Virtual Open House #5



October 20, 2021





Safety Moment





Agenda

- 1. Yonge North Subway Extension By the Numbers
- 2. Project Update Stations
- 3. Environmental Assessment Addendum
- 4. Investigative Drilling
- 5. Tunneling Construction
- 6. Property Requirements Process
- 7. Community Office and Sound Demonstrations
- 8. Question & Answer



By the Numbers



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

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Stations

Clark Station has been confirmed as the fourth stop on the Yonge North Subway Extension.

- A new station in the heart of **Thornhill** will make the regional transit network **stronger** by connecting more neighbourhoods to the Line 1 subway.
- The Province will explore innovative funding solutions and partnerships that could support **additional stations** as the project analysis is refined.
- Clark Station will create an easy transfer to **Viva Orange** bus routes that service areas like the **Bathurst-and-Centre corridor** and **Promenade Centre**, which will be home to:





Reference Alignment Improvements

We are **actively exploring refinements and improvements** to our initial designs that will further reduce community impacts.

- We're looking at how we can go **under fewer homes and even deeper**, in the northern end of the extension.
- Our goal is to ensure there are **no significant differences** between the noise and vibration levels experienced today and those experienced when the extension is in service.
- Community input is **essential** to the work we do, and we are incorporating that feedback as we advance our plans.
- Refining and improving designs as we gather more information and get more input from communities is an important - and standard - part of the planning process.



Environmental Studies Underway



Environmental Studies Underway





Archaeology

- Review of how surrounding land is used, and plans for future development
- Identify socio-economic and land use features, like:
 - Bicycle and pedestrian routes and multi-use trails
 - $\circ~$ Parks and open spaces
 - \circ Places of worship

- Review records and perform on-site research to determine areas with potential for archaeological finds
- Confirm whether there are any known archaeological sites
- Engagement with Indigenous Nations

Noise and Vibration Studies - Early Results

Early results indicate that noise and vibration will be lower than applicable thresholds at all locations near the project. For example, in the Royal Orchard community:

- Ground-borne noise levels are predicted to be no higher than the sound of background noise in a broadcast studio (29 dBA)
- Ground-borne vibration levels are predicted to be below the threshold of what the average person can feel (0.05 mm/s)

Geotechnical investigations currently underway will provide a better picture of soil conditions and how they might affect ground-borne vibration.

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EPR Addendum Look-Ahead Schedule



Ongoing engagement



Investigative Drilling

Investigative drilling is happening in the northern portion of the route.

- This work explores the soil and groundwater conditions and informs the planning and design stage for the Yonge North Subway Extension.
- These investigations are necessary to learn more about the makeup of soil and rock in the area, including the amount and location of groundwater.
- Detailed studies and consultations will help us make sure we put the right noise and vibration solutions in place.
- Work sites are on public property and the safety plan complies with all established municipal and provincial regulations under the Occupational Health and Safety Act.





How is a subway tunnel constructed?

Metrolinx uses state-of-the-art tunnel boring machines (TBMs) that carefully remove soil and rock.

The Yonge North Subway Extension will use twin bored tunnels construction with innovative technology, such as Earth Pressure Balance Shields (EPB), to help us adapt to different soil conditions when tunnelling.

These specialized tunnel boring machines will minimize any surface settlement and protect properties along the tunnel alignment.



EPB Example Technology

Minimizing Construction Impacts

Metrolinx is committed to minimizing and managing construction impacts to you and your property.

- Pre-construction surveys: non-invasive assessment of the exterior of your property completed prior to the start of our construction
 - Completely voluntary, paid for by Metrolinx
- Monitoring: noise and vibration from construction, settlement during tunneling process.

• Subway tunnels will be at least 20 metres underground in the Royal Orchard community.

3m

- Metrolinx may need to acquire some property underground to build the tunnels and support future subway service. Subsurface easements allow for the use of space under the ground, below homes.
- <u>If</u> you are an impacted property owner, Metrolinx will compensate you with fair market value for the use of your property, even though it is **deep underground**, and no space is occupied at surface level.

17m

H

Yonge North Subway Extension

~6m

20m

Over 20 metres depth from ground surface to bottom of tunnel

~6m

Property Compensation Process

- We strive to limit the amount of property we need to support the construction of transit infrastructure.
- If Metrolinx confirms that your property is needed, you will receive written notification directly from us. Our commitment is to ensure that **owners and tenants do not experience a financial loss**.
- Metrolinx will work with property owners to answer questions and negotiate **mutually beneficial agreements** to buy the required property.
- You can expect to be compensated at a price you could receive through a sale at **fair market value**.
- We have a **transparent and unbiased process** to determine fair market value through our negotiations. Metrolinx uses a third-party appraisal expert to estimate property value.
- Residents can also **complete their own appraisal** to determine or confirm fair market value, for which Metrolinx will provide compensation.

Project Timeline



* Procurement and construction milestones are subject to government approvals

Community Office

Metrolinx is exploring locations for a community office near the Royal Orchard community. 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

Visuals

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

Sound Demonstrations

- Listening Room for ground-borne sound from subway operations
- Headphone-based demonstrations of at-grade operations sounds







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Sound Demonstrations

Community Office 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-ofthe-art technology used internationally to test planned noise and vibration mitigation.







* Examples from Perth Airport

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:

- <u>YongeSubwayExt@metrolinx.com</u>
- 416-202-7000
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