



**Future Ready  
Case Study**

# GO Transit Train Control System

## Project Overview

The Metrolinx GO Transit Train Control System (GTCS) project is a modern, state-of-the-art train control system which will integrate the control of Metrolinx's Rail Signalling Systems in the GO Transit Rail Network into one central control centre. This design-build project will modernize the train control system owned by Metrolinx while providing enhanced dispatching functionality and improving operational efficiency by optimizing Rail Traffic Controller workload to improve capacity and throughput. WSP is a part of the Alstom Team that was awarded this \$160M contract for the implementation of a System for Control and Management of all GO Transit Rail Territory, which goes hand-in-hand with the ongoing USRC Signalling System Project, in which WSP is also involved.

## What innovations and future trend(s) did we consider?

- Big Data becoming more popular as technological progression and growth of computational power allows data tracking to provide accurate and detailed information on users
- Urban growth led by population growth and migration to urban areas

## How were they considered?

### Big Data

The GTCS project considers the Big Data trend through its data tracking capabilities, providing a wealth of information on ridership, traffic, and individual travel behaviours and interests.

The control center technology will integrate the GO Transit network into a single, centralized facility featuring advanced traffic control and operations management functionality. The system will provide Metrolinx with a comprehensive view of GO Transit's entire 280-mile rail network as well as the ability to optimize train movements.

The communication system is also being modernized for future compatibility.

## Urban Growth

The control centre is prepared for network expansion, which will be inevitable given population growth trends. The equipment that is designed for is required to have at least 30% spare capacity for future work. It will allow for more frequent trains and service, and the integration of buses in the future, providing for a seamless passenger experience.

## How was our approach better?

After Future Ready elements were introduced, the project scope evolved from a simple controller dispatch system into a fully integrated control centre with allowance for future expansion.

The big data component of the GTCS project is a huge benefit for future planning. The information collected will provide the opportunity to leverage data for future planning.

The system itself is also designed to support growth, with wireless communication to support the latest technologies. The consideration of future bus integration will eliminate the need for the system to be revamped when buses are added. The system is prepared for the future to prevent costly rework. These factors all come together to position the GTCS project as future ready.

## The outcome

The data collected through the GTCS system will be invaluable for predictions of future travel patterns. The data collected now will be powerful for analysis to be considered when looking at where the future of the GTHA's transit network will be headed. This will support the population growth and allow for better decision making, ultimately benefiting both Metrolinx and its passengers.

## For more information:

Paul.Nimigon@wsp.com