

3.0 The Benefits of Integrated Public Transportation Investment

The benefits of public investment in public transportation have been verified by numerous public agencies and private industry organizations in other countries, although less so in Canada. The points in favour of public spending on public passenger transportation include:

- diversion of traffic from other publicly-supported modes, such as highways, making investments in capacity expansion unnecessary;
- job creation throughout the project's supply chain during the construction or equipment manufacturing phases;
- ongoing jobs and economic spin-off from the operation itself and its consumption of purchased supplies and services;
- large present and potential spin-off benefits for tourism sector;
- savings in health care costs due to traffic diversion from less safe modes, such as the automobile, and reductions in emissions affecting public's health;

- savings in national energy costs, given the higher energy efficiency and reduced fuel requirements of rail; and
- residential and/or commercial development and economic activity created in the areas surrounding the stations and other facilities.

Both intercity rail and intercommunity highway transportation have numerous economic, social and environmental advantages that are not being fully realized in Southwestern Ontario or anywhere else in Canada. This has created the mobility gap that, among other things, undermines Canada's competitiveness vis-à-vis other nations and regions that have recognized the benefits of improving and expanding their public modes, including the adoption of plans to integrate them to provide seamless, multi-modal travel alternatives to the automobile.

3.1 Rail Passenger Service

In its April 2009 Vision for High-Speed Passenger Rail in America, the U.S. government outlined the benefits of public investment in rail passenger service. These include:

- ensuring safe and efficient transportation choices;
- promoting the safest possible movement of goods and people, and optimize the use of existing and new transportation infrastructure;
- building a foundation for economic competitiveness;
- laying the groundwork for economic growth by efficiently moving people and goods, while renewing domestic manufacturing and supply industries;
- promoting energy efficiency and environmental quality;
- reinforcing plans for energy independence and the use of renewable energy, and reduce pollutants and greenhouse gas emissions;
- supporting interconnected, livable communities; and
- improving the quality of life in local communities by promoting affordable, convenient and sustainable housing, energy and transportation options.

However, these views are often dismissed at the Canadian federal level, as evidenced by the successive waves of VIA cuts on the basis of so-called fiscal responsibility. This anti-rail bias is even expressed semantically, with public spending on rail passenger service usually described as “a subsidy,” while highway and aviation funding is invariably “an investment.”

One roadblock to a wider recognition of the positive impact of rail passenger investments is that most economic benefits occur off VIA’s balance sheet. This leaves behind a highly-visible accounting loss that seems inviting when government budget reduction is the order of the day.

However, various industry associations and government agencies in other countries have quantified the value of rail passenger investment and produced rule-of-thumb economic impact calculators. U.S. organizations such as the publicly-funded States for Passenger Rail, the American Public Transportation Association and the U.S. Department of Commerce have concluded that:

- \$1 million spent on passenger rail projects creates 30-36 new jobs;
- \$1 million invested in rail passenger service generates \$4 million in economic returns;
- \$1 million invested in capital projects yields \$3 million in increased business sales; and
- \$1 million in operating investment yields \$3.2 million in increased business sales.

As well, refurbished stations with high levels of service and passenger activity are active catalysts for economic growth, with many being developed into mixed-use properties that include offices, retailing and other commercial activities. This is an important consideration in the discussion of the need to redevelop many VIA stations in Southwestern Ontario as mobility hubs to link trains, interurban buses and local transit.

While data on the non-economic advantages of passenger diversion to rail from road and air in Canada is skimpy, considerable research has been done in the U.S. This work has determined that the environmental benefits of a modernized rail passenger system are large.

A double-track railway line with a modern signalling system can handle the passenger and freight equivalent of 16 lanes of highway traffic. The land needed to create this highway capacity would be staggering, ripping a jagged wound through any urban area. The existing rail corridors can usually accommodate additional tracks with little or no extra land.



A four-track railway line can handle the passenger and freight equivalent of 32 lanes of highway traffic. Creating this highway capacity would rip a jagged wound through any urban or rural area, while the existing rail corridors can usually accommodate additional tracks with little or no extra land. Photo by Tim Hudson

As well, capacity can be boosted further with the modern, computer-driven rail traffic control systems now available off the shelf from established manufacturers, including some Canadian firms. Capacity expansion for passenger projects frequently has collateral benefits for the privately-owned freight railways over which they largely operate, aiding them in diverting long-haul truck traffic from road to rail.

Although it is unlikely to occur anywhere in Canada in the foreseeable future except on the GO system, railways offer something no highway can: Convertibility from oil-driven diesel-electric power to all-electric traction, which can be derived from an extensive list of renewable sources, including hydro, geothermal, tidal, wind and solar energy.

Alternative forms of rail traction are also under development today. These include liquefied natural gas, battery storage and hydrogen fuel cell propulsion systems. Metrolinx has just commissioned its own studies of the potential for the substitution of hydrogen fuel cell technology for its planned electrification of large portions of the GO rail system.

Although some lightweight test equipment is now undergoing testing in Europe, the rail industry is far away from producing a hydrogen fuel cell system that can reliably and affordably produce sufficient energy to power trains on the scale of those used for intercity and heavy-duty commuter service. But progress is

being made and it is a technology that should not be discounted as a potential replacement for both diesel-electric and traditional electric rail service in the future.

Even without electrification, Canada already enjoys energy and environmental benefits from our railways' use of modern diesel-electric locomotives, which use a diesel prime mover to generate electricity that then powers the traction motors on the locomotives' axles. Both passenger and freight motive power have become more energy efficient in recent years, delivering advantages over other forms of intercity transportation, especially cars and short-haul commercial aircraft. Measured by the energy required to move one passenger one kilometre, North American passenger trains are three times more efficient than commercial aircraft and six times more efficient than single-occupant automobiles.

In Canada, the transportation sector generates 27 per cent of the nation's greenhouse gas emissions. Railways produce only 3 per cent of the transportation sector's total and less than 1 per cent of the national total, while moving 70 million commuters and intercity passengers, and more than 70 per cent of the surface freight tonnage annually.

Also on the positive side of the passenger train's balance sheet is the fact that rail is the safest mode of intercity transportation, estimated to be 18 times safer than car travel.

3.2 Intercommunity Transportation

Although it may have overstated the case for buses in its December 2002 report on the state of the Canadian intercity bus industry, the Senate Standing Committee on Transport and Communications reported:

“The status of intercity buses as the most environmentally-friendly form of intercity passenger transportation has been known at least since the Royal Commission on National Passenger Transportation reported in 1992, but it still may come as a surprise to many. One method of measuring and comparing the environmental effects of various transportation modes is to calculate how much fuel is consumed by each mode to move a passenger one kilometer (this gives the common measure of passenger-kilometres per litre of fuel). Recent work by Transport Canada shows that, while the train is more efficient than the automobile using the highway in terms of passenger-kilometres per litre of fuel, the bus is approximately five times more efficient than the train. In terms of greenhouse gas emissions per passenger-kilometre, a bus emits less than 25 per cent of a train or an automobile using the highway does.”

Despite these environmental credentials, the intercity bus industry has done a poor job of promoting them as factors in favour of public financing to retain and expand their operations. Instead, the industry has unwisely focused on criticizing its competitors, such as VIA and regional public agencies such as GO Transit.

Also lacking has been any promotion of the fact that environmentally-friendly rail passenger service coupled with intercity bus service boosts the opportunities, and the sustainability of both. Public opinion polling has frequently demonstrated that many travellers have a negative impression of bus travel and will opt for rail service when it is available as an alternative, even when it is priced higher than the competing bus service.

Compared with the rail passenger industry and its advocates, the bus industry has done an extremely poor job in assembling data that might highlight its economic and social impacts, and its ability to contribute to various regional objectives through some form of public support for the service it does or could offer.

Only recently have private bus operators awakened to the fact that a growing amount of public funding is going to the provision of alternate forms of highway transportation, such as taxis and on-demand van services, to accommodate the needs of health care and social service agencies that need to arrange transportation for patients and clients who do not have access to an automobile or any form of public transportation. In finally addressing this situation, some private bus operators have said they would be interested in working with these agencies to explore the possibility of obtaining public funding to simultaneously continue light-density routes and assist in decreasing the transportation costs for health and social service agencies.

While rail passenger service has the advantage over the highway and air modes in being convertible to electric operation, it has not reached a point where other energy sources can be considered commercially proven and adoptable. On the other hand, buses and vans are already in service using a wide range of alternate propulsion systems and fuel sources not yet applicable to intercity and commuter passenger trains.

Rather than pitting trains and the various forms of public highway transportation equipment against each other and engaging in a contest for riders that involves many more factors than just fuel efficiency and environmental impact, the objective should be combining, coordinating and making the best use of both modes based on passenger preferences to offer a seamless journey that is beneficial on all counts.

Trains cannot be all things to all travellers. The same can be said for intercommunity and intercity highway transportation. Rail passenger service depends on high volumes to be efficient and effective. Public modes of highway travel are the answer on lighter density routes that can never be served cost-effectively by rail, provided the rail infrastructure even exists.

Ironically, both Canadian Pacific (CP) and Canadian National (CN) recognized the value of integrated bus service in providing cost-effective and attractive intercity passenger transportation as far back as the 1930s. Both railways substituted connecting bus services on schedules coordinated with their main line passenger trains on numerous chronically unprofitable light-density routes that couldn't be maintained with conventional rail service in the face of car travel on the expanding network of publicly-funded highways.

As demonstrated around the world on travel corridors that have rail at their core, the provision and integration of intercommunity transportation and urban transit have been major factors in their success in luring travellers out of their cars and even away from air travel.