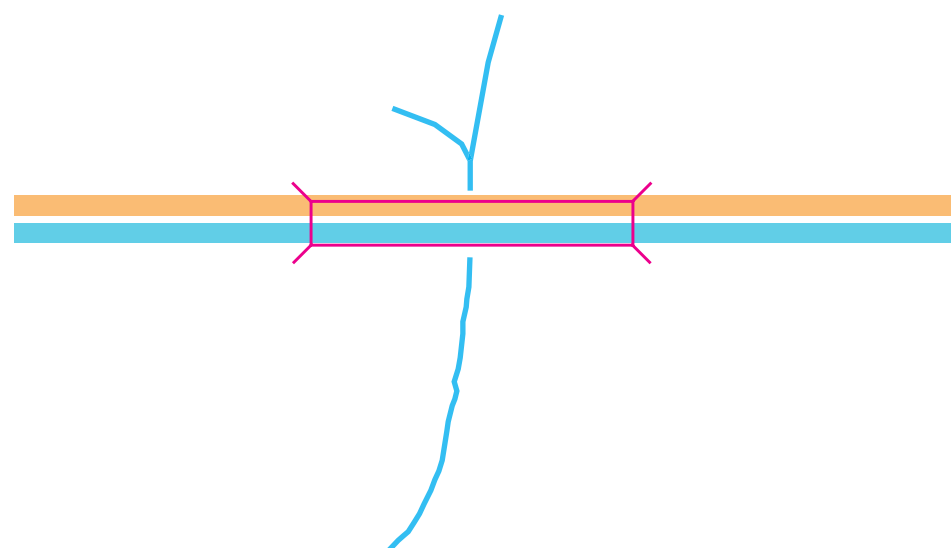
1 stage 1 temporary lanes to the west



2 stage 2 temporary northbound lanes on partially constructed bridge



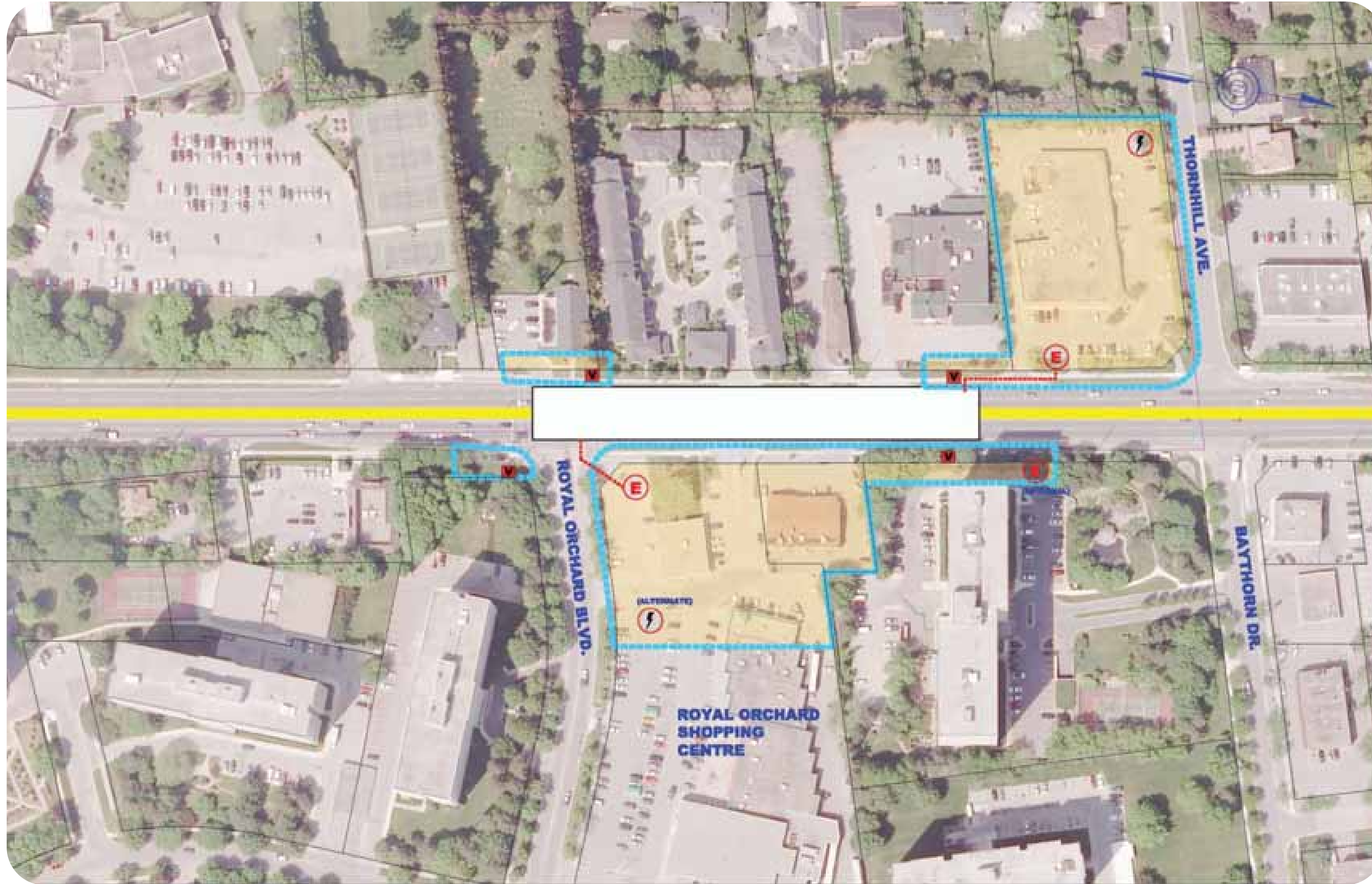
3 stage 3 final bridge in service



Legend

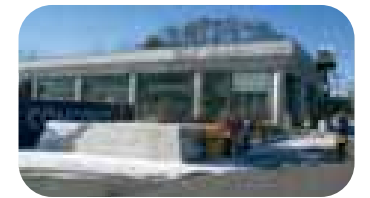
- Southbound traffic
- Northbound traffic
- Partially constructed bridge
- Bridge in service

Royal Orchard station

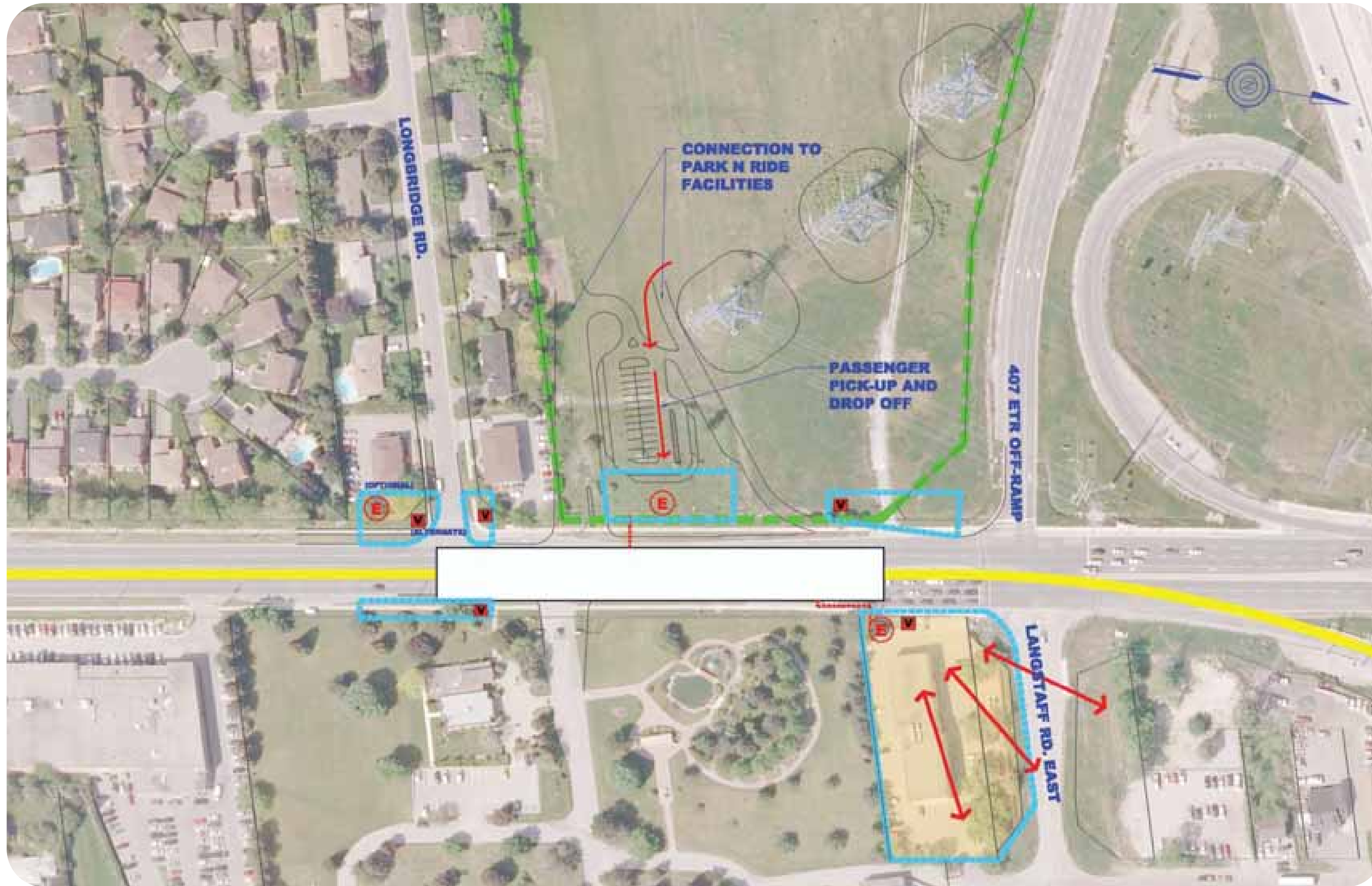


Legend











- Subway station
- Subway line
- Electrical substation
- Entrance
- Limit of surface elements
- Underground walkway
- Full property acquisition
- Partial property acquisition for surface elements only
- Vent structure

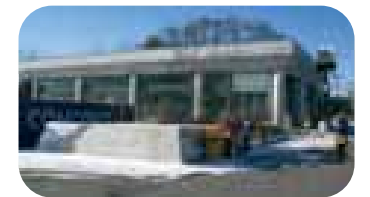


Langstaff / Longbridge station



Legend

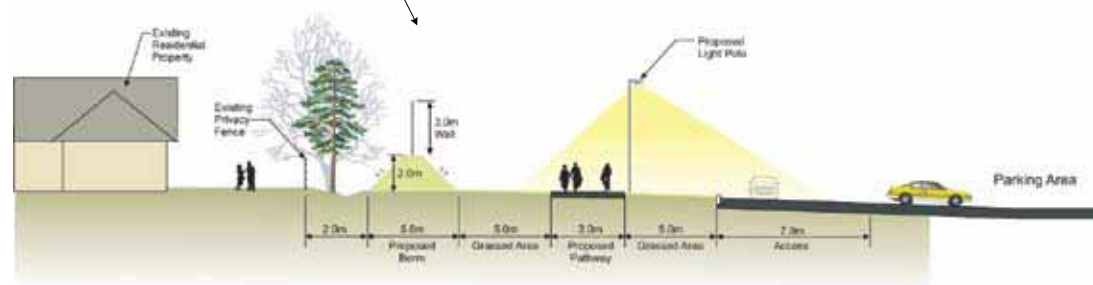
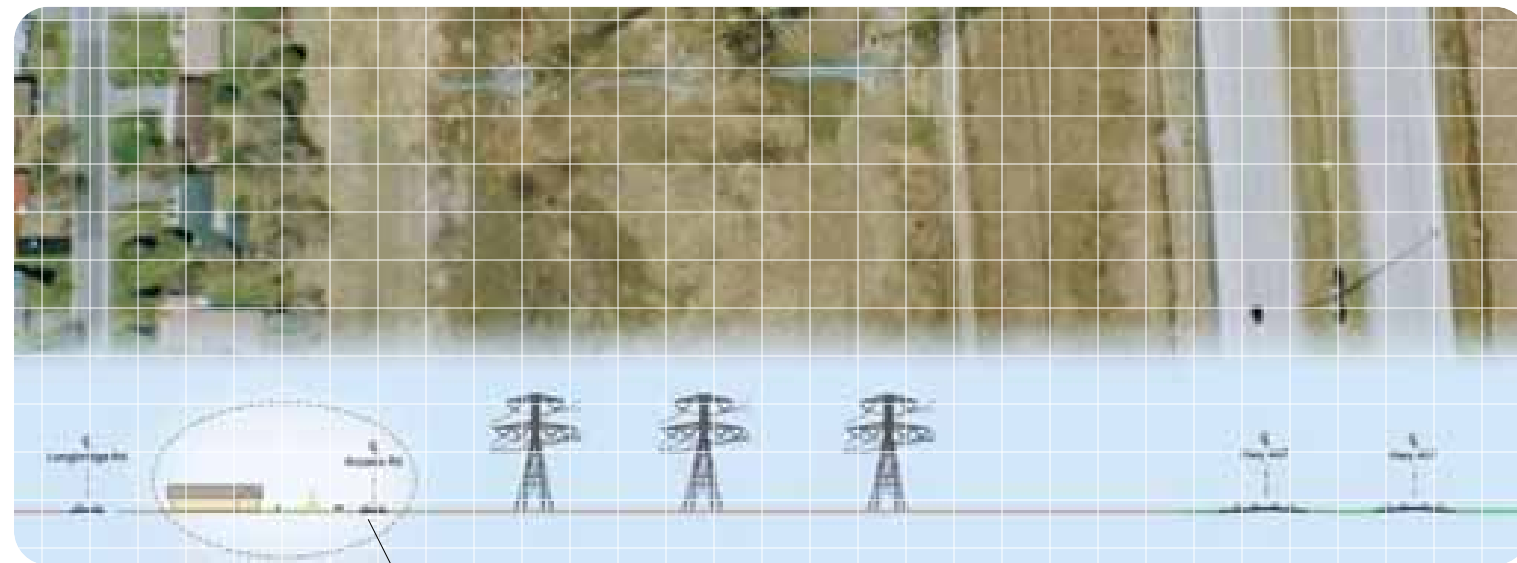
-  Subway station
-  Subway line
-  Electrical substation
-  Entrance
-  Limit of surface elements
-  Underground walkway
-  Full property acquisition
-  Partial property acquisition for surface elements only
-  Vent structure
-  Limit of PPUDO, Park 'n' Ride, and associated roads.



Langstaff/Longbridge parking

Design features that address community concerns:

- Noise buffers
- Maintaining a green corridor connection
- Bio swales
- Sustainable treatments for the parking area



Conceptual design, to be further developed in consultation with the community.

Richmond Hill Centre alignment



scale: 1:2000

Next steps

January/February 2009

- Issue Notice of Completion
- Submit Environmental Project Report to Ministry of the Environment for 30-day public review
- Ministry of the Environment review period [up to 35 days]

March/April 2009

- Issue Statement of Completion

Spring 2009

- Project ready to proceed

