



REGION OF WATERLOO

**PLANNING, HOUSING AND COMMUNITY SERVICES
Transportation Planning**

TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: January 10, 2012

FILE CODE: T16-50

SUBJECT: FEDERAL/PROVINCIAL HIGH SPEED RAIL FEASIBILITY STUDY

RECOMMENDATION:

THAT the Council of the Regional Municipality of Waterloo convey to the Federal and Provincial Government the importance of the Region of Waterloo, the 10th largest Census Metropolitan Area in Canada, being an official station stop on any future High Speed Rail system in the Windsor to Quebec City Corridor, as described in Report No. P-12-003, dated January 10, 2012;

AND THAT the Regional Municipality of Waterloo encourage the Federal and Provincial Governments to advance increased passenger rail service (VIA and GO Transit) to Waterloo Region, including additional peak service, two-way peak service and service to Cambridge and that the implementation of High Speed Rail would not result in the elimination of VIA service along the London-Kitchener-Toronto corridor unless a suitable alternative is provided;

AND THAT the Regional Municipality of Waterloo supports the undertaking of an inter-city transportation master plan that includes stakeholder participation;

AND FURTHER THAT a request for a response to this report be forwarded to the Federal Minister of Transport and the Provincial Minister of Transportation, with a copy to all local MP's, MPP's and Area Municipalities.

SUMMARY:

Transport Canada, the Ministry of Transportation of Ontario and the Ministry Transportation of Quebec recently jointly released a report on the Updated Feasibility Study for a High Speed Rail (HSR) Service in the Quebec City – Windsor Corridor. High Speed Rail is proposed to ultimately replace VIA Rail along the existing corridor.

The study looked at alternate technologies that would travel at 200 km/h and 300 km/h. It identified representative routes and stations. The study indicated that:

- Travel times could be reduced by 40 to 60% with high speed rail
- Investment costs for the full Windsor to Quebec City corridor could be between \$19 and \$21 billion,
- If the decision to proceed occurred in 2011, service could start by 2025,
- The Toronto to Windsor segment would not be economically feasible from the point of view of the Canadian economy as a whole but only the F200+ (200 km/h) technology would be feasible in the Toronto to Windsor segment from the point of view of the Ontario economy,
- An inter-city transportation master plan should be undertaken involving air, rail and bus operators; and,
- A Terms of Reference should be developed for an Environmental Assessment.

Waterloo Region is not located on the representative routes and a station is not located within the Region. The study concluded that the HSR could not provide competitive service given the short distance between Waterloo Region and Toronto and, in addition, GO Transit is now offering commuter rail service to Waterloo Region.

This conclusion is debatable as other stations are placed at similar distances and GO Transit is presently only providing limited one-way service. Also, the Toronto-Kitchener travel market has the highest overall forecasted travel demand of any market estimated by the study. It is recommended that Regional Council convey the importance of the Region of Waterloo being an official station stop with any future High Speed Rail service and supports the need to undertake an inter-city transportation master plan to further examine this issue.

REPORT:

Transport Canada, the Ministry of Transportation of Ontario and the Ministry of Transportation of Quebec have recently jointly released a report on the Updated Feasibility Study for a High Speed Rail (HSR) Service in the Quebec City – Windsor Corridor. There was no public consultation undertaken as part of the preparation of this report. This report is an update to a previous study completed in 1995.

The objectives of the current study include:

- To review past studies with respect to changes that would effect the conclusions and recommendations that were made at the time of the study;
- To identify which actions, updates or additional studies are required and carry them out; and
- To issue a recommendation pertaining to the feasibility and relevance of issuing a Request for Interest involving the execution of subsequent studies based on a Public-Private Partnership or an Alternative Financial Proposal approach.

The report considered representative technologies, routes, stations, service, travel demand forecasting, investment costs, operations and maintenance costs, environmental and social impacts, implementation schedule and options, financial and economic analysis, impacts on the transportation system within the corridor, review of similar HSR projects around the world and review of transportation policies in France, Germany and Spain.

Representative Technologies

The present study evaluated two technologies, mainly based on minimum operating speeds of 200 (F200+) and 300 km/h (E300+). Diesel traction was considered for the 200 km/h train set while electric traction was considered for the 300 km/h trains. The train set would consist of 6 to 8 coupled cars or 8 to 10 articulated cars with a capacity of 400 passengers per train set. The track would be grade separated and fencing would separate the tracks from adjacent land use.

Representative Routes and Stations

There have been changes in the transportation network and land uses since the previous study that resulted in changes to the route including:

- Increased commuter rail service to Toronto and Montreal;
- No need to connect to Pearson Airport because of the future Toronto Air-Rail link. As a result, the route would connect through the following cities,
 - Quebec City (downtown plus one suburban station)
 - Trois-Rivières

- Montreal (existing downtown plus 2 new suburban stations)
- Ottawa
- Kingston
- Toronto (downtown plus 2 new suburban stations)
- London
- Windsor
- The actual location of stations would be selected during the preliminary engineering stage.

The representative routes and stations are illustrated in Attachment 1.

Representative Service

The High Speed Rail would replace the existing VIA Rail services. The service would operate as train shuttles with at least one train per hour per direction during the day. The quality of rail service would be improved by reducing travel times, as shown in Table 1.

Table 1 – Travel Times between Major City Pairs

City Pair	Existing VIA Rail Service ²	F200+ (200km/h)	E300+ (300km/h)
Quebec City-Montreal	3 hr 09 min	1 hr 49 min	1 hr 26 min
Montreal-Ottawa	1 hr 55 min	1 hr 11 min	0 hr 57 min
Ottawa-Toronto	4 hr 36 min	2 hr 25 min	1 hr 50 min
Montreal-Toronto	5 hr 12 min	3 hr 38 min	2 hr 47 min
Toronto-London	2 hr 07 min	1 hr 05 min	0 hr 51 min
Toronto-Windsor	3 hr 59 min	2 hr 12 min	1 hr 33 min

Source: VIA Rail schedules for 2010; estimates by EcoTrain for F200+ and E300+

The number of train sets per direction per day is shown in Table 2.

Table 2 – Number of Train Sets per Direction

Segment	Existing VIA Rail Service	F200+		E300+	
		2025	2055	2025	2055
Quebec-Montreal	4	15	19	19	20
Montreal-Ottawa	6	20	22	20	25
Ottawa-Toronto	5	22	29	25	32
Montreal-Toronto	7	20	22	20	25
Toronto-London	5	13	20	14	20
London-Windsor	4	8	10	8	10

For the purpose of this feasibility study, the service was assumed to start by 2025.

Main Conclusions and Recommendations from the Study

This study concluded the following:

- Significant reduction in travel times compared with existing VIA Rail schedules and added convenience would entice a number of travelers within the Corridor to switch from their present mode of travel (auto, air, VIA Rail or bus) to the future HSR: 60 percent of the HSR ridership would have previously travelled by auto, 10 percent by air and 24 percent by VIA Rail or bus. Six percent of the ridership would be induced travel, i.e. persons would not have made any trip previously but who would take the HSR if it were available.

- HSR in the full Quebec City – Windsor Corridor would attract more than 10 million passengers (with F200+ technology) and more than 11 million passengers (with E300+ technology) in 2031 assuming “steady state” (following a ramp-up period). Expected revenues would be respectively \$1.2 and \$1.3 billion CAD (2009) for the same year.
- Initial investment costs were estimated on the basis of historical construction costs and the cost of acquiring rolling stock and railway equipment used on comparable projects and adjusted to reflect the specific parameters of the Quebec City – Windsor HSR service. Total initial investment costs for the full Quebec City – Windsor Corridor would be \$18.9 billion CAD for the F200+ technology or \$21.3 billion CAD for the E300+ technology.
- Operations and maintenance (O&M) costs were based on a typical ongoing HSR operation, adjusted to take into account unit cost and productivity of Canadian manpower. In its first year of operation, O&M costs would be \$492 million CAD for F200+ technology or \$520 million CAD for the E300+ technology.
- If a decision were made in 2011 to go ahead with the conceptual design, the full Quebec City – Windsor Corridor could enter into commercial service in 2025. This very long timeline would require strong government leadership and active participation of a large number of stakeholders, including interested private sector engineers, contractors and financiers.
- From a financial point of view and if the project is financed through a Public Private Partnership (PPP) operation, the project would only be sustainable in its present form, given the assumptions used to determine its costs and revenues, if the Governments would pay for at least half of the investment costs. This upfront investment by Governments seems consistent with similar HSR projects recently built or under construction around the world using a PPP financing method. Once in operation, the project would be profitable, with revenues exceeding operations and maintenance costs from day one, and with profits used to reimburse half of the total investment debt.
- If the HSR project is carried out under a wholly public case (no PPP), the Governments would assume all of the project risks, including the design, construction, financing, operation and maintenance, and retain all of its potential benefits. As was the case in a PPP scenario, the project would be profitable, with revenues exceeding operations and maintenance costs and profits used to reimburse a portion of the Governments contributions.
- To implement a HSR in the Quebec City – Windsor corridor, the three Governments of Canada, Quebec and Ontario should prepare an inter-city transportation master plan, involving air, rail and bus operators.
- One of the first tasks of the HSR authority would be to develop terms of reference for the Environmental Assessment, taking into account the environmental legislation in the three jurisdictions: Canada, Ontario and Quebec, and launch the EA. The Authority should also initiate the preliminary engineering phase and the early works such as geotechnical, topographical and hydrological surveys.
- Depending on circumstances, HSR projects could be divided into several logical sections that could be procured separately through a phased approach. The successful delivery of one section or segment can sometimes play an important role in motivating industry market players and funders to get involved with the other sections.

Implications for Waterloo Region

Waterloo Region is the largest community west of the Greater Toronto Area and would not be serviced by the route proposed in this feasibility study. In addition, existing VIA Rail service to Waterloo Region may be lost.

The reports states that a station in Waterloo Region would no longer be required because “Kitchener-Waterloo, served by the QOHSRPS (previous study) 200 km/h route, as experience with HSR has shown that it cannot provide competitive service given the short distance from Toronto (100 km). Moreover, starting in 2011, GO Transit would offer commuter rail service to the Kitchener-Waterloo area”.

This conclusion is debatable from a couple of perspectives:

- Other stations along the route are within similar distances, including several suburban stations. In addition, some station are located only marginally further than the 107 km from Kitchener to Toronto, including
 - Quebec City to Trois-Rivières – 126 km
 - Trois-Rivières to Montreal – 138 km
- The Toronto-Kitchener travel market has the highest overall forecasted travel demand of any market estimated by the study
- Although the GO Transit service being initiated to Waterloo Region in 2011 is an improvement, it is limited in terms of travel time and frequency. Significant improvements to this service would be necessary before it could be considered competitive.

It is recommended that Regional Council convey the importance of the Region of Waterloo being an official station stop with any future High Speed Rail service and supports the need to undertake an inter-city transportation master plan to further examine this issue.

Area Municipal Consultation/Coordination

A copy of this report has been sent to Area Municipal staff for information.

CORPORATE STRATEGIC PLAN:

The provision of high speed rail would support the Region’s Strategic Objective 3.4: encouraging improvements to inter-city transportation services to and from Waterloo Region and Action 3.4.3 (Advocate for improved Rail service to Kitchener and Cambridge) of the Region’s Strategic Plan.

FINANCIAL IMPLICATIONS:

NIL

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Staff from Transportation and Environmental Services have been circulated this report.

ATTACHMENTS:

Attachment 1 - High Speed Rail Representative Routes and Stations

PREPARED BY: *Graham Vincent*, Director of Transportation Planning

APPROVED BY: *Rob Horne*, Commissioner of Planning, Housing and Community Services

