

# Virtual Open House #7



January 5, 2022



# Safety Moment



# Agenda

1. Project Benefits
2. Route Improvements
3. Transit Action Ontario Proposal and Metrolinx Analysis
4. Property Needs and Process
5. Finch Early Works
6. Geotechnical Investigations
7. Noise and Vibration Studies Early Results
8. Project Timeline
9. Public Engagement and Stakeholder Outreach
10. Community Office



# Yonge North Subway Extension

## By the Numbers



**~8 km route**



**4\* new stations**



**94,100 daily riders**



**Up to 22 minutes saved on a trip from York Region to downtown Toronto**



**4,800 tonnes in yearly greenhouse gas emission reductions**

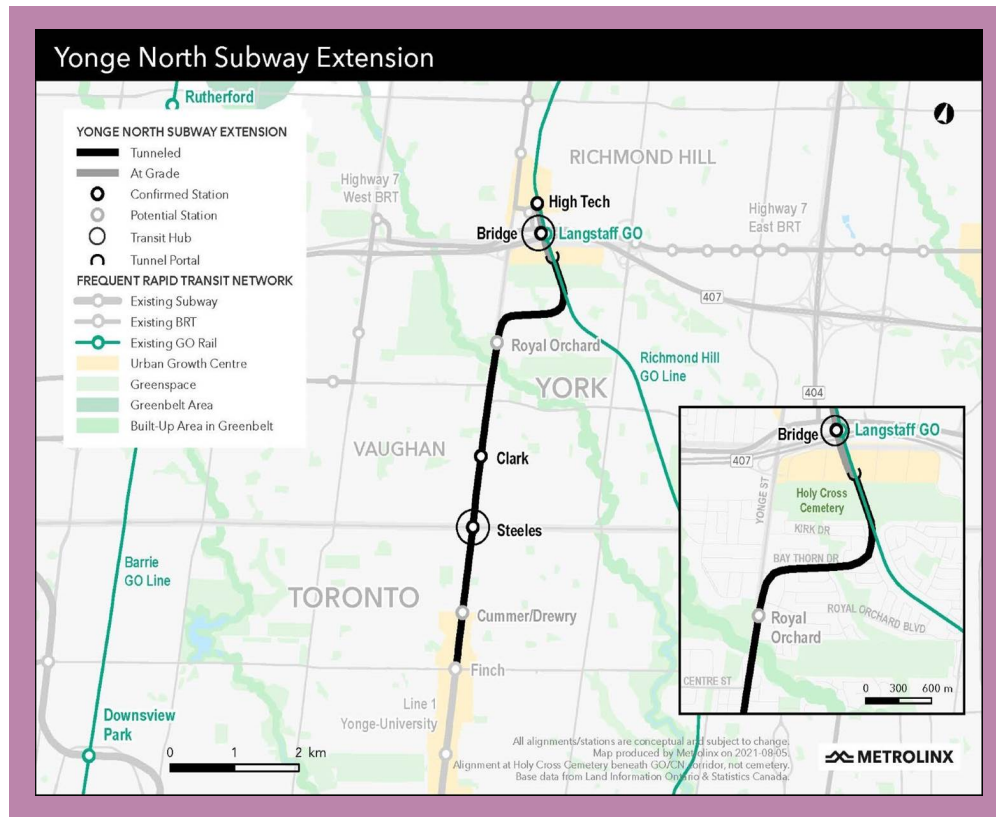


**26,000 more people with in 10-minute walk to transit**

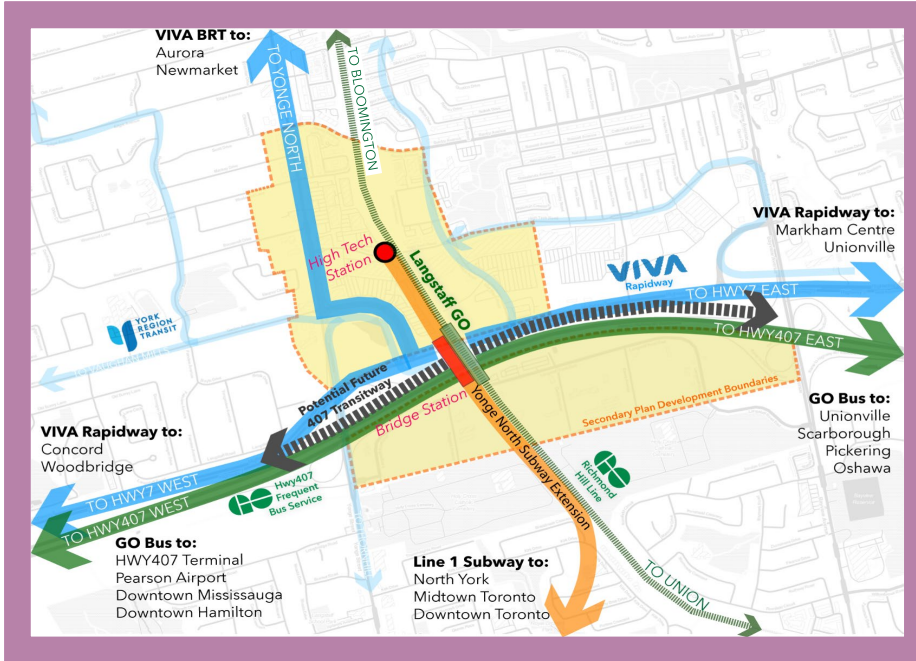


**7,700 fewer km traveled by cars during morning rush hour**

\* We're exploring opportunities with our project partners that could support additional stations as the analysis is refined.



# A Launchpad to Explore the Region



A new transit hub at Bridge Station will open up new travel possibilities in York Region and beyond.

- Brings **convenient transit access** to the heart of the Richmond Hill Centre and Langstaff Gateway development areas
  - This will lead to less traffic congestion as these communities grow
- Offers **fast and convenient transfers** to as many as **five** existing and future regional transit lines:



Viva Yonge Street  
Rapidway



Viva Highway 7  
Rapidway



Highway 407 GO



Richmond Hill GO



Future Highway 407 Transitway

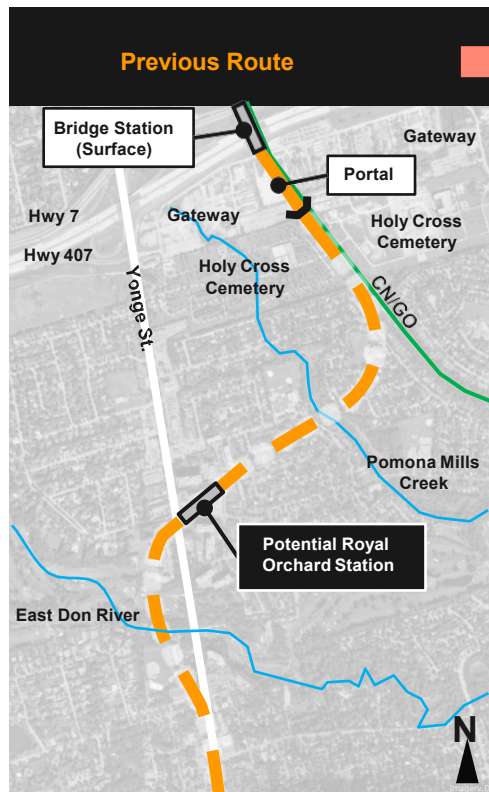
# The Adjusted Route

We've adjusted the route of the Yonge North Subway Extension through the Royal Orchard community to travel deeper and under fewer homes.

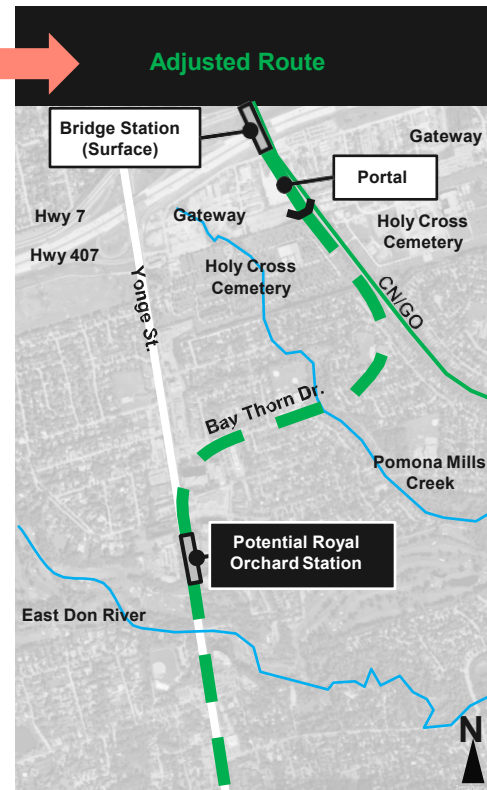
- The route will travel under Bay Thorn Drive instead of directly under homes, wherever possible.
- In the shallowest section of tunnels that will run below single-family homes and a local school, our current designs have the bottoms of the tunnels at a minimum depth of 21 metres (19.5 metres to where the train wheels interact with the tracks).



# ROUTE UPDATE - OVERVIEW

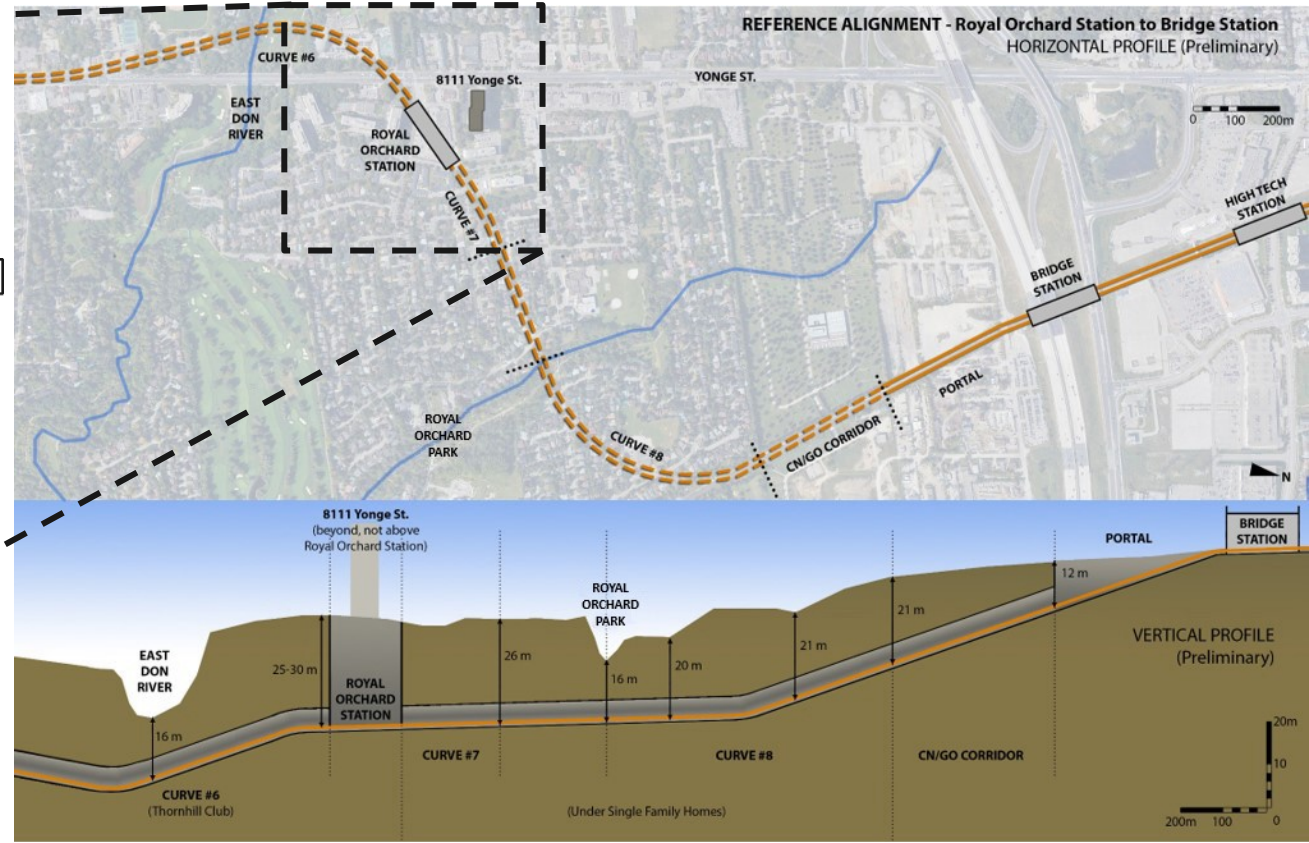
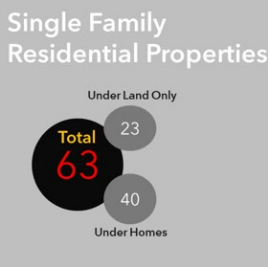
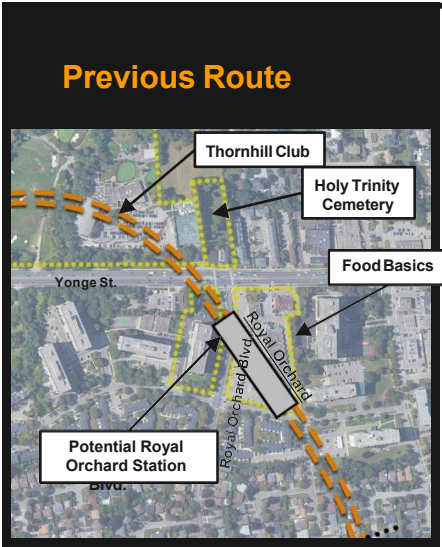


- Why did we shift from the previous route to the adjusted route?
- Reduce number of single-family residential properties tunnelled under
  - Placed tunnels even deeper below the community
  - Maintained project benefits within approved budget



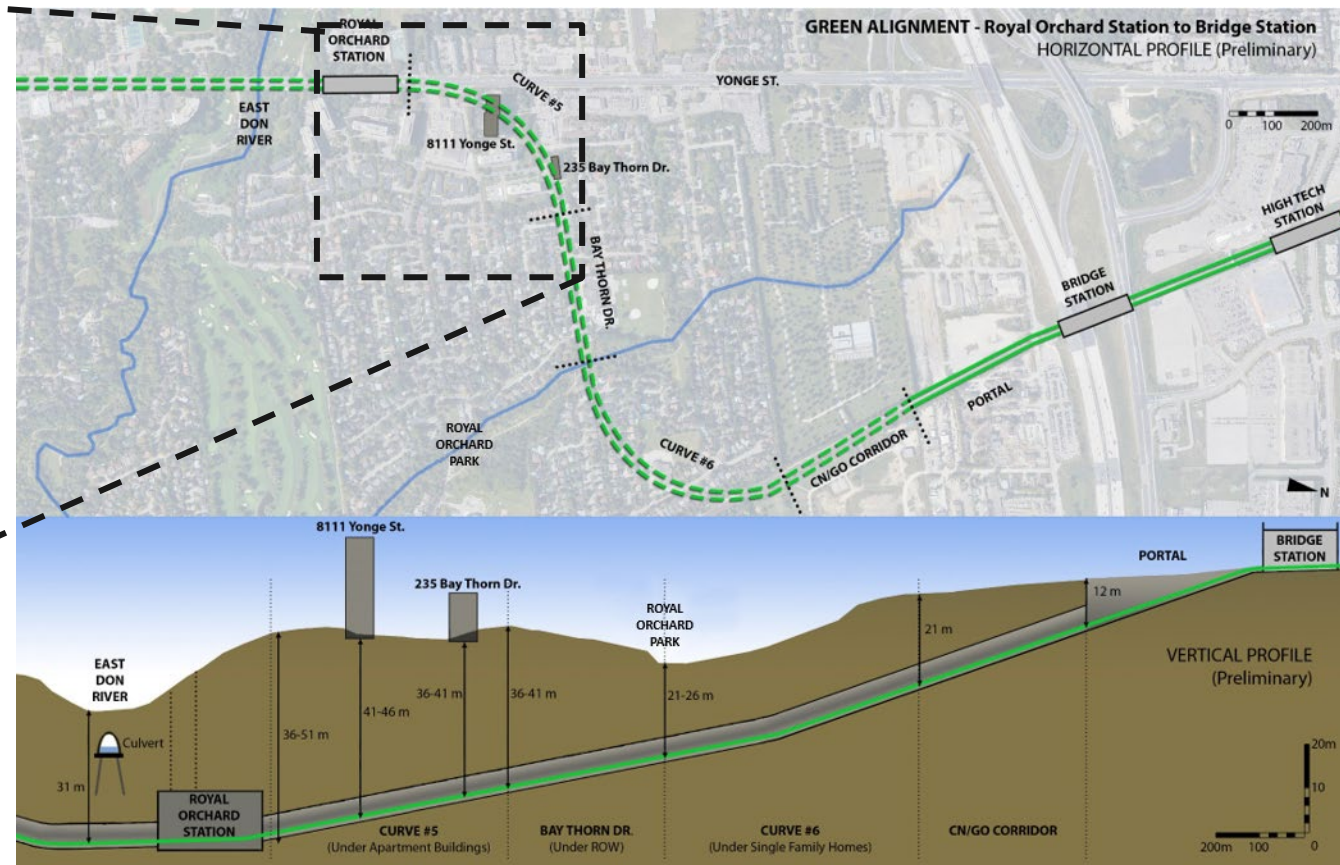
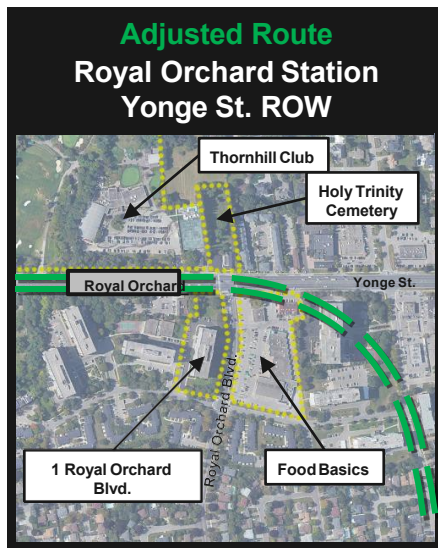


# PREVIOUS ROUTE

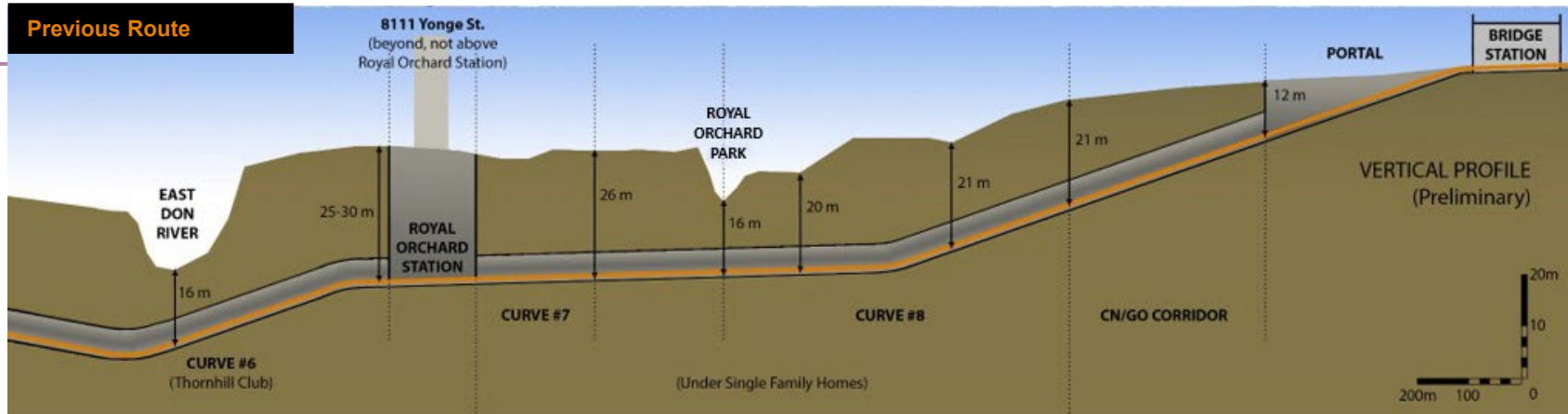




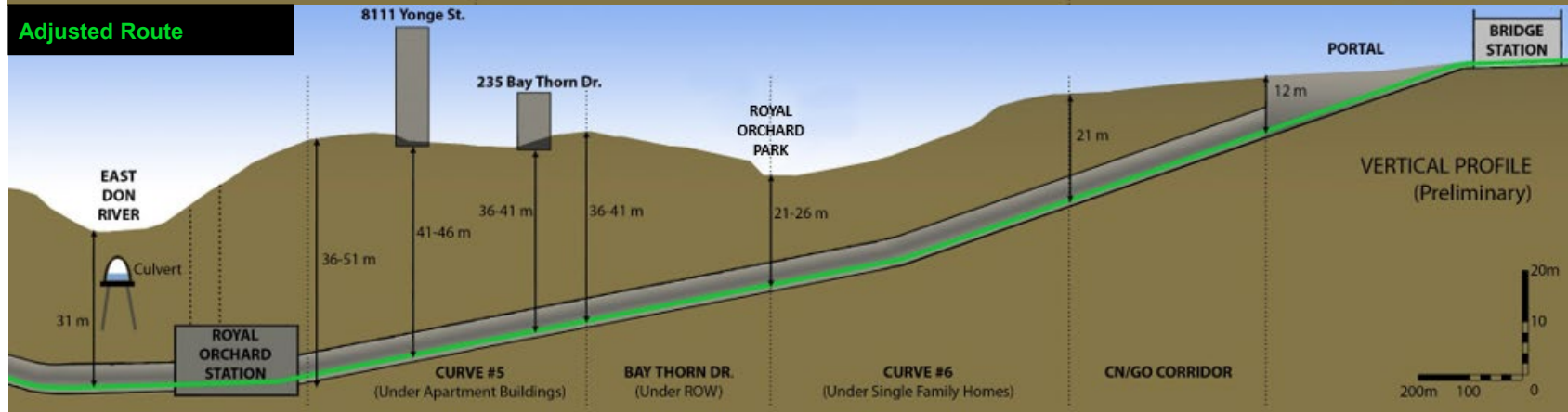
# ADJUSTED ROUTE



## Previous Route



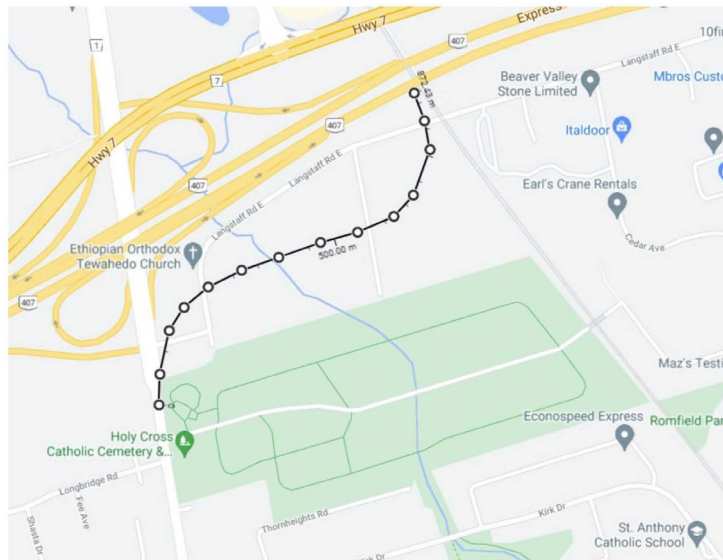
## Adjusted Route



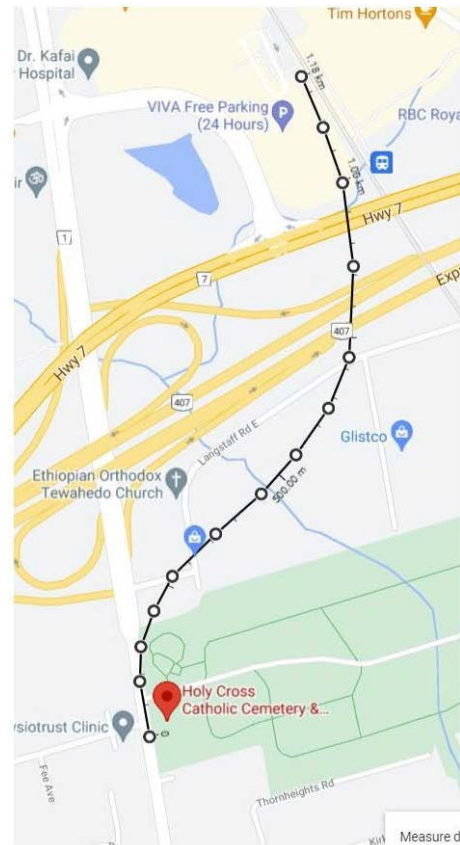
# Yonge North Subway Extension

## Transport Action Ontario Route Proposal

- Transport Action Ontario submitted a proposal with two route options. Metrolinx thoroughly reviewed the proposal and completed a technical analysis on the feasibility of the options proposed.



Option 1

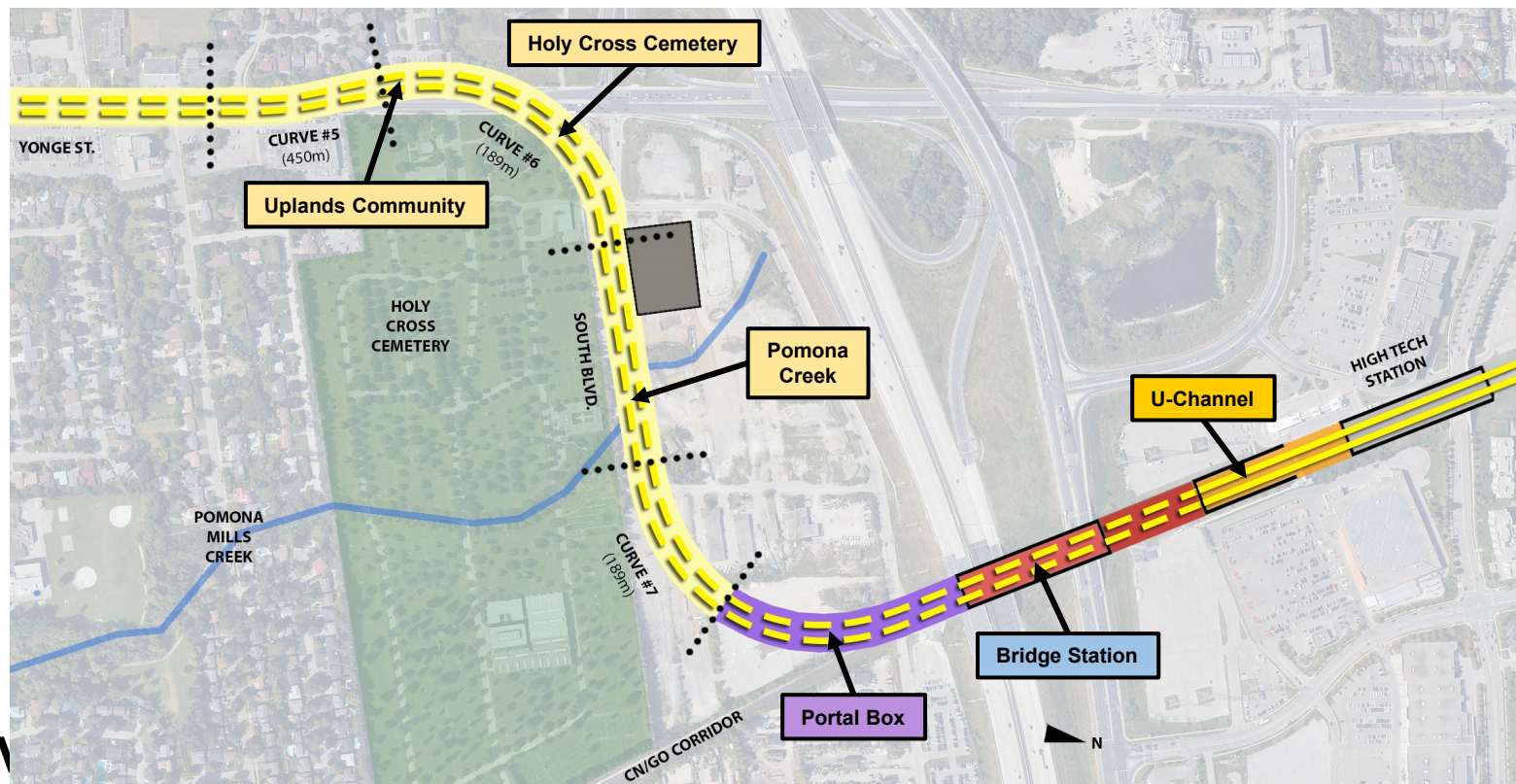


Option 2



# Yonge North Subway Extension

## Metrolinx Developed Option Based on Transport Action Ontario Proposal Option 1



## Summary of Findings – Transport Action Ontario Option 1

### Significant cost increases

- Minimum incremental total project cost of \$230 million
- Limits important benefits (e.g. fourth station and potential for additional stations)
- Reduces opportunity to create highly liveable/connected communities

### Complex and costly construction increase project risk

- Specialized tunnel boring machines and precast tunnel liners
- Partially underground Bridge Station requires underpinning/foundation modifications of Highways 407 and 7 bridges
- Pomona Creek impacts
- Relocation/protection of major utilities

### Tighter turns increase O&M costs and reduce customer experience

- Trains would need to slow down to meet TTC standards
- Reduced travel time savings
- Higher operating costs due to more wear and tear on trains and track through tight curves
- Increased noise and vibration from trains traveling on tight turns with steeper inclines

## Summary of Findings – Transport Action Ontario Option 2

- TAO Option 2 as presented does not permit a station to be constructed on the curve below the highways.
- Following the principles of Option 2 explained in the correspondence, Initial Business Case Option 2 achieves these principles and is technically feasible.
- IBC Option 2 has the alignment on Yonge Street to north of the cemetery, travels below the western portion of the Langstaff Gateway and places Bridge Station in the space between Hwy 4 and Hwy 407. The bus terminal would be located between Highways 407 and 7 and be the connector of all rapid transit services.
- Bridge Station must be an underground station to maintain highway operations
- IBC Option 2 was rigorously studied as part of the IBC and it was concluded that it did not provide a superior business case to the Reference Alignment.



# Property Needs and Process

- Our approach to compensation for subsurface rights under a property is treated the same way as if we were taking a portion of a front or back lawn. **That property has value and will be compensated for that value.**
- We have a **transparent and unbiased process** to determine fair market value through our negotiations.
- Metrolinx will work closely with property owners where Metrolinx has a property interest to answer questions and negotiate **mutually beneficial agreements.**

# Early Works - Finch Station

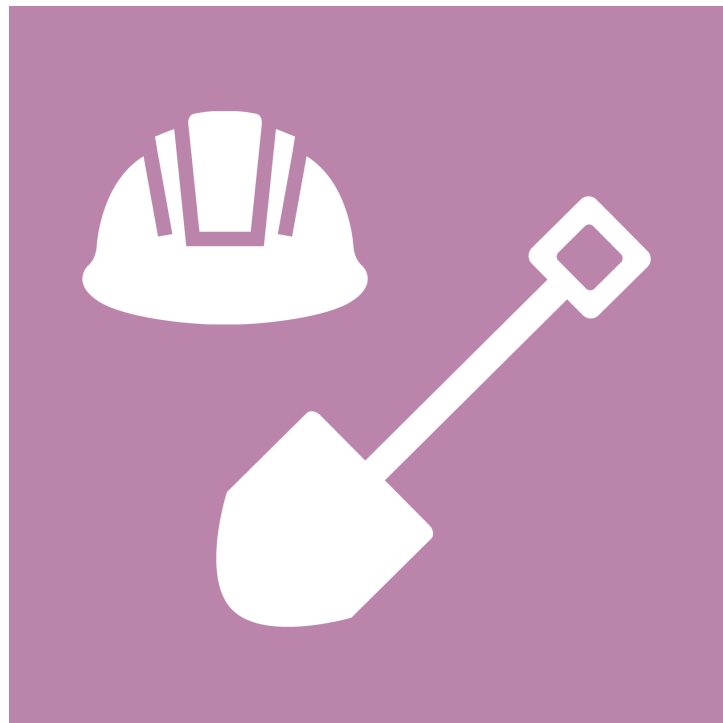
**Early works are construction activities that set the foundation for major construction to begin.**

The early works planned at Finch Station will prepare it for upgrades that will connect existing Line 1 service to the new subway extension.

We have entered into procurement for this work, with the RFQ released on December 14.

These early works include:

- Behind-the-scenes spaces upgrades where transformers and other electrical equipment are housed.
- Modifying the 'tail tracks' just north of the Finch Station platform that provide temporary parking space for subway trains while they're not in service.
- Bringing power to the rails that will extend north from Finch Station.



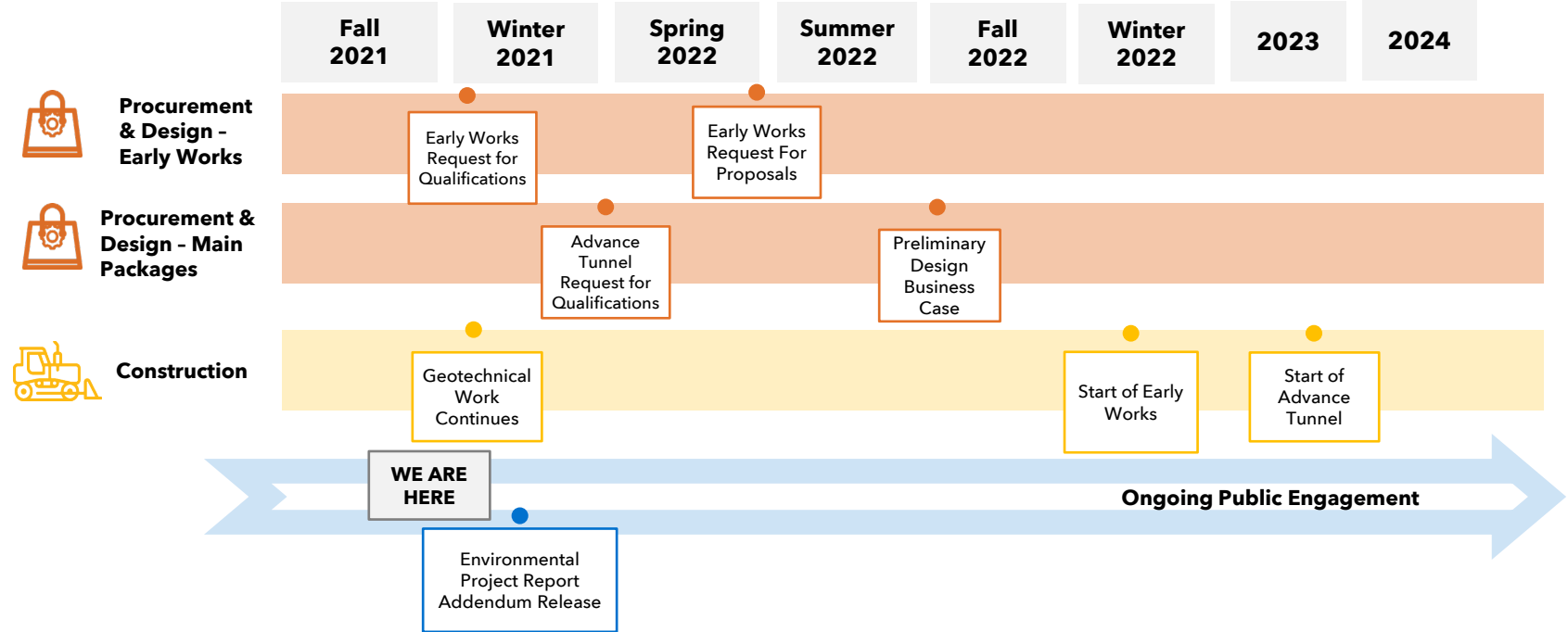
# Geotechnical Program in Royal Orchard Community

Investigations in the Royal Orchard community provide important information for the design of the future subway

- Properties of the soil and bedrock will assist in the selection of proven technology for mitigation of noise and vibration during construction and during subway operations.
- Information will be used by the tunnel, structural and civil design teams to prepare the Reference Concept Design that will form the basis of the Request for Proposal for the Advanced Tunnel Contract.
- Most of the borehole drilling in Royal Orchard is complete, we are working with property owners on the few remaining boreholes on private property.



# Project Timeline



# Noise and Vibration Studies - Early Results in Royal Orchard

- Early studies show that by using the proven technology available, vibration levels in the Royal Orchard community are predicted to be below what humans can feel.
- We estimate noise levels will be nearly imperceptible and about as quiet as the average whisper or rustling leaves in the distance.
- Ongoing studies will inform the selection of proven noise and vibration solutions in Royal Orchard.
- One of the solutions is called 'floating slab' track, which is used extensively along the western leg of the Line 1 subway extension to Vaughan.



\*Technology Example

# Public Engagement and Stakeholder Outreach

- Project postcard distributed to **30,000 homes** along alignment. Second flyer distribution underway.
- **6 virtual open house meetings: 2357 attendees, 1516 questions** answered on Mx Engage, Zoom Room, and in Teams.
- Previous virtual open house #6 was **December 16, 6:30pm**.
- **1500 notification flyers distributed, 23 stakeholder briefings, 35 elected official briefings, 15 eNews**, biweekly meetings with Communications Working Group (municipal staff), community walks, canvassing.
- Small table meetings, including **Willowdale BIA** and **Yonge Corridor Condominium Association, Royal Orchard Community Table**
- **6 Council presentations** York Region Council and municipal councils.
- Open letter from CEO Phil Verster to the Royal Orchard community, **December 15**.





## Yonge North Subway Extension

# Community Office

Metrolinx is exploring locations for a community office near the northern end of the extension. Once open, the Yonge North Subway Extension Community Relations team will be available from the community office, as well as the other usual channels.



# Noise and Vibration Mitigation Experiential Program

### Local Subway Tours and Visuals

- Infographics and posters
- Portable 'scale model' demonstration of train and track vibration isolation

### Sound Demonstrations

- Installation will offer attendees an opportunity to experience current and projected levels of sound when the subway is in operation.
- Baseline for comparison will be current noise levels experienced in the Royal Orchard and Bayview Glen Communities, in various locations within a home.
- Audio and visual demonstrations using state-of-the-art technology used internationally to test planned noise and vibration mitigation



# Share your feedback!

Thank you for taking the time to learn more about the project. Your input is vital to the work we do and will help us move the Yonge North Subway Extension forward in the best way possible.

Please visit **Metrolinx Engage** to submit your comment or question on our *Ask A Question* forum.

You can reach us anytime:

- [YongeSubwayExt@metrolinx.com](mailto:YongeSubwayExt@metrolinx.com)
- 416-202-7000
- Visit our website:  
**Metrolinx.com/YongeSubwayExt**
- Participate online:  
**MetrolinxEngage.com/YongeSubwayExt**

**We Want  
To Hear  
From You**

