



Backgrounder

July 16, 2009

THE CN KINGSTON SUBDIVISION

Canada's Steel Speedway

ABOUT THE PROJECT:

VIA's two-year CN Kingston Subdivision Project, valued at more than \$300 million, will greatly expand the capacity of what is one of North America's most heavily used and fastest rail lines. It will relieve congestion at key locations on this double-track line and smooth the flow of time-sensitive VIA passenger and CN freight traffic. This will allow for the addition of new passenger services and assure on-time performance by both railways.

The Kingston Subdivision Project will build on the improvements underway or soon to begin on other segments of VIA's Quebec-Windsor Corridor, which generates about 90% of VIA's ridership and revenue. The project is also strategically linked with the current rebuilding of the locomotive and rolling stock fleets.

This work is all part of an unprecedented \$923 million capital investment by this government – including \$407 million under the Economic Action Plan – to improve and expand VIA's safe, cost-effective and environmentally-friendly passenger rail service.

Phase I of VIA's CN Kingston Subdivision Project includes:

- **Additional main line track**

Sections of third main line track will be added to the existing double-track line west of the Brockville station, between Mallorytown and east of Gananoque, from Napanee West to the Belleville station, between Grafton and the Cobourg station, and at Oshawa. With this additional track, three or more trains – VIA passenger and CN freight – will be able to safely and quickly overtake or pass each other without stopping. A fourth track will be built at Belleville to further expand capacity at this busy station.

As well, additional remotely-controlled crossovers and signalling that allow trains to move quickly from one main track to another will be installed at various locations. Warning systems will be modified and upgraded at all public road level crossings within these areas.

- **Expanded freight siding and yard track**

In the Greater Montreal Area, sidings and yard tracks at Turcot, Les Cedres and Coteau will be extended and rearranged so CN freight trains may stop to perform work without blocking the main line.

At Brockville, Belleville, Cobourg and Oshawa, new island platforms will be built between the tracks. These will eliminate the need for all trains to cross over to one side of the main line to board or disembark passengers at the current station platforms. The new platforms will be connected with the stations by fully-accessible bridges or tunnels, so passengers will not have to cross the tracks.

ABOUT THE PROJECT'S BENEFITS:

The main transportation benefit of the first phase of VIA's CN Kingston Subdivision Project will be the creation of enough capacity to safely and efficiently handle two additional daily roundtrips on the Montreal-Toronto and Ottawa-Toronto routes, as well as further additions to the Montreal-Ottawa service.

Additional departure and arrival times – as well as assured on-time performance – are key factors in encouraging more travellers to choose environmentally-beneficial passenger rail for journeys within and beyond VIA's Quebec-Windsor Corridor. Trains emit only one-third the greenhouse gases per passenger of intercity automobiles and planes.

The VIA Kingston Subdivision Project will also stimulate much new economic activity and job creation. To date, CN has hired 100 workers to undertake this project on behalf of VIA. Additional jobs will be created throughout the two-year span of the project. The project will also generate additional economic activity and employment for those private firms supplying track, signal and construction materials and services to VIA and CN.

ABOUT THE LINE:

The CN Kingston Subdivision – over which VIA operates its most frequent and fastest trains – was built by the pioneering Grand Trunk Railway (GTR) as part of a scheme with two major objectives. First, it would link the largest cities and towns of British North America with a flat and direct route along the shores of the St. Lawrence River and Lake Ontario. The GTR's promoters accurately described it as “the Canadian Main Line.”

Equally important, it would be an international line providing the shortest and fastest route from the U.S. railway hub of Chicago to the ice-free Atlantic seaport of Portland, Maine. The Toronto-Montreal section was at the heart of this system.

Incorporated on November 10, 1852, the GTR's Canadian and British investors aimed to create a railway that would exert the same nation-building influence as the Roman Empire's trunk roads – hence its name. Its construction was a combination of Canadian and British railway “know-how.” When the Toronto-Montreal section was opened on October 27, 1856, the inaugural train of one

wood-burning steam locomotive and seven cars took 14 hours to traverse the route at an average speed of 50 km/hour – a far cry from the 160 km/hour service of today's VIA passenger trains.

Today, the CN Kingston Subdivision is a 539-kilometre double-track line linking Montreal Central Station with Toronto Union Station and numerous important intermediate stations. The Scarborough-Union Station section was triple-tracked in 2008 with federal and provincial funds for expanded GO Transit commuter rail service.

The CN Kingston Subdivision consists of track built with high-strength steel rails rolled in specialized mills in Canada, the U.S. and Germany, which weigh 132 to 136 pounds per yard (Canada's railways continue to use Imperial units of measure in order to match the standards employed continent-wide). The 78-foot rail sections are welded into continuous lengths – often referred to as “ribbon rail” – a quarter-mile or more in length. This continuous welded rail largely eliminates the romantic “clickety-clack” sound of old, but it is smoother and less maintenance intensive than jointed or bolted rail.

The rail is positioned and held in place under the tremendous dynamic and lateral forces of the trains with steel tie plates and rail anchors, and then spiked to treated hardwood crossties. The ties are spaced 22” apart, requiring 3,110 ties per mile of single track. The track is laid to the standard gauge of 4' 8½” between the railheads. This track structure is built on top of a three-part roadbed that consists of a layer of clean earth sub-grade, gravel sub-ballast and crushed rock ballast on top.

One mile of main line track on the CN Kingston Subdivision requires 240 tons of rails, six tons of spikes, 63 tons of tie plates and 2,730 tons of ballast. Building a single-track section without bridges or diverging track switches costs about \$3 million per mile.

The mix and density of rail traffic that operates over this robust track structure is among the most complex in North America. Over various segments of the route, it accommodates everything from VIA's 160-km/hour passenger trains to 100-km/hour CN trains carrying various types of freight to the 120-km/hour commuter trains of Toronto's GO Transit.

In total, the various segments of the CN Kingston Subdivision are traversed on a typical weekday by as many as 130 trains, including:

- 36 VIA intercity passenger trains;
- 22 CN freight trains; and
- 72 GO Transit commuter trains.

Due to the speed, length and weight differences between intercity passenger and freight trains, the most complex section of the line is between Kingston and Pickering Junction, where the majority of CN trains diverge on to the freight bypass line that takes them north of Toronto to the city's main hump classification yard in Maple. GO's Oshawa-Toronto commuter trains enter the Kingston Subdivision here, using a parallel GO-exclusive line from Oshawa to this busy junction point. GO's Stouffville commuter trains enter the Kingston Subdivision farther west at Scarborough Junction.

Operations on the Kingston Subdivision are directed by computer-assisted Centralized Traffic Control under the direction of rail traffic controllers (RTCs) at CN's Rail Traffic Control Centres in Toronto and Montreal. Train movements are governed by signal indications and radio instructions from the RTCs.

ABOUT VIA'S QUEBEC-WINDSOR CORRIDOR:

VIA's 1,150-kilometre Quebec-Windsor Corridor serves the most densely populated and industrialized area of the country, which is home to more than half of Canada's population. The corridor is at the heart of VIA's 12,500-kilometre transcontinental route network, generating more than 3.5 million trips annually and accounting for nearly 90% of the corporation's ridership and revenue.

VIA's Quebec-Windsor Corridor services include five primary routes:

- Quebec-Montreal;
- Montreal-Ottawa;
- Montreal-Toronto;
- Ottawa-Toronto; and
- Toronto-Windsor.

Two additional connecting routes within this region extend VIA's reach to cities such as Kitchener-Waterloo, Stratford, Sarnia and Niagara Falls.

More than 400 of VIA's 503 weekly passenger trains operate on the five main corridor routes every week. The Montreal-Toronto route is the most frequent in the VIA network, offering travellers six weekday departures from its end terminals. Residents of the City of Kingston – who are also served by VIA's Ottawa-Toronto trains – have a choice of 11 convenient departure times for points west to Toronto.

Three railways own the lines over which VIA's Quebec-Windsor Corridor trains operate. VIA owns, maintains and operates three key segments of the Quebec-Windsor Corridor: Coteau-Ottawa, Ottawa-Smiths Falls and Chatham-Windsor. The Smiths Falls-Brockville line is owned by Canadian Pacific and all the other lines belong to CN. VIA reimburses CN and CP for the use of their line segments, which are shared with those railways' freight trains.

ABOUT VIA RAIL CANADA:

As Canada's national rail passenger service, VIA Rail Canada's mandate is to provide efficient, environmentally sustainable and cost-effective passenger transportation, both in Canada's business corridor and in remote and rural regions of the country. Every week, VIA operates 503 intercity, transcontinental and regional trains linking 450 communities across its 12,500-kilometre route network.

The demand for VIA services is growing as travellers increasingly turn to train travel as a safe, hassle-free and environmentally responsible alternative to congested roads and airports. In 2008,

VIA safely transported 4.6 million passengers – the most since 1989 – and set an all-time record of \$299 million in revenue.

ABOUT CN:

The Canadian National Railway Company and its operating railway subsidiaries span Canada and mid-America, from the Atlantic and Pacific oceans to the Gulf of Mexico. CN serves the ports of Vancouver, Prince Rupert, B.C., Montreal, Halifax, New Orleans, and Mobile, Ala., and the key metropolitan areas of Toronto, Buffalo, Chicago, Detroit, Duluth, Minn./Superior, Wis., Green Bay, Wis., Minneapolis/St. Paul, Memphis, and Jackson, Miss., with connections to all points in North America. CN shares are listed for trading on the Toronto Stock Exchange under the symbol “CNR” and on the New York Stock Exchange under “CNI.”

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