Safety Moment
Yonge North Subway Extension

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

  - 11,000+ people
  - ~6,000 jobs
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.
# Yonge North Subway Extension

## Environmental Studies Underway

### Natural Environment
- Plant inventories
- Fish and fish habitat assessments
- Bird surveys
- Wildlife habitat assessments
- Species at risk surveys

### Cultural Heritage
- Research and document historical homes and properties
- Surveys of buildings, areas and features (landmarks) with potential heritage significance

### Air Quality
- Review data from air quality monitoring stations
- Identify places sensitive to air quality issues, like:
  - Schools
  - Hospitals
  - Care facilities
- Predict air quality based on potential changes the project will bring

### Noise and Vibration
- Measure and document current levels of noise and vibration
- Identify places sensitive to noise and vibration, like:
  - Residences
  - Schools
  - Hospitals
  - Care facilities
- Investigate potential solutions

### Traffic
- Review of potential impacts to traffic during construction and operations:
  - Automobile traffic and transit services
  - Pedestrians and cyclists

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Environmental Studies Underway

**Land Use and Socio-Economic Impacts**
- 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
  - Parks and open spaces
  - Places of worship

**Archaeology**
- 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

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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.
Yonge North Subway Extension

EPR Addendum Look-Ahead Schedule

EPR Addendum Preparation
- Spring/Summer 2021
  - Document existing conditions
- Fall 2021
  - Impact assessment
  - Prepare EPR Addendum

EPR Addendum Review
- Winter 2022
- Spring 2022
  - Public Review of EPR Addendum
  - Notice of Updated EPR Addendum
  - MECP Minister’s Review of Updated EPR Addendum
  - Up to 65 Days
  - Up to 35 Days

Notice of EPR Addendum
- Ongoing engagement
- Up to 65 Days

Notice of Updated EPR Addendum
- Up to 35 Days

Statement of Completion - 2009 EPR
- Design changes identified

- Ongoing engagement
- Up to 35 Days

METROLINX
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.
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.

- 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.

- If 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.
Yonge North Subway Extension

**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.
Yonge North Subway Extension

Project Timeline

March 2021

April 2021

Spring/Summer 2021

Fall 2021

Winter/Spring 2022

Summer/Fall 2022

2023

2024

Procurement & Design - Early Works

Procurement & Design - Main Packages

Construction

Geotechnical Work Begins on Alignment

WE ARE HERE

Environmental Project Report Addendum Release

Release of Initial Business Case - Engagement Begins

Ongoing Public Engagement

* 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.
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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

* Examples only
Yonge North Subway Extension

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-of-the-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:

- YongeSubwayExt@metrolinx.com
- 416-202-7000
- Visit our website: Metrolinx.com/YongeSubwayExt
- Participate online: MetrolinxEngage.com/YongeSubwayExt