

Finch West LRT

# Virtual Open House Project Progress

May 15 - 19, 2023

 METROLINX



# Metrolinx Land Acknowledgement

Let us take a moment to acknowledge we are on lands that have been, and continue to be, home to many Indigenous Peoples including the Anishnabeg, the Haudenosaunee and the Huron-Wendat peoples.

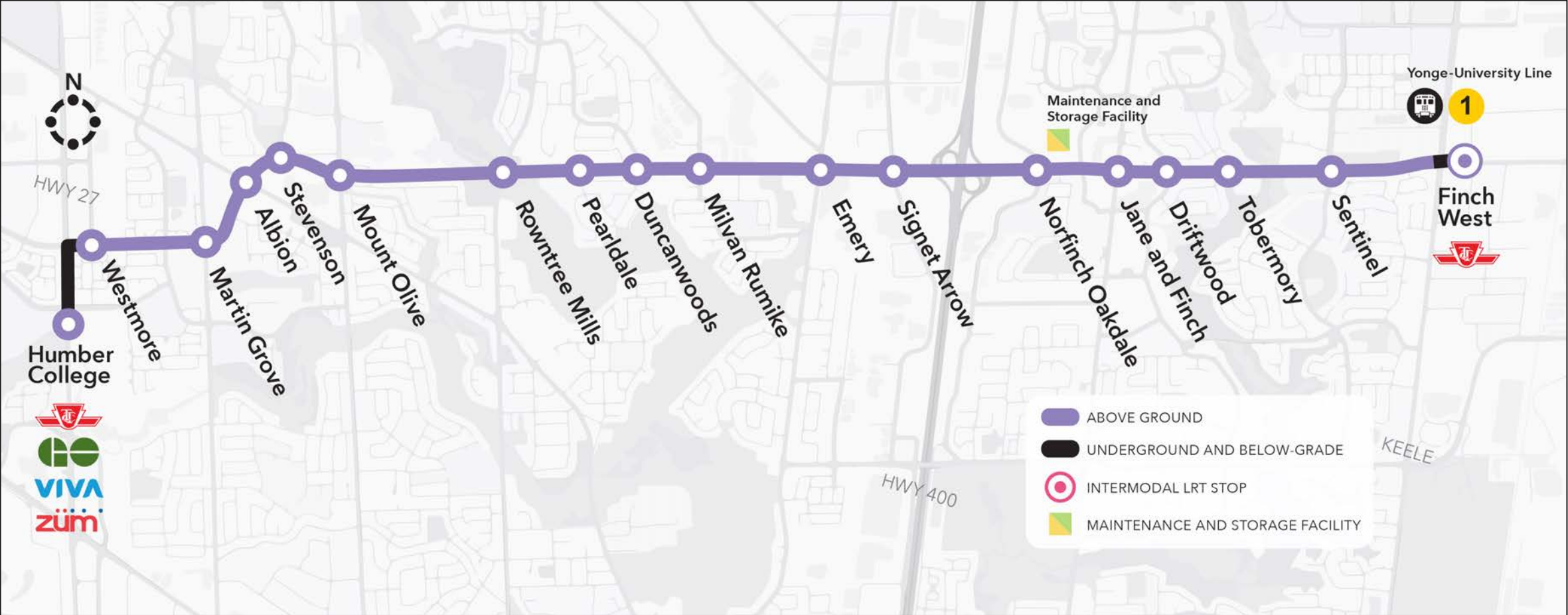
We are all Treaty people. Many of us have come here as settlers, as immigrants or involuntarily as part of the trans-Atlantic slave trade, in this generation, or generations past.

We acknowledge the historic and continued impacts of colonization and the need to work towards meaningful reconciliation with the original caretakers of this land.

We acknowledge that Metrolinx operates on territories and lands covered by many treaties that affirm and value the rights of Indigenous communities, Nations and Peoples.

We understand the importance of working towards reconciliation with the original caretakers of this land. At Metrolinx, we will conduct business in a manner that is built on a foundation of trust, respect and collaboration.

# Finch West LRT Route



# Project Scope





# Key Project Facts

Community Improvements	 Utility and Road infrastructure relocations	 Highway 400 and Humber College bridge rehabilitation	 Planned streetscapes and landscaping	 8 LRVs every hour at peak times, improving access to work or recreation
Social Benefits	 Less travel time Increased reliability	 Accessible platforms	 Connected to existing transit providers	 Cycling infrastructure for safety and convenience

# Safety

# Your Safety is Our Priority

- Signs and wayfinding maps to help people travel safely
- Concrete and orange safety barriers installed at all work zones
- Mirrors and warning signs for construction vehicles
- Use of paid duty officers and flaggers where appropriate
- Safety materials, such as newsletters, brochures and notices are frequently distributed to the Finch West community



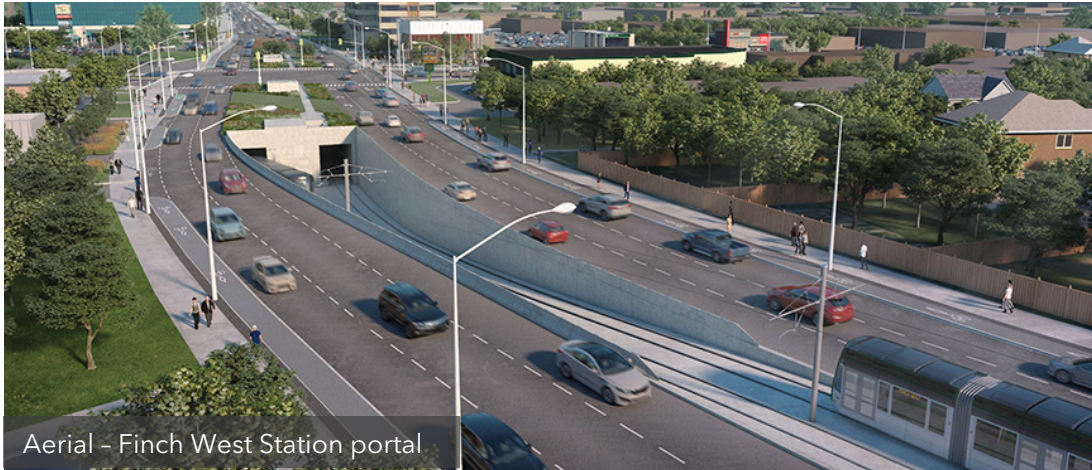
# Finch West Station



# Finch West Station Renderings



Entrance exterior



Aerial - Finch West Station portal



Finch West Station, lower concourse



# Finch West Station

- Steel and concrete structural works completed in January 2023
  - 20,000 m<sup>3</sup> of concrete was used for structural works
  - 120,000 kg structural steel
  - 200,000 m<sup>3</sup> of excavated soil
- Masonry works completed in April 2023
- Two elevators and four escalators installed
- Pedestrian tunnel/walkway links Finch West Station to TTC Line 1





**Late Fall 2022**

Finch West Station steel structure is complete



**Spring 2023**

Interior works at Finch West Station



# Maintenance and Storage Facility



# Maintenance and Storage Facility



Building exterior and yard



Maintenance bay



Exterior - Handover platform and yard



# Maintenance and Storage Facility

- A 10,000 square metre facility with capacity for 26 LRVs, and is the operations and control centre to the Finch West Light Rail Transit (LRT)
- Stores light rail vehicles and houses shops for service, repair, wash and inspection
- Includes a main shop, wash facility, material storage building, administration office and 122 parking spots
- Designed and constructed to meet LEED Silver Certification and has a green roof covering 45% of its surface area
- Located at 50 York Gate Boulevard, on the northwest side of Finch Avenue West between Jane Street and Norfinch Drive



# Highway 400



# Highway 400

- Site of the rapid-bridge replacement in June 2020
- Multi-Use Pathway (MUP) construction in final stages
- North and south on and offramp works complete, including new asphalt and paving
- New traffic signals and streetlights installed at Highway 400 and Finch Avenue West intersection at the northbound offramp





# Multi-Use Pathway

# Multi-Use Pathway (MUP)

- Pathway is located between Norfinch Drive and Weston Road
- MUP tunnel allows pedestrians, cyclists and other users to go under the southbound onramp to Highway 400
- 18 precast concrete sections installed to create the MUP tunnel
- Each section weighs 39,525 kg, totalling 712 tonnes
- Features anti-graffiti measures, drain works and a lighting system



# Humber River Bridge

# Humber River Bridge

- Located at Islington Avenue and Finch Avenue West
- Bridge was raised 6 mm to make improvements and refurbishments while keeping it open, allowing vehicles and pedestrian traffic to pass over it during construction
- Duct bank installation underneath the bridge was completed for the guideway over the bridge



# Overhead Catenary System



# Overhead Catenary System

- The Overhead Catenary System (OCS) provides power to the light rail vehicles (LRVs)
- The OCS derives its power from the nine Traction Power Substations (TPSS) across the alignment
- There will be 477 OCS poles installed on the Finch West LRT, 340 poles are in place





# Humber College Station

# Humber College Station Renderings



Entrance exterior



Entrance interior



Humber College Station platform



# Humber College Station

- A below-grade station located on the southwest corner of Highway 27 and Humber College Boulevard
- Steel and concrete structural works completed in January 2023
  - 20,000 m<sup>3</sup> of concrete
  - 650,000 kg structural steel
  - 66,000 m<sup>3</sup> of excavated soil
- Fully integrated with Humber College and other transit services
- Constructing a new 200 m sheltered walkway from the station to Humber College campus



# Light Rail Vehicle Testing

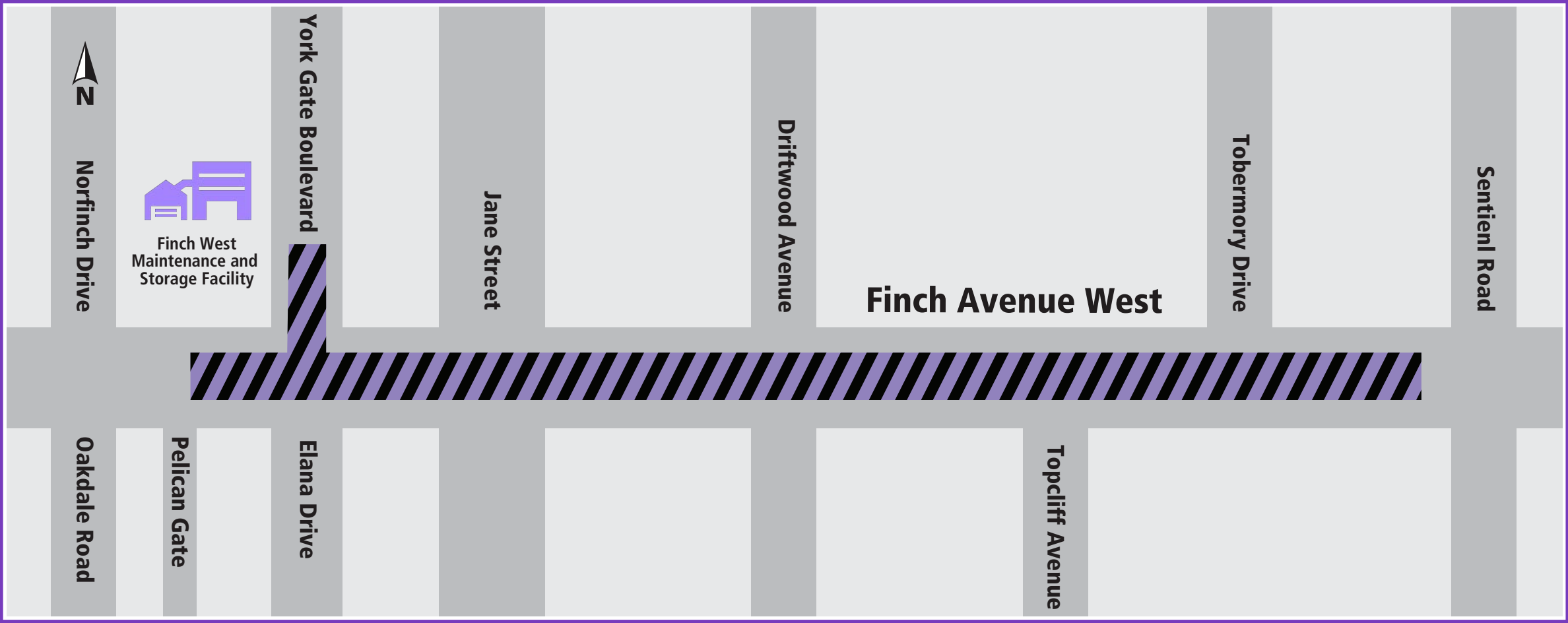


## Light Rail Vehicles & Testing

- 18 light rail vehicles (LRVs) will be onsite at the Maintenance and Storage Facility by Summer 2023
- Each LRV weighs 81,000 kg and must go through and successfully complete rigorous tests before being certified
- Testing takes place in the MSF yard and guideway “burn-in” track between Pelican Gate and Sentinel Road
- “Burn-in” testing requires 600 km of movement, and speeds between 5 - 60 km/h
- TTC operator training and certification to begin soon



# Guideway "Burn-in" Track Location





# Utility and Roadworks

## Utility and Roadworks

- Road widening, curbing, driveways, road, bike lane paving and sidewalk construction are underway
- Permanent traffic signals poles and lights are being installed
- Installing power, telecom, fiberoptic cables, and wiring systems in the guideway and manholes
- 41 manholes were refurbished to support updated cabling infrastructure



# Guideway Construction



# Guideway Construction

- LRVs operate on the guideway, located in the centre of the road and comprised of LRV track and stops
- The guideway houses critical infrastructure including overhead catenary system poles and power cables. A duct bank beneath the surface contains cables in conduits, and the track slab above holds the rails
- Finch West LRT teams made significant progress on the guideway throughout the past year
- As of May 2023:
  - 95% of the guideway is under construction
  - 94% of duct bank complete
  - 90% of track slab finished
  - 51% of rail installed





# Pedestrian Guideway Safety

Finch West Light Rail Transit

## Energization of Overhead Wires

Overhead wires for the Finch West Light Rail Transit system have been energized. The cables contain a large amount of electricity and can be dangerous if encountered. Make sure to stay away from live wires. Only cross at marked intersections, stay off tracks and always obey traffic signals.



 **METROLINX**

- Overhead wires for the Finch West Light Rail Transit system are energized
- The cables contain a large amount of electricity and can be dangerous. Stay away from live wires
- Cross only at marked intersections, stay off tracks and always obey traffic signals
- Do not jaywalk or trespass across or along the tracks
- Public safety messages inform the public of the danger and how to stay safe

# Stations and Stops



## Stations and Stops

- There are 18 stops on the Finch West LRT, 16 surface canopy covered platforms, and 2 stations below ground
- There are 3 types of surface stops:
  - Mirrored: Eastbound and westbound platforms face each other across the rails
  - Island: Eastbound and westbound stops share a platform between the rails
  - Near-Far: Eastbound and westbound stops are located on different sides of an intersection



# Traction Power Substations



# Traction Power Substations

A Traction Power Substation (TPSS) converts commercial alternating current electricity into the direct current power used by LRVs.

- All 9 TPSS are installed. Each contains 27.6 kV, enough to power 52 homes. They provide energy to the LRVs, the station, stops, and OCS
- Substations contain high-voltage equipment, are restricted to authorised personnel and are inspected every 6 - 12 months





# Environment

# Environment

- Planting 5,306 plants, including 275 trees
- Green roof at the MSF covering 45% of the roof
- Teams dedicate time and resources to protecting environmentally sensitive areas including nesting birds
- Installed water runoff system called “StormBrixx” which controls storm and runoff water, gradually releasing it into a culvert
- Excavated soil is cleaned and repurposed
- Recycled approximately 5,000 pounds of Polyvinyl Chloride (PVC) pipe scrap in 2022



# Community Benefits



# Community Benefits

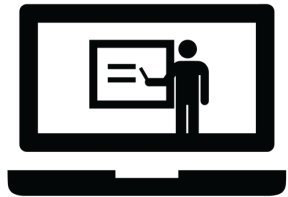
**At the end of December 2022, activities to provide local employment and investment opportunities through the Finch West LRT Project resulted in:**



**Total Hiring 2018 - Q4 2022:  
1446 Labourers/helpers, 222  
Apprentices, 238 Journey people**



**Total Hiring 2018 - Q4 2022:  
26 Professional, Administrative,  
Technical staff**



**Over 72+ community engagement  
events and meetings in 2022**

**\$19.1+  
million**

**Total community spend  
2018 to Q4 2022**

## **Our constructor, Mosaic Transit Group, is:**

- Increasing access to employment, training and business opportunities to local communities and equity deserving groups
- Supporting local schools and BIAs through various outreach, donations and sponsorships
- Attending community and business events and career fairs to engage with residents from the area, including DUKE Eats, Yorkgate Mall holiday events, York University career fair, plus much more

# What is Happening in 2023

# What is happening in 2023!

Location	Key Activities
Finch West station and Humber College station	<ul style="list-style-type: none"> <li>• Excavation complete</li> <li>• Structural steel and concrete works are complete</li> <li>• Elevators and escalators installation will be complete</li> <li>• MEP, HVAC and masonry works will be complete</li> <li>• Interior and exterior works including cladding and glass pane installation will be complete</li> </ul>
Across Finch Avenue West	<ul style="list-style-type: none"> <li>• Utility, road, and boulevard works will be complete</li> <li>• Canopy and cabinet installation at stops will be complete</li> <li>• All Overhead Catenary System (OCS) poles will be installed</li> <li>• All 9 Traction Power Substations are installed and will start receiving, storing and providing power to the LRT</li> <li>• LRV testing on the Guideway “burn-in” track from Pelican Gate to Sentinel Road will conclude</li> </ul>
Maintenance and Storage Facility (MSF)	<ul style="list-style-type: none"> <li>• Final testing and commissioning of LRVs</li> <li>• Permanent office space will open to Metrolinx and TTC personnel</li> </ul>
LRV Fleet	<ul style="list-style-type: none"> <li>• All 18 LRVs will be onsite by summer 2023</li> </ul>
Guideway works	<ul style="list-style-type: none"> <li>• Guideway, duct bank, track slab and rail installation is scheduled for completion</li> </ul>



