

CASE STUDY METROLINX SAFETY ASSESSMENT



As Canada's first ever accredited Independent Safety Assessor, Ricardo will help ensure safety remains integral to the design stages of a major urban transit upgrade programme.

The 'GO Expansion' scheme is one of the largest transit investment programmes ever seen in Canada. It will deliver faster and more frequent services on the seven-line commuter network that serves the Greater Toronto and Hamilton Area (GTHA).

CHALLENGE

Metrolinx is a crown agency of the government of Ontario with responsibility for GO Transit, the regional rail and bus network across GTHA.

The rail network consists of seven lines operating out of Toronto's Union Station, served by an aging fleet powered by diesel locomotives. Infrastructure limitations have imposed a variable timetable across the region, with traffic oriented towards peak rush hour direction.

Metrolinx has embarked on a complex, multi-faceted programme of works to upgrade the entire network. Modern rolling stock will be introduced, along with new track sections, a new safety and signalling system, bridge upgrades, station improvements and more than 650km of electrification. Ricardo has been appointed as the Independent Safety Assessor for the design stage and will ensure work progresses in compliance with relevant standards.

Client

Metrolinx

Start date

05/2022

Country

Toronto and Hamilton, Canada

APPROACH

We were the first organisation to be accredited to ISO/IEC 17020:2012 under Canada's new Independent Safety Assessor for Railway Systems Accreditation Program.

As the accredited ISA, our teams will assess whether Metrolinx and its ONxpress Transportation Partners have developed relevant safety documentation – including the system definition, system safety plan and safety case – in full compliance with standards such as the Canadian Method for Risk Evaluation and Assessment, and EN50126, the international standard for the specification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS) for railway applications.

RECOMMENDATIONS

An Independent Safety Assessment encompasses the safety assessment and audit of any design, manufacture, installation, testing and safety documentation for the engineering systems. It can also extend to procedures, preparations and safety policies ahead of a railway's entry into service or a product's release to the market.

By demonstrating that all safety aspects have been subjected to rigorous oversight by a third party - one with no financial interest or connection to the project – project managers are sending a reassuring message of transparency to passengers, regulators, investors and employees.

RESULTS

Ricardo's previous experience of undertaking safety assessments on systems around the world will ensure Metrolinx benefits from proven best practice and lessons learnt from similar upgrade programmes.

The outcome will be a significant increase in rail services across GTHA, from 1,500 (2019) trains per week to over 6,000, with services operating at least every 15 minutes.

The new fleet is also forecast to deliver a 50% reduction in operating costs per kilometre.



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