

Ontario Line – Rolling Stock, Systems, Operations & Maintenance (RSSOM) Project



Americas Transport

The RSSOM project is one of several contracts to deliver the Ontario Line, a 15.6-kilometre-long standalone rapid transit line that will connect the Ontario Science Centre to Exhibition/Ontario Place with 15 stations and more than 40 connections to existing transit options along the route.

The RSSOM scope of work includes a design and construction and a 30-year operations and maintenance phase that includes the following commitments:

- Design, supply, operate, and maintain the fleet of autonomous, electrically powered trains with sufficient capacity to accommodate anticipated ridership over the term of the contract.
- Design, build, operate, and maintain all track and communications (e.g., network, Wi-Fi, CCTV, passenger information) and train control systems for the Ontario Line.
- Design, build, operate, and maintain the maintenance and storage facility (where vehicles are stored) and the operations control centre (where staff control train operations).

Project facts		
Location Toronto, Ontario, Canada	Client Metrolinx	Value C\$9 billion
Consortium Connect 6ix	Plenary Americas' role Lead developer Equity investor	Developer Hitachi Rail Webuild Group Transdev Canada
Construction Hitachi Rail IBI Group Professional Services	O&M and Rehabilitation Hitachi Rail Transdev Canada	Financial close date November 2022
Completion date 2031	Contract terms 30 years, DBFOM	Project website www.metrolinx.com/ontario-line

Design features

Rolling Stock and Systems:

The RSSOM project will deliver a fully driverless metro system with GoA4 grade automation using proven technologies that have been implemented in systems across diverse geographic regions such as Riyadh, Lima, Milan, Rome and Copenhagen. The unique train design focuses on the passenger experience and incorporates features such as open gangways to allow free passenger movement throughout, an integrated passenger visual information system, onboard Wi-Fi, accessibility features, and platform edge doors.

To support the fleet, Connect 6ix will deliver a fully integrated systems package including all power systems, overhead contact system, platform edge doors, signalling, communications, and security, supervisory control and data Acquisition (SCADA).

Maintenance and Storage Facility (MSF) and Civil Works:

The RSSOM project includes the design and construction of a LEED Silver-certified building which will serve as the command centre for all Ontario Line operations and maintenance activities. The OMSF campus will include a maintenance building, a washing plant, a maintenance of way building, a test track, a stabling yard, a traction power substation building, a step-up substation building and two operations control centres with one acting as a backup to provide operations with critical redundancy if one goes down. The OMSF will be capable of accommodating an expanded fleet to meet the growing needs of Toronto and the surrounding region. The RSSOM project includes all trackwork and guideway fit-out throughout the entire alignment.

Financing highlights

- More than \$800 million of medium-term and long-term bonds issued under a Green Bond Framework.
- More than \$650 million of revolving credit facility debt borrowed under a Green Loan Framework from a bank syndicate of domestic, Japanese, Korean and European banks with competitive pricing.
- Term loan from the Japan Bank for International Cooperation.
- BBB+ rated debt by S&P which led to an over-subscribed long-debt offering with investor interest from across the globe.

[View the Green Bond Framework](#)

[View the Green Financing Framework](#)

[View the Second Party Opinion](#)



Local economic impacts

The Ontario Line Subway System will bring significant benefits to the local communities and economy through:

- Faster, more frequent, and reliable access to rapid transit;
- Improving the quality of life for commuters by reducing daily travel time;
- Reducing crowding on the existing Line 1 (Yonge-University) TTC subway;
- Accessibility to nearly 47,000 more jobs within 45 minutes or less, on average; for lower-income residents, up to 57,000 more jobs accessible within 45 minutes or less;
- Economic and community growth along the future transit line; and
- Reduction in traffic congestion, greenhouse gases, and fuel consumption by providing an alternative transportation option.

Connect 6ix anticipates that its work on the RSSOM contract will support an estimated 800 jobs, with the majority of jobs to come from the Greater Toronto Area.

Community benefits

The RSSOM Project will help realize a number of community benefits:

- Strong Connections: expanding transit coverage to more communities to increase access to key destinations and economic opportunities.
- Complete Travel Experiences: improving travel time, comfort, and reliability for riders on currently congested routes, such as Line 1, and for new riders who shift to rapid transit.
- Sustainable and Healthy Communities: moving more people more quickly using less energy and reducing the negative impacts of the transportation network by shifting trips to more sustainable modes and reducing traffic congestion.