High-Speed Rail in the Quebec-Windsor Corridor

A Case for Public Investment

Perrin Valli

Queen’s University School of Policy Studies

Introduction

On the 20th of January 2008, Ontario and Quebec governments pledged 2 million dollars towards a new joint study on the feasibility of a high-speed rail connection between Windsor and Quebec City\(^1\). This news marks the latest development in the ongoing discussion on the future of Canadian passenger movement infrastructure. As the most densely populated area in Canada, the Quebec-Windsor Corridor faces many challenges related to intercity passenger movement: air pollution, traffic congestion, a slow and infrequent (subsidized) rail system, and infrequent and unpopular bussing services. Despite a general consensus that improvement to the Corridor’s passenger movement infrastructure is needed, there are differing opinions as to the best way to go about it. This paper seeks to evaluate two different policy options available to the Federal government including (a) the construction of a high-speed rail system and (b) development of

electric car infrastructure and to identify a path forward that is both politically viable in the short-
term and good for Canadians in the long-run. The policy options are assessed on their implications 
for public health and economic development as well as their political implications including public 
opinion and concerns related to government jurisdictions. It will be concluded that due to its 
capacity to reduce air pollution and traffic congestion, to support Canada’s passenger movement 
technology industry and to end wasteful subsidies to Via Rail, high-speed rail offers the best policy 
option for future public passenger movement investment.

The Impetus for Improved Passenger Movement Infrastructure

Transportation between major metropolitan centres in the Corridor today is limited to Via 
Rail, commuter services such as Go Transit or l’Agence métropolitaine de transport, bus services 
such as Greyhound Canada, and of course the automobile and airliner. Over the previous five 
decades, reliance on airliners and personal automobiles has increasingly dwarfed all other modes of 
transportation. Ensuing concerns for public health, the environment and traffic congestion demand 
renewed investment in passenger movement infrastructure.

Health and the Environment

Health and environmental considerations require a reduction in dependence on airline and 
automobile modes of transportation. While climate change is still too divisive an issue on which to 
base public investment in passenger movement infrastructure, the health and economic costs of air 
pollution created by burning fossil fuels are undeniable. Ground-level ozone concentration in the 
Corridor is the highest in the Country due to a combination of the fact that roads in the Corridor 
are the most heavily traveled, compounded with substantial pollution originating in the U.S.² 
Ground-level ozone has been shown to cause numerous health problems including “increased 
susceptibility to respiratory illnesses like pneumonia and bronchitis” as well as permanent lung 
damage.³ According to the Ontario Medical Association, air pollution costs Ontarians over 1 billion 
dollars per year in hospitalizations, emergency room visits and premature deaths. As transportation

³ U.S. Environmental Protection Agency. “Ground-Level Ozone - Health and Environment.” U.S. Environmental 
represents 50% of Canadians’ personal greenhouse gas (GHG) emissions,\(^4\) and as mass transit such as rail and bus transportation are significantly more efficient than cars and airplanes (per passenger-km, rail emits 50% less GHGs than cars and 20% less than aircraft)\(^5\), government policy should be concerned with reducing the use of personal modes of transportation and aircraft for trips which can be made in comparable time with more efficient modes of transportation.

**The Economic Costs of Traffic Congestion**

In 2006, Transport Canada released an urban traffic congestion report which found that recurrent congestion was costing Canadians between 2.3 billion and 3.7 billion dollars annually.\(^6\) According to the report, these costs are created through the extra time lost to passengers and extra fuel consumed.\(^7\) Such direct costs of congestion can be alleviated through greater reliance on mass modes of intercity transportation. If more people took the train to the city, urban traffic congestion would be greatly reduced.

Moreover, investment in more convenient and efficient passenger movement infrastructure may have other, less direct economic benefits for Canada. Offering a faster, more convenient connection between Toronto and Montreal may encourage increased inter-provincial trade. Evidence of the potential economic development available through transportation infrastructure improvement is illustrated by a case in Japan. Introduction of high-speed rail in Japan increased property value and population density in areas near railway stations.\(^8\) Similar patterns might be expected in the Canadian context. Therefore, benefits of investment in passenger movement infrastructure could include alleviation of the economic costs of traffic congestion and economic development.

**Policy Options**

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\(^5\) Ibid.


\(^7\) Ibid.

The modes of intercity transportation receiving the most attention in public debates as alternatives to airplanes and (fossil fuel burning) cars are the electric car, and the high-speed passenger train. Via Rail (a Crown Corporation created in 1977) provides the only intercity passenger rail service in the Corridor. Via has been plagued from the get-go with obsolete technology, decreasing ridership, and wasteful public subsidy. For example, the 2001 Canada Transportation Act Review Panel reported that Via Rail’s annual operating deficit stood at 170 million dollars. This deficit, subsidized by the Federal government, cements Via as a target for critics and proponents of public rail services alike. As a result, numerous attempts to improve the state of Via have been made including, most recently, the 2007 announcement by Finance Minister Jim Flaherty of 700 million dollars in infrastructure improvement spending. Additionally, service in the Corridor (where 80% of Via’s traffic is located) has improved since the introduction of 21 new locomotives capable of 177 km/h in 2001. Despite these improvement initiatives, ridership levels remain below those required to meet operating expenses and subsidies, therefore, continue to flow.

In light of the existing state of rail passenger movement in the Corridor, many call for the construction of a high-speed train comparable to those found in Japan and France. The governments of Canada, Ontario and Quebec, who have commissioned over 10 commercial feasibility studies since 1970, have debated this option repeatedly but have yet to commit. As a result, use of passenger rail movement in the Corridor remains far below its potential.

A second option available for improving passenger movement infrastructure in the Corridor is the electric car. Throughout the public discourse on the future of transportation in Canada, the

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11 Lukasiewicz for example advocates cutting 85% of Via’s service to be replaced by buses. Lukasiewicz, J. "Public Policy and Technology: Passenger Rail in Canada as an Issue in Modernization." Canadian Public Policy 5, no. 4 (1979): 526.

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electric car is seen as an environmentally friendly alternative to traditional cars. The consensus is that electric cars can offer the personal freedom to travel at one’s own convenience – a luxury to which Canadian automobile drivers have grown accustomed – while at the same time creating “zero emissions”. The Green Party of Canada and The New Democratic Party of Canada include investment in electric car infrastructure as part of their platforms. Use of electric cars could be facilitated through the introduction of tax breaks for electric car users and perhaps the creation of other economic incentives such as taxing carbon use or increasing the price of oil. As will be discussed in the following section, however, there are many legitimate concerns that the proliferation of electric cars would not be in Canadians’ best environmental interests.

In the pursuit of improved passenger movement infrastructure for the Corridor, there are certainly other modes than just rail and electric cars that need to be considered, including the expansion of the use of intercity coach services. In the interest of space, however, the role that busses could play in a restructuring of the Corridor’s intercity transportation is acknowledged but not examined.

**Assessing the Options**

*High-Speed Rail*

As outlined above, though current intercity rail passenger movement in the Corridor is limited to VIA Rail’s highly subsidized, unreliable and slow service, rail maintains significant potential for reducing GHG emissions and traffic congestion. High-speed rail can compete commercially in the Corridor as the distances between major cities are short enough that even 200km/h trains can deliver travel times competitive with other modes of transportation. Proposals for the next generation of rail passenger movement between Windsor and Quebec City (via Toronto, Ottawa and Montreal) can be classified into two categories: (1) repairs and investment in existing tracks and new faster rolling stock (proponents for this option include the current Conservative

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17 See for example, the discussion on the pros of electric cars at http://www.zennCars.com/
government – as demonstrated by Flaherty’s recent investment announcement) or (2) construction of a dedicated electrified track and purchase of high-speed train technology similar to that in use in Japan and France. The latter approach finds support amongst the Green Party and NDP ranks, the Toronto Star editorial board20, and a non-partisan House of Commons “rail caucus.”21

One debated option proposed by Bombardier was the JetTrain - new rapid train technology designed to run on updated but existing track. The JetTrain, capable of speeds up to 240km/h, is powered by a modified jet engine.22 The advantage of the JetTrain is that it does not require electrified track and could therefore run on existing track, making it a cheaper high-speed option.23 However, all renewed technology proposals that use existing track face a fatal flaw in the Corridor – freight traffic. Today, Via passenger services share the Corridor track with Canadian National’s transportation of freight.24 This is one of the primary causes of Via’s ubiquitous tardiness and infrequent service.25 Implementing high-speed technology on existing track would, therefore, likely result in either a commercial failure due to tardiness and infrequency or a major reduction in transportation of freight by rail. Neither scenario is compatible with a reduction of air pollution nor traffic congestion especially as the latter would result in increased freight transportation by trucks and the associated traffic congestion and GHG emissions. Furthermore, the only means to avoid the problems associated with freight traffic is to construct a new track reserved for high-speed passenger service, but this would erase the JetTrain’s cost advantage and Canada at such a stage would be better served by faster electrified-track train technology. Therefore proposals such as Bombardier’s JetTrain do not represent a viable alternative to Via’s passenger movement between Windsor and Quebec City. Nevertheless, the technology could play an important role in short distance trips and

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23 Ibid.

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intermodal connections such as a recently announced high speed service to be delivered between Union Station and Pearson International Airport in Toronto.26

The second manifestation of high-speed rail proposed for the Corridor is the more expensive, and therefore more controversial, electrified-track technology. Proponents of the idea argue that “on dedicated track, there would be no limits on train frequency, capacity or performance by other traffic.”27 There can be little doubt that if Canadians had access to fast, reliable, comfortable and economic rail service between the Corridor’s major cities, issues of traffic congestion and air pollution could be highly mitigated. However, as the cases of Japan and France demonstrate, modernizing rail transportation is about more than just speed. It requires new and more efficient station designs, easy ticketing, and on-board amenities making the passenger experience more comfortable than with air travel.28 Moreover, commercially viable rail service requires greater integration with other modes through services like park-and-fly or connections to provincial commuter services and municipal public transit. Because implementation of these services overlap federal, provincial and municipal jurisdiction in the Canadian context, high-speed rail enterprise is unlikely to emerge in a coordinated fashion without management by the federal government.29 For example, the requirement of both federal and provincial environmental impact assessments for construction in the Corridor, illustrate the complications that arise from overlapping jurisdiction.30

Political barriers to high-speed rail aside from issues of jurisdiction include the fear among voters that government will never recover the cost of construction (estimated to be somewhere around 25 billion dollars).31 Critics argue that building a high-speed train will be a commitment to unending government subsidy. While no one can say for sure whether or not this is true, subsidizing efficient and environmental passenger transportation may not be undesirable given its potential to reduce other costs including the existing 170 million dollar annual subsidy to Via Rail, the health

costs of air pollution, and the economic costs of traffic congestion. Looking at the issue of Via Rail subsidies, it is important to recognize that even new expensive transportation services might be in Canadians’ best economic interest if the new system were to operate at a sufficiently lower budget deficit (though it must be noted that existing public subsidy of rail service is not entirely directed at Corridor services). Moreover, there are many other existing costs associated with maintaining the status quo including the Canadian government’s ongoing aid for Bombardier. Bombardier, one of the world’s leading manufacturers of high-speed commuter train technology has received over 1.1 billion dollars in government aid since 1982.\(^\text{32}\) This assistance, intended to keep Bombardier afloat and to ensure continued employment for it’s highly skilled Canadian workforce, has not come through federal contracts for new high-speed train technology but instead through subsidies and loans to be repaid only if the relevant Bombardier venture should be profitable.\(^\text{33}\) It would be uncontroversial, therefore, to conclude that future government expenditure that at once provided the necessary support to Bombardier and provided citizens with improved passenger movement infrastructure would be an improvement for Canadians.

Nevertheless, fear of public subsidy in the minds of voters will be hard to counter on the political stage and is therefore problematic if high-speed rail is to be politically viable. However, when asked in a Nanos telephone poll in 2008, 75% of Quebec residents and 69% of Ontario residents either supported or somewhat supported a joint public-private funding of a high-speed rail project.\(^\text{34}\) Therefore there is strong political support for rail improvement in the Corridor, especially one that involves private investment.

**Electric Cars**

In today’s political climate, electric cars would be an easy sell. They offer the personal freedom of traditional cars while representing a gas-free and therefore guilt-free alternative. Moreover, switching to electric powered vehicles would have little impact on the daily habits of


Canadians. But use of electric cars can represent only a partial solution to the Corridor’s passenger movement problems for three reasons: (1) traffic congestion would remain problematic in the densely populated corridor and (2) electric cars can realistically only partially reduce the problem of air pollution. Beginning with the first of these issues, it is obvious that replacing the number of existing cars with an equal number of electric cars will not impact the number of cars on the road, leaving the existing problem of traffic congestion and its associated costs unaltered. Electric cars, therefore, can only alleviate traffic congestion in partnership with modes of mass transportation.

With respect to the issue of air pollution, it is important to realize that despite the “zero-emission” marketing being pushed by proponents of the electric car, switching the existing use of fossil fuel burning cars to electric cars would significantly reduce GHG emissions only at great costs (both environmental and economic). Firstly, wide use of electric cars would drastically increase demand on Canadian electricity production – to power Canada’s fleet of 14 million cars using hydrogen fuel cells (one manifestation of the electric car) would require about 20 new nuclear power plants – not a minor undertaking. Secondly, as electric cars are only as emission-free as their source of electricity, reducing air pollution in the Corridor through electric car use can be achieved only by generating electricity from (virtually) emissions-free sources (i.e. nuclear or hydroelectric). The environmental and economic costs associated with such an expansion of existing nuclear or hydroelectric capacity are deserving of their own discussion, but suffice it to say that they would be considerable. Therefore viewing electric cars as a panacea for environmental issues such as air pollution is unrealistic and attempting to eliminate air pollution in the Corridor via electric car use alone is impractical.

Finally, government must recognize that all things being equal, a rational consumer given the choice would choose the personal freedom of an electric car over mass transportation for intercity travel no matter how fast or easy it might be. Access to highway-going electric car technology could severely undermine the commercial viability of mass transportation services such as high-speed rail.

35 For example see http://www.zenncars.com/
Therefore, in order to provide a commercially viable high-speed rail service, government must discourage intercity travel by electric car.

Summarizing this evaluation of the electric car, it can be concluded that despite significant political viability, broad electric car use can represent only a partial solution for alleviating traffic congestion and air pollution and could even undermine the viability of other policy options including high-speed rail.

**A Path Forward**

In conclusion, introduction of an electrified-track high-speed rail service in the Quebec-Windsor corridor, though expensive, represents the best target for future public investment in passenger movement infrastructure as it can provide massive reductions in air pollution and traffic congestion, valuable support to Bombardier and its high-skilled Canadian workforce and a comfortable, reliable and rapid mode of intercity transportation for Canadians. A comprehensive cross-jurisdictional integration with other modes of transportation is required, however, for a high-speed rail service to be properly implemented. Electric cars can contribute to this integration, connecting passengers to high-speed rail stations while emitting less GHG emissions than traditional cars.

In the economic and environmental interests of Canadians, government decision-makers should heed the following path forward: (1) in order to ensure political support for public investment in high-speed rail, (a) end public subsidies of and investment in existing Via Rail services, (b) increase the visibility of the public costs of maintaining the passenger movement status quo (including the costs of air pollution and traffic congestion) and (c) partner with private-sector investors before moving forward (2) in order to avoid undermining the commercial viability of the high-speed rail service, work with the provinces to restrict the sale of highway-going electric cars. In following this advice, government will assure that the future of Canadian transportation in the Quebec-Windsor corridor will be off on the right track.
REFERENCES


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