



CANADA
HOUSE OF COMMONS

HIGH SPEED RAIL: THE CANADIAN CONCEPT

REPORT OF THE STANDING COMMITTEE
ON TRANSPORT

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ROBERT A. CORBETT, M.P.
Chairman

March 1992

HOUSE OF COMMONS

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Chairman: Robert A. Corbett

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Minister of Transport and
Infrastructure

CANADA
HOUSE OF COMMONS

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Infrastructure

Transport

Transports

RESPECTING

CONCERNING

Report to Standing Order 107(2) on the
High Speed Rail

Report to Standing Order 107(2) on the
High Speed Rail

INCLUDING

INCLUDING

Second Report to

Chairman

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ROBERT A. CORBETT, M.P.
Chairman

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Chairman: Robert A. Corbett

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Le mardi 4 février 1992

Le mardi 11 février 1992

Le mardi 18 février 1992

Président: Robert A. Corbett

Minutes of Proceedings and Evidence of the Standing Committee on *Procès-verbaux et témoignages du Comité permanent des*

Transport

Transports

RESPECTING:

Pursuant to Standing Order 108(2), consideration of a draft report on high speed rail

INCLUDING:

Second Report to the House

CONCERNANT:

Conformément à l'article 108(2) du Règlement, considération de l'ébauche d'un rapport sur les trains à haute vitesse

Y COMPRIS:

Deuxième rapport à la Chambre

Third Session of the Thirty-fourth Parliament,
1991-92

Troisième session de la trente-quatrième législature,
1991-1992

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Denis Pronovost

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Clerk of the Committee

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Le greffier du Comité

Marc Toupin

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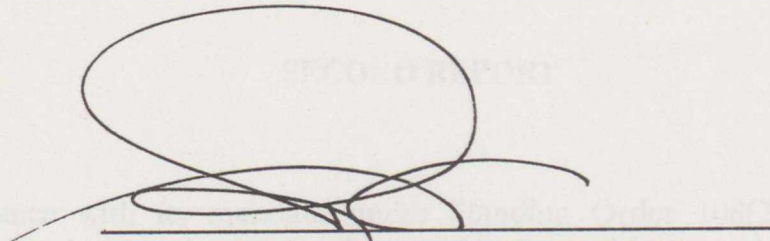
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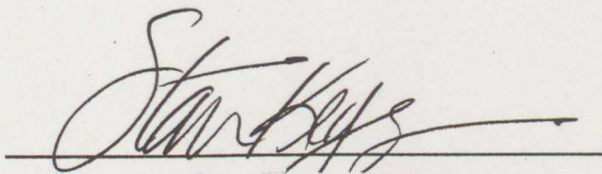
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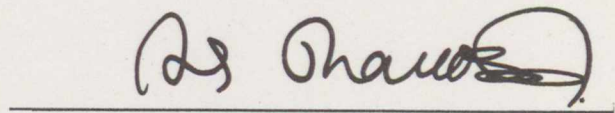
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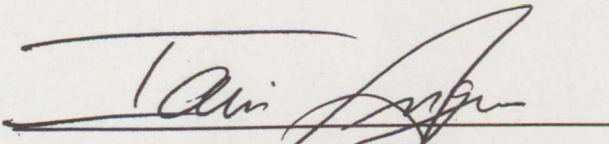
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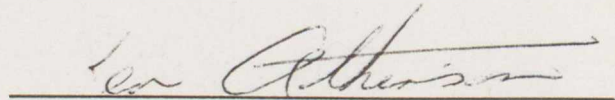
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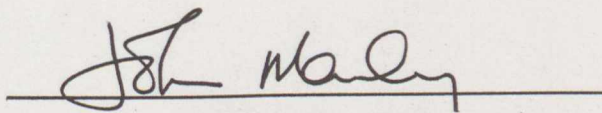
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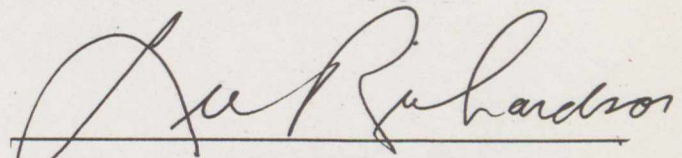
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The Standing Committee on Transport has the honour to present its

of Contents

SECOND REPORT

In accordance with its mandate under Standing Order 108(2), your Committee embarked on a study of high speed rail. After hearing evidence and visiting countries in Europe, your Committee has unanimously agreed to report to the House as follows:

I. Introduction

II. High Speed Rail in Europe

- A. The Technologies
- B. The Role of Governments
- C. Competition
- D. Environmental Considerations

III. High Speed Rail in Canada

- A. The Quebec City/Windsor Corridor
- B. The Canadian Studies
- C. The Technology Choices
 - 1. Speed Versus Trip Time
 - 2. Environmental Considerations
 - 3. Labour Practices
 - 4. Winter Operations
 - 5. Safety
- D. Modal Shift and High Speed Rail
 - 1. The "Switchover" Myth
 - 2. Competition and High Speed Rail
 - a) Automobile Competition
 - b) Regulatory Competition
 - 3. The Government and High Speed Rail
- E. The Role of the Federal Government
 - 1. The Federal Involvement
 - 2. A HSR Right of Way for the Future
 - a) Passenger Versus Freight
 - b) Protection of a HSR Right of Way

Table of Contents

Acknowledgements	v
The Members of the Standing Committee on Transport	vii
I. Introduction	1
II. High Speed Rail in Europe	3
A. The Technologies	3
B. The Role of Governments	4
C. Competition	6
D. Environmental Considerations	8
III. High Speed Rail in Canada	11
A. The Quebec City/Windsor Corridor	11
B. The Canadian Studies	11
C. The Technology Choices	12
1. Speed Versus Trip Time	12
2. Environmental Considerations	13
3. Labour Practices	13
4. Winter Operations	13
5. Safety	14
D. Modal Shift and High Speed Rail	14
1. The "Switchover" Myth	14
2. Competition and High Speed Rail	16
a) Automobile Competition	16
b) Regulating Competition	16
3. The Environment and High Speed Rail	16
E. The Role of the Federal Government	17
1. The Federal Involvement	17
2. A HSR Right-of-Way for the Future	19
a) Passenger Versus Freight	19
b) Protection of a HSR Right-of-Way	20

3. Legislative and Regulatory Framework	20
4. The High Speed Rail Operator-Public or Private?	21
5. Environmental Considerations	22
6. A Multi-Modal Policy	23
IV. Conclusion	25
V. Summary of the Committee's Observations, Findings and Recommendations	27
A. Observations and Findings from the European Visit	27
B. Observations and Findings from the Ottawa Hearings	27
RECOMMENDATIONS	29
APPENDIX A	31
APPENDIX B	33
REQUEST FOR GOVERNMENT RESPONSE	35
Minutes of Proceedings	37

I. Introduction

The Canadian debate on high speed rail has been ongoing for a decade and has intensified over the last few years. Potential high speed rail projects have been discussed and considered for the Quebec City-Windsor corridor and between Edmonton and Calgary. It is apparent that governments will have to play a major role in any high speed rail projects in Canada. The scope and nature of the federal government's participation in any high speed rail project is yet to be determined and defined. The House of Commons Standing Committee on Transport thought that it was important at this juncture in the debate to address the question of the federal government's role in any high speed rail project in Canada.

The Committee received a reference from the House of Commons on 25 October 1991 to visit several European countries to examine all aspects of their respective high speed rail passenger systems. The Committee had extensive discussions with government, railway and industry officials in Sweden, Belgium, Germany and France. The Committee had an opportunity to travel on the Swedish X2000 high speed train between Gothenburg and Stockholm, the German high speed train, the Inter City Express (ICE) between Mannheim, Stuttgart and Frankfurt and the French Train à Grande Vitesse (TGV) between Paris and Angers.

Upon its return from Europe the Committee held public hearings in Ottawa concerning the possibility of a high speed rail project in the Quebec City-Windsor corridor. The Committee concentrated its attention on the important public policy issue of what should be the role of the federal government in the development and realization of such a project.

The Committee heard from a variety of witnesses including representatives from the airline industry, the railways, the manufacturing sector, the Ontario/Quebec Rapid Train Task Force, consumer groups, municipal governments, Amtrak, and the American High Speed Rail Association, to obtain their views on this issue.

II. High Speed Rail in Europe

A. The Technologies

Basically, the Europeans have developed and are operating two high speed rail technologies. One is designed for existing but upgraded electrified track, with the Swedish X-2000 being an example of the application of this technology. Its radial self-steering trucks and active tilting system allow it to increase its speed through curves while providing the passenger with a comfortable ride. The other technology is designed for new dedicated electrified track which allows for significantly higher speeds. The French TGV and the German ICE are illustrations of this technology with their powerful, rapid acceleration and comfortable ride at very high speeds.

What became clear to the Committee is that there are finite limits to the maximum speeds that can be achieved on existing, albeit upgraded track. Curves, level crossings and the mixing of passenger and freight traffic inevitably limit speed and cause capacity problems. In order to achieve very high maximum speeds the switch must be made to new, dedicated track; there is no alternative technology available. The Committee thought that the German ICE was a particularly good demonstration of this reality since it operates on existing, upgraded and new dedicated track. Its maximum speeds are governed by the state of the track and the Germans acknowledged that in order to achieve speeds of more than 250KPH new dedicated track has to be used.

The Committee found that neither technology comes cheaply. However, it was obvious that the cost of upgrading existing infrastructure was substantially less than for the construction of new track. Sweden, for example, spent \$80 million US on improving (primarily signalling) the 452 kilometre Stockholm — Gothenburg route for the X-2000. Swedish Railways indicated that the intention is to incrementally upgrade this route so the X-2000 can achieve higher speeds. In contrast, Swedish Railways estimated that for the construction of a new, dedicated track for the route it would have cost \$1.4 billion US.

By comparison, the French spent \$1.5 billion US on the 417 kilometre TGV Southeast route between Paris and Lyon and the Germans have spent \$8.4 billion US on two new routes (totalling 406 kilometres) for the ICE. Certainly, while the total cost of a high speed rail dedicated track project includes new rolling stock, it was evident to the Committee that the majority of the cost would be for new infrastructure. In fact, the Committee thought there was considerable merit in the view that regarding this option, it could be said that the technology and investment are in the track while for the existing upgraded track alternative the technology and investment are in the train.

The Committee wishes to note that it was also told of situations where it would cost more to improve the existing infrastructure than to build a new dedicated right-of-way. This is the case in Belgium where TGV technology has been adopted for its high speed rail services.

Similarly, the British feel they have no choice but to build a new line for the Channel tunnel high speed rail service to accommodate the TGV. They are facing an estimate of approximately \$8 billion for about 80 miles of track, some of which will be under the City of London.

The Committee learned that it is travel time which is of vital importance when comparing the performance of the two competing high speed rail technologies and their costs. In the marketing of high speed rail services travel time is the key element not, paradoxically, speed. Clearly, in order to achieve the very high maximum speeds that are the real signature of high speed rail, new dedicated track is necessary.

Seen in this light, it became apparent to the Committee that the fundamental question for policymakers is, how much should be spent on track to increase speed thereby reducing travel times and whether the trade off between the higher cost and time saved is worth it to the traveller or in the national interest? It was indicated to the Committee that a relatively small reduction in travel time of perhaps 20 to 30 minutes would necessitate a substantial increase in infrastructure cost over the same distance. For example, the British acknowledged that a good part of that huge \$8 billion expenditure will be devoted to reducing the travel time between London and Paris by not more than 30 minutes.

It was pointed out to the Committee in Brussels that the EEC has developed a master plan for a European high speed rail network. The key to a successful realization of such a network is French and German cooperation and participation. However, as the Committee learned, the French and German high speed rail technologies are not compatible at the present time. It was obvious to the Committee that this issue of competing technologies is of crucial importance, and will have to be resolved before a true European high speed rail network becomes a reality. A great deal of integration and harmonization will have to take place and, in the Committee's opinion, this will take some time to accomplish.

Safety is of paramount importance to transportation and the Committee was informed that, to date, there have been no accidents in the operation of either technology. Since the TGV Southeast started operating in 1981, it has had a perfect safety record. The Committee was told that, apart from being safe, both technologies are meeting or exceeding their performance standards, and providing reliable, comfortable, frequent service, with good on-time performance. However, the question left hanging for the Committee, acknowledging that both the X2000 and the TGV operate in winter conditions, albeit not nearly as severe as in Canada, was how these technologies would perform in our harsh winter conditions particularly during prolonged periods of very cold weather?

B. The Role of Governments

All European railways are government-owned. All have been, and except for some high speed services, continue to receive large capital and operating subsidies. Moreover, European governments have always placed greater emphasis and priority on rail passenger services than on freight in their policy development and financial commitments.

There was no indication given to the Committee in any of the countries visited that the governments, with the possible exception of Germany, were giving any consideration to the privatization of rail passenger or freight services. In Germany, privatization of some segments

of the railway system is being discussed for the future, but for the present, the major priority is the integration of the West and East German railways, which will be a major task and take considerable time to accomplish. It should also be noted, that the British have indicated their intention to privatize certain segments of British Rail.

What is changing in all of the countries visited is that there has been a distinct shift in government policy regarding their railways. Encouraged and supported by the European Economic Community (EEC) the governments are restructuring their railways to give them a much greater commercial orientation in their operations. Management is now mandated to operate according to sound business principles and to strive for greater productivity, efficiency and, hopefully profitability. One of the primary aims of this reorganization is to get a much better appreciation of railway costs, to make them more visible and accurate, so that it will be easier to see what services are being subsidized, by how much, and what can be done to improve the situation.

The Committee found the Swedish approach to this new policy of commercial viability to be particularly interesting. The government has created two separate authorities. One is the Swedish National Rail Administration (SNRA) which is responsible for the maintenance and capital investment of the infrastructure while the other is Swedish Railways (S.J.) which owns and operates the passenger, station facilities and freight services. The SNRA receives its funds from Parliament every year and charges S.J. user fees. S.J. has been given a mandate to operate on a commercial basis and is under no obligation to operate unprofitable passenger routes. However, if it is required to do so by the Government as a public duty, it receives a government subsidy.

Regarding high speed rail services, the Committee found in all the countries visited, that the railways have created separate business units for these services. Their mandate is not only to achieve an operating profit but also an adequate rate of return to cover the capital costs of the infrastructure. The French have done this on the TGV Southeast route. The government did not make any contribution to infrastructure costs. However, it did guarantee the SNCF bonds (which meant a slightly lower rate of interest) which financed the infrastructure and provided funds for the research and development of the TGV technology. The route has been a spectacular commercial success and has become the benchmark for all high speed rail services in Europe.

It should be emphasized, however, that it was made clear to the Committee that SNCF chose this route for its first TGV service because it had the best commercial prospects of any in France. It has the highest density of population, the most significant community of interest (Paris-Lyon) and an ideal distance (417 kilometres). Indeed, the French are not sure that any other TGV route will be able to achieve the same degree of commercial success. In fact, and this was of particular interest to the Committee, the second route chosen for high speed rail services, the TGV Atlantique (the one the Committee travelled on between Paris and Angers) required a direct government subsidy of 30% (approximately \$600 million) in order for SNCF to achieve a satisfactory rate of return. Moreover, the Committee was told there is growing pressure from smaller cities and less populated regions for TGV services. It was acknowledged that politics will make it difficult for the French government to resist, and certainly it will mean significant central and/or local government financial involvement in the infrastructure costs.

It seemed to the Committee that the French government is prepared to devote whatever financial resources are necessary to provide a high speed rail network throughout France. Likewise in Germany, the government has already invested billions of dollars in high speed rail infrastructure, and the Committee was told that, much more will be committed to the development of a national high speed rail network. While the Committee was impressed, it must be understood that European geography (e.g., closeness of city pairs), higher concentrations and densities of population and significant highway and airway congestion may well justify this huge public investment. These conditions are not present to the same degree in Canada.

In Belgium the Committee was informed that TGV services will be introduced to provide high speed rail links between London, Amsterdam, Brussels, Paris and Köln. The government will make a substantial contribution to the infrastructure costs which are estimated to be \$3 billion. As Belgium Railways pointed out, there must be a government subsidy as the market is not big enough to provide the railway with an adequate rate of return. In Sweden, the Committee was told, that with the restructuring process, the government has paid, and will continue to pay for all infrastructure improvements needed to enhance and extend X-2000 services.

Notwithstanding the French success on its first TGV route, it became clear to the Committee that the role of governments in high speed rail projects in Europe has been, and will continue to be, very substantial in terms of leadership and financial support. The market will simply not provide adequate rates of return for the private sector to be involved by itself. Moreover, it appears to the Committee that European governments have accepted this and are prepared to give the highest priority to high speed rail services, spending whatever is required, confident of public support for this policy.

C. Competition

In all four countries the Committee visited it was emphasized that high speed rail must produce speeds which allow for travel times of approximately three hours over intermediate distances (400-500 kilometres) to be competitive and cost effective with alternate modes, particularly the plane. It is a matter of government policy that the railways operate their high speed rail services profitably. The railways are encouraged to market their services and compete aggressively with other modes for traffic. In the European context this means competing against the plane and the car, as there is no intercity bus system comparable to that of Canada in any of these countries.

However, it should be noted that while competition is encouraged, it is within quite a highly regulated market. All the governments regulate high speed rail and domestic air fares, and the French ensure that there is an "appropriate" spread between air and rail fares on TGV routes. Regarding the airlines, this situation will likely change this year with the introduction of a policy of "liberalization" of European air services.

The Committee explored in detail, the very important question of how much new traffic, as opposed to that already using the train, has been generated by high speed rail service, and where it has come from. New traffic is divided into three categories, that diverted from air, or

from the car ("switch over") and that which has been stimulated by the introduction of the new service (induced demand). The best statistics available were provided by the French for the TGV Southeast, simply because it has been operating for a decade. Rail passenger traffic has doubled on the Paris-Lyon route since the introduction of the TGV. Of that new traffic, 35% has switched over from air, 20% from the car and 45% has been induced. The French considered the amount of induced traffic to be of greater significance than that diverted from the two other competing modes.

It was also pointed out that in 1985, air traffic began to recover on the Paris-Lyon route accompanied by increasing growth in automobile traffic. In the view of TGV officials, one reason for this was that the high speed rail service was operating at capacity at that time. It is planned to increase capacity through the purchase of new equipment which, it is hoped will divert automobile and air travellers to the train. However, it must be noted that the overall impact of the potential shift in automobile and airline traffic is not significant in absolute terms. What it might do is reduce the rate of growth in automobile and air traffic on this route.

Since the introduction of the X-2000 in September 1990 Swedish Railways initial findings show that 62% of their new passengers have been diverted from air (6 to 7 DC-9s have been emptied per day on this route), 30% induced demand, and 8% from the automobile. The Germans have only very preliminary statistics but they indicate a traffic increase of 25% for the ICE, with an increase of business traffic over the shorter distances. Railway officials from both countries assured the Committee that more attention would be directed to encouraging automobile travellers to use the high speed rail services. They are hopeful that a greater shift will take place but acknowledged that it will not likely mean anything more than a reduction in the growth of automobile traffic on the routes.

As has already been indicated, it was emphasized to the Committee that travel time, not speed, is the essential ingredient in the competitiveness of high speed rail with other modes. What struck the Committee very forcefully was that all the railways to date, appear to have focussed their high speed rail services on competing with the airlines. Speed, service and travel times are all geared to the aeroplane and more particularly, the lucrative business traffic which of course, is the "bread and butter" of the airlines. Indeed, the impression was left that this high revenue traffic was absolutely essential to the profitability of the service, and that high speed rail is intent upon capturing as large a market share of the business traffic as possible. Nevertheless, the Committee was assured that leisure and family traffic were being encouraged through the marketing of special fares (with conditions) and off peak bargains.

While the competition between high speed rail and the plane may, on the one hand, be tough and aggressive, it was of interest to the Committee that on the other hand, there are real efforts at coordination and cooperation between the modes. In Germany a number of intercity trains, including the ICE, run to Frankfurt airport, and Lufthansa leases trains which "feed" airline passengers into the airport from other German cities. The Committee was told that Lufthansa is keen to cooperate with German Railways regarding high speed rail services and wants to get out of some of their short haul domestic routes. In France, SNCF is planning a TGV link to Roissy International Airport and also a connection to Lyon airport. Both would become part of the total TGV network so the train and plane can feed passengers to each other from all over France.

Certainly, when it comes to competition, the Committee recognizes that European high speed rail service is a good product. It was impressed with the speed, comfort and performance of both technologies. It was also impressed with the railway stations. They provide a whole range of services including supermarkets in some, and are very efficient, dynamic intermodal hubs for railway, bus, subway and taxi services. They are really at the heart of transportation activity in European cities and are a model for the rest of the world.

D. Environmental Considerations

It is often argued that high speed rail is "environmentally friendly" and that this is a significant socio-economic benefit. The Committee decided to concentrate on this issue on its visit to Europe because of the importance and high priority environmental concerns have today.

The Committee was told that studies demonstrate that high speed rail is more energy efficient and less polluting than cars or planes. But what the Committee was particularly interested to learn, was what contribution high speed rail had made to reducing air pollution through persuading highway users to switch over for their intercity trips. It was indicated that not much detailed study and analysis have been done on this question. What results that are available are not very encouraging. They reveal that, at best, high speed rail is probably reducing somewhat the rate of growth of automobile traffic.

The Committee was informed that the EEC has just completed a study that indicates that the impact of high speed rail intercity services is likely to have only a minimal effect on reducing existing intercity highway traffic. It may well be that one of the reasons for this result is that, as has been observed, the Europeans seem to be preoccupied with air travellers as the target market for high speed rail and not with getting people out of their cars. Nonetheless, the Committee was assured that there was a growing awareness of this issue and that the focus was shifting somewhat in favour of concentrating on "modal bleed" from the car. Furthermore, it should be noted that the Europeans have been concentrating on capturing air traffic because their airways are becoming increasingly congested with the attendant air traffic control problems, delays and costs.

On the question of noise pollution, the Committee was told that the noise levels of high speed trains are not much higher than for conventional rail traffic. Yet, the Committee noted that the Europeans were very conscious of this issue and it was pointed out that in certain areas noise reducing equipment had to be installed for high speed rail projects. This adds to the infrastructure costs but is considered by the Europeans to be absolutely necessary.

Land use and acquisition will likely become major issues if the new dedicated track technology is chosen. Belgium Railways, which is adopting the TGV technology, told the Committee it had faced considerable and aggressive "green" opposition to the construction of a new right-of-way. In fact, the opposition has been so effective that in some sectors the railway has been forced to use the existing right-of-way for the new line, which is definitely second best to an entirely new dedicated corridor when it comes to speed and performance. German Railways had 10,000 objections to the construction of the new line between

Mannheim and Stuttgart and there are at least 400 outstanding claims for compensation. As a result, the Germans incurred considerably more capital expense than was technically necessary to satisfy environmental concerns. Indeed, this environmental "penalty" has meant that a good portion of the route is either in tunnel or below ground level.

Similarly, it was necessary for the French to use a substantial amount of tunnel on the Paris-Angers line. However, perhaps the classic example of the environmental dimension facing high speed rail projects is the British experience. The government has been forced to abandon the shortest direct route for the Eurotunnel service in favour of a longer more circular route, albeit more environmentally acceptable.

These discussions on environmental issues left the Committee with the feeling that while high speed rail may be environmentally friendly it is not evident, that when the total environmental equation is considered, how significant these benefits really are. Certainly, they illustrate that the European experience to date has not clearly demonstrated there are substantial environmental benefits accruing from high speed rail services. Nevertheless, the Europeans hope that high speed rail will prove to be a big "plus" for the environment as the highways and airways become increasingly congested. Whatever the case, it is evident that the extent and significance of this socio-economic benefit requires careful examination in any assessment of a high speed rail project.

III. High Speed Rail in Canada

A. The Quebec City/Windsor Corridor

The Committee learned in Europe that existing HSR corridors generally range from 200 to 550 kilometres. For distances over 600 kilometres high speed rail cannot compete with the aeroplane. Moreover, these corridors serve two large cities which have a high travel affinity and have to compete with only the plane and the automobile as there is no intercity bus system comparable to that in North America. In addition, conventional rail services were already a popular mode in each corridor before high speed rail was introduced.

The Quebec City/Windsor corridor, with approximately half the population of Canada, is 1215 kilometres long. This is much longer than existing European high speed rail corridors, however, the central segment, Montreal-Ottawa-Toronto, is about 580 kilometres which is at the upper limit for successful European corridors.

The corridor is reasonably well served by both public and private modes of transport. There are frequent and reliable air, rail and bus services and good all weather highways. As a result of deregulation, there is extensive modal competition in the corridor. However, the bus industry continues to be regulated and consequently, there are monopolies on some intercity routes.

In 1987, there were approximately 95 million trips in the corridor of which 89.9% were by automobile, 3.7% by bus, 3.6% by rail and 2.8% by air. What is clear is that the automobile is by far, the dominant mode of intercity travel in the corridor. Certainly, the corridor does not reflect the tradition of intercity rail travel found in all the European high speed rail corridors.

B. The Canadian Studies

The two most comprehensive and important Canadian studies on HSR in the corridor are the VIA Rail study of 1989 and the Ontario/Quebec Rapid Train Task Force Report of 1991. These studies concluded that high speed rail in the corridor was technically feasible, and commercially viable on an operational basis but, would require substantial government funding for the construction of the infrastructure. Indeed, it was pointed out in the Task Force study that the most optimistic funding scenario required at least a 50% government contribution in order to attract sufficient private investment for high speed rail. More conservative scenarios placed the government investment at 80% or more.

It is fair to say that the Task Force concluded that HSR in the corridor would be a desirable improvement but not an essential one at the present time. It recognized that its study was essentially a pre-feasibility analysis of the potential of HSR in the corridor. In that light, the Task Force basically made only one recommendation; that more study and

assessment were required before a final decision could be made on high speed rail and that this should be undertaken by the two provincial governments in conjunction with the federal government and the private sector.

In response to the Task Force recommendation the federal, Quebec and Ontario Ministers of Transport announced on 1 November 1991 a \$6 million joint feasibility study for high speed rail in the corridor. Some months before this, Air Canada and CP Rail announced a joint marketing study for high speed rail in the corridor. Moreover, the Royal Commission on National Passenger Transportation in its Interim Report indicated that it will give consideration to the question of high speed rail in Canada in its final report. It is expected that all of these reports will be released during the next two years.

C. The Technology Choices

Currently, the choice of technologies for high speed rail in Canada, is the same as the Committee studied in Europe. The train would operate on upgraded existing electrified track, new dedicated electrified track within an existing right-of-way, or on new dedicated electrified track within a new right-of-way. Another option that could be available in the future is magnetic levitation technology (Maglev). It is still at the experimental stage and it does not appear that there will be a commercial application in the near future. Indeed, several witnesses suggested that it was 15 to 20 years away.

Asea Brown Boveri (ABB) proposed to the Committee a system using the Swedish X-2000 (known as the Sprinter) operating on existing upgraded electrified track at a maximum speed of 250 kph, with a travel time of approximately 3 hours between Montreal, Ottawa and Toronto. ABB envisages that the Sprinter will operate on an exclusive existing track with no mixing of freight and passenger services. ABB estimates the total costs for the Quebec City — Windsor corridor to be \$3.8 billion, for infrastructure and equipment and approximately \$1.8 billion for the Montreal-Ottawa-Toronto segment.

Bombardier proposes the TGV technology which would have to operate on dedicated electrified track utilizing existing right-of-way as much as possible at maximum speeds of between 300 and 350 kph resulting in a travel time of approximately 2 hours and 30 minutes for the Montreal-Ottawa-Toronto route. Bombardier envisages the construction of a new dedicated track and accepts the Ontario/Quebec Task Force estimate of \$7.1 billion for infrastructure and equipment for the whole corridor and estimates the cost for the Montreal-Ottawa-Toronto segment to be \$3.8 billion.

1. Speed Versus Trip Time

The Committee learned in Europe that speed costs money. In order to achieve speeds of over 270 kph dedicated track is required. However, the key to the marketability of high speed rail is travel time which is dependent upon average, not maximum speed. For example, when people take the plane they don't ask how fast it is going; they just want to know how long it will take to get to their destination.

It was often emphasized to the Committee that a travel time of three hours was the marketing threshold for the commercial success of a high speed rail project. An increase in ridership occurs as the travel time falls below three hours while the opposite occurs when the travel time exceeds this barrier. For any high speed rail project, the key question is always, how much more should be spent on infrastructure to achieve a small savings in travel time. Does the amount of incremental ridership justify a substantial increase in infrastructure cost?

What is evident regarding the technology choices for the corridor is that their difference in travel times on the Montreal-Ottawa-Toronto route are not significant, while there is a large differential in their infrastructure costs. In fact, based upon their cost estimates, the difference is approximately \$2 billion or, \$ 66 million per minute of time saved. Put in these stark terms, the Committee has some difficulty in understanding how such a substantial increase in expenditure can be justified in the public interest for a small saving in trip time unless of course, the external benefits are significant.

2. *Environmental Considerations*

The Committee has learned that there could be a significant difference in the scope of the environmental assessment process, its impact and cost for the two technologies. Operating on existing upgraded track would mean that the environmental impact would be minimal. Acquisition and construction of a totally new dedicated right-of-way would require a comprehensive and lengthy environmental review process resulting in cost increases to meet environmental concerns.

This may not occur in Canada because the Committee was told that both technologies will utilize, as much as possible, existing rights-of-way. This will certainly reduce the time, complexity and cost of any environmental review as well as lessening the impact on the environment. Nevertheless, the more new right-of-way that has to be built, the greater the costs and the impact on the environment.

3. *Labour Practices*

During its visit to Europe the Committee was impressed with the fact that only one person is in the cab of a high speed train and is paid by the hour. In contrast, there are two people in the cab of a VIA train who are paid by distance, not hours worked. This means that the labour costs for high speed rail in Europe are significantly less than for VIA operations. The Committee was told it would be absolutely essential for the commercial viability of high speed rail operations that labour costs be minimized and the Committee agrees that changes in current labour practices should occur for high speed rail in Canada.

4. *Winter Operations*

It was clear to the Committee that the two technologies work well in Europe. The question that troubled the Committee was whether they would work as well in our much harsher winter climate particularly, during extended periods of very cold weather. The

Ontario/Quebec Task Force report raised a note of caution on this very question. The Committee would like to echo that and believes that a considerable amount of testing will have to be done for both technologies (even though both the X-2000 and the TGV operate in winter conditions, albeit not as severe as Canadian) before any choice can or should be made.

5. Safety

As was noted earlier, both technologies are operating in Europe and have a proven safety record. There is no doubt, that since safety must be the highest priority in the transportation of people, this proven record is a persuasive selling point for these technologies.

The Committee was told that there are approximately 1000 level crossings in the Quebec-Windsor corridor. In order for a high speed train to achieve its maximum speed many of these crossings will have to be eliminated through a combination of grade separations, road closures and/or diversions and fully protected crossings. The latter approach, which is very cost effective compared to a grade separation, raises a major safety issue. One technique that the Committee found interesting, was the Swedish model applied to the Stockholm-Gothenburg high speed line which employs automatic crossing gates which cover the width of the road, and sensors to control the speed and slow the train when something is on the track, or stop it, if it is necessary. It may well be that this approach could be used in the corridor to provide the necessary high level of safety required for high speed rail at a lower cost.

D. Modal Shift and High Speed Rail

1. The "Switchover" Myth

It is often perceived that major socio-economic benefits will accrue from high speed rail in Canada as a result of a significant modal shift of traffic from the plane and the automobile (the biggest polluter, by far, in the transportation industry). Consequently, air pollution would be reduced, airport and highway congestion would be eased, energy consumption would be lowered, and highway safety enhanced thereby reducing the high social costs of automobile accidents. This could also lead to a reduction, avoidance or at least a deferral of significant public investment in highway and airport infrastructure in Canada.

Clearly, this view is central to the question of whether there should be public funding for high speed rail in the corridor. This is the reason why the Committee devoted considerable attention to the question of modal shift and its impact during its visit to Europe and in its hearings in Ottawa.

As has been indicated, the Committee learned in Europe that new high speed rail traffic comes from three sources : induced demand, air and the highway. Induced demand provided the largest share of the new traffic, followed closely by air, with the smallest share coming from the automobile. Furthermore, it was indicated that the shift from the automobile will do

no more than reduce the rate of growth of highway traffic in the major high speed rail corridors. Similarly, although the switch from air has been greater, the impact has been negligible because the reduction in total traffic has been very small.

In Europe, as the Committee has pointed out, the target market for high speed rail has been the high revenue business traveller who uses the airlines. It appears that the profitability of high speed rail hinges on capturing a substantial share of this market. Moreover, it was suggested that the aim of high speed rail was to eliminate airline competition resulting in fare structures closer to those of the airlines.

What the Committee observed from its European visit on the question of modal shift was reflected in the Ottawa hearings. The Ontario/Quebec Rapid Train Task Force concluded that high speed rail would have only a modest impact on air carriers and, in relation to total traffic through corridor airports (including flights to and from non — corridor cities) the estimated reduction was small. Regarding the bus, the Task Force found that high speed rail would have no negative impact and, in fact, might well mean some increase in market share if all conventional rail services in the corridor were eliminated.

Concerning automobile traffic, the Task Force concluded that the impact of high speed rail would result in a small reduction in overall automobile travel in the corridor. Certainly, it would not be dramatic enough to have any impact on maintenance costs for corridor highways or public investment for rehabilitation and capacity expansion. The same conclusion was reached for aviation infrastructure investment. The modest reduction in air traffic compared to total aircraft movements would not result in the avoidance or deferral of public spending on airport infrastructure. Several witnesses, for example, acknowledged that high speed rail would have no impact on expansion plans at Toronto's Pearson International Airport.

It is clear to the Committee that these major socio-economic benefits, (such as, a reduction in air pollution, deferral or avoidance of highway and airport operating, maintenance and capital costs, and a reduction in highway accident costs) difficult to quantify at the best of times, are not there unless there is a significant diversion of traffic from the airways and the highways to high speed rail. So far, there is little evidence to show that high speed rail will lure significant numbers of automobile and aeroplane travellers thereby reducing air pollution, and providing savings from avoided or deferred airport and highway infrastructure projects.

The Committee notes that the Ontario/Quebec Task Force recognized that the issue of modal shift is fundamental to the future for high speed rail in the corridor. In fact, one of its major study recommendations is to undertake a comprehensive study to ascertain the market demand and needs and to try to assess what motivates people to make modal choices. Doing that with any degree of certainty is going to be a difficult task. The Committee believes that the Federal/Provincial/Industry High Speed Rail Feasibility Study recently announced, must give high priority to this question.

2. *Competition and High Speed Rail*

a) *Automobile Competition*

There is general agreement that Canadians' "love affair" with the automobile will continue for the foreseeable future. This mode of travel is well entrenched and it is going to be very difficult for high speed rail to compete with the automobile. In order to have a chance, high speed rail must be affordable — its fare structure has to be attractive, comparatively speaking, to the automobile traveller.

The evidence to date in Europe, is not very encouraging. For example, TGV fares are now approximately 80% of the current air fare between Paris and Lyon and, it was implied that once a large portion of the air traffic was captured high speed rail fares would rise in order to maximize returns. On the Stockholm-Gothenburg high speed route the train fare is only marginally below that of air.

In Ottawa, one witness suggested that high speed rail fares in the corridor would not likely be much lower than the prevailing air fares. However, Bombardier suggested that, initially, the high speed rail fare would only be 60% of the economy air fare. Based on the European experience, the Committee has difficulty accepting that fares will be significantly lower for high speed rail, particularly if a large segment of the air market is captured. If this becomes the reality, then clearly, high speed rail will have difficulty attracting significant numbers of automobile users.

b) *Regulating Competition*

In Europe, some effort has been made to control competition in high speed rail corridors to induce an artificial modal shift from the automobile. This has been done by increasing gasoline taxes and vehicle registration fees, and putting tolls on some corridor roads. Some call these "incentives" while others would characterize them as "penalties".

Whatever the case, there is presently a considerable amount of healthy competition in the Quebec City-Windsor corridor. If high speed rail becomes a reality the Committee does not think that this competitive situation should be distorted through government intervention to force people out of their cars. Certainly, the Committee would not wish to see such an approach as a major justification for high speed rail. In the final analysis, the overwhelming dominance of the automobile in the corridor may be significantly reduced, only through a combination of higher vehicle prices and operating costs, as well as intolerable gridlock on the highways.

3. *The Environment and High Speed Rail*

On balance, it is generally accepted that high speed rail is environmentally friendly. On the one hand, there is the negative environmental impact associated with the acquisition and construction of new right-of-way as well as the issue of noise, particularly in urban areas. On the other, high speed rail, compared to the plane and the car, is much more energy efficient,

reduces air pollution and is a safer mode of transport. Obviously, these benefits would offset the negative environmental impacts and are very much in the public interest. However, they only have a significant impact if a substantial modal shift from existing automobile use to high speed rail takes place. As has been indicated this does not seem to have occurred in Europe nor based on the Ontario/Quebec Task Force analysis is it likely to occur in the corridor.

Viewed in this light, it is not readily apparent that high speed rail provides the environmental benefits perceived by its proponents. Indeed, it appears that the environmental equation can only show a substantial positive balance with a huge shift in existing automobile travel to high speed rail. Clearly, the Committee believes that a great deal of caution must be exercised in using the environmental argument as a major consideration for justifying high speed rail in Canada.

E. The Role of the Federal Government

1. The Federal Involvement

The main reason for this study was that the Committee felt it was essential to address the fundamental public policy issue surrounding the debate on the prospects of high speed rail in the corridor. This is, what should be the nature and extend of the role of the federal government in such a project? That is to say, whether the involvement of the federal government should be limited to leadership and support or whether it should extend to include substantial financial commitment as has been the case in Europe.

The Committee appreciates that the recently announced Canada-Ontario-Quebec joint feasibility study may provide more detailed information, particularly about market demand, which would better enable governments to make a decision on high speed rail. However, while the results of this study may more clearly define the mix of public and private funding, it will not answer the question of whether the federal government should invest public funds in high speed rail. This is why the Committee decided to undertake this study and feels that it is timely and important.

In Europe, it was clear to the Committee that governments recognize that the private sector cannot totally finance high speed rail projects and therefore, they are prepared to commit huge amounts of money to these projects. The reason for this, is that high speed rail technologies do not come cheaply. As has been indicated, even the upgraded existing track technology requires substantial capital investment while, of course, the new dedicated track technology is much more expensive.

It is evident to the Committee that the situation will be the same in Canada — it must be understood that public funding will have to be provided for any high speed rail project. The Committee recognizes that the provinces of Ontario and Quebec have a direct and substantial interest, as well as a major role to play in any high speed rail project in the corridor. Indeed, the Committee would expect that both provinces will be prepared to make financial contributions to such a project.

Clearly, no government can justify a financial contribution to high speed rail on purely commercial grounds — the return on investment would be too small. It is incumbent upon the federal government to demonstrate that any funding must be in the public interest. As one witness said, there must be “evident value” to the government.

The magnitude of this evident value hinges, to a large degree, on the key issue of modal shift to high speed rail. The question is whether high speed rail can or will capture enough traffic from the other modes to provide the public with tangible benefits such as less air pollution, safer highways, and public expenditure savings on airport and highway infrastructure. In the Committee’s view, the evidence to date has not demonstrated high speed rail’s potential to attract sufficient traffic to produce significant external benefits. The Committee believes there must be a very compelling case for federal government funding in any high speed rail project. Therefore, the Committee recommends :

Recommendation No. 1

That the federal government should not make a financial commitment to the development of high speed rail in the corridor at this time but, consider making a financial commitment if and when it has been clearly demonstrated that substantial and tangible socio-economic benefits will accrue to the public interest from such a transportation project.

While the Committee believes that a high speed rail project in Canada should be market driven, we recognize that there may well be other reasons for governments to decide in favour of high speed rail. For example, the need to stimulate the Canadian economy through a major public works project could be a pivotal reason for government investment in a high speed rail project.

The Committee was left with the impression that one of the major reasons why European governments are prepared to invest heavily in high speed rail services is because of the potential for high technology industrial development and export benefits. Certainly, the Committee appreciates that this is a persuasive argument for government investment.

Both ABB and Bombardier pointed out that substantial industrial benefits would flow from a high speed rail project. Canadian content for the application of both technologies would be very high and therefore the transfer of technology would be substantial. Indeed, Bombardier suggested that with transfers of that magnitude Canada could become a centre of excellence for high speed rail. Moreover, there could be significant export potential, especially in North America, if the Canadian project was the first of its kind.

While these industrial benefits appear attractive, notably the “demonstration effect” of being first, they are very difficult to quantify with any certainty. The Ontario/Quebec Task Force did not analyze this question in detail. During the hearings, several witnesses emphasized that the focus of the debate on high speed rail should not be on the promotion of the technologies but rather, on the needs and demands of the travelling public. Any high speed rail project should be market not technology driven. Nevertheless, the Committee strongly believes that the question of the impact of industrial and export benefits is one that

could have a significant influence on governments' decision to invest in high speed rail. Every effort should be made in the forthcoming Federal/Provincial/Industry Feasibility Study to identify and quantify, as accurately as possible, the manufacturing and export benefits that would flow from a high speed rail project. Therefore, the Committee recommends :

Recommendation No. 2

That the federal government ensure that the Federal/Provincial/Industry Feasibility Study identify and analyze the technology transfers, industrial development, and export opportunities that would derive from each of the proposed high speed rail technologies for the Canadian economy.

The Committee would like to make a final observation on this recommendation. Some witnesses referred to the Australian Very Fast Train project in favourable terms. It is of interest to note that in August of last year, the government of Australia refused to grant special tax concessions to this project. It envisaged a new high speed dedicated right-of-way connecting Sydney, Canberra and Melbourne a distance of 850 kilometres. The government did not feel that special tax treatment was justified in regard to transport policies and "broader national interest considerations". It did however, indicate that it was prepared to do what it could to "facilitate the project in accordance with normal processes".

While the major public policy issue for the federal government will be whether to invest in high speed rail there are other important non-monetary issues which will have to be addressed. Clearly, the federal government's jurisdiction over inter-provincial rail transportation dictates its involvement in such areas as responsibility for the right-of-way, providing a legislative and regulatory regime for high speed rail, coordinating changes in labour practices, and dealing with environmental concerns and safety. These are some of the non-monetary issues that must be resolved to ensure the success of high speed rail in Canada. Apart from federal government funding, their resolution would require federal government leadership and support.

2. *A HSR Right-of-Way for the Future*

a) *Passenger Versus Freight*

In Sweden and Germany the Committee was told that both railways mix high speed rail services and freight on the same track without any penalty to passenger services. In Canada, there has been some debate over whether or not this could be done in the corridor. Several witnesses told the Committee that this simply was not possible because of the weight, length and frequency of our freight trains. The Committee agrees that it is clear that any high speed train must operate on its own separate dedicated track.

Several witnesses emphasized that in order to allow for the possibility of high speed rail in the future it is essential to preserve and protect the most viable right-of-way. A considerable amount of study has already been done on the most appropriate and efficient configuration for the corridor. However, the Committee believes that one of the priorities for

the Federal/Provincial/Industry Feasibility Study should be to undertake a “corridor protection study” to identify a future corridor that would have the necessary flexibility and right design characteristics for a HSR project.

b) Protection of a HSR Right-of-Way

There is some indication that CN and CP are giving consideration to the possibility of a consolidation of freight traffic in the corridor in order to reduce operating costs and improve productivity. This would mean that the railways would share track thereby freeing up existing track and right-of-way which could be used for a future high speed rail service. Obviously, this could be of great advantage in the planning and development of a high speed rail system and would reduce the infrastructure costs.

The Committee believes that the federal government has an essential role to play in the identification of a preferred high speed rail alignment and in any process of rationalization of freight services. Such a rationalization might entail the abandonment of certain sections of track and right-of-way which could be of importance to the determination of the most suitable high speed rail route. The federal government can make a significant contribution to any future high speed rail project by protecting these abandoned sections through the exercise of its Governor in Council power under the *National Transportation Act*. Therefore the Committee recommends :

Recommendation No. 3

That the federal government provide the necessary leadership to facilitate the identification of the most appropriate high speed rail route, and ensure through the power of the Governor in Council under the *National Transportation Act*, that the route is protected and maintained for the future.

During the hearings, the question was raised whether, after a substantial period of time, the high speed rail infrastructure would revert to public ownership if there has been a substantial private sector investment in the project? In legislation recently passed by the State of Texas establishing a High Speed Rail Authority, there is provision for a reversion of the infrastructure to the State at the end of a 50-year period. Since the success of any high speed rail project in Canada will be dependent upon public funding the Committee believes that it is only appropriate that the infrastructure revert to public ownership after a certain period of time. Therefore, the Committee recommends :

Recommendation No. 4

That, in any agreement with the private sector concerning a high speed rail project in Canada, a condition for government funding is that the infrastructure revert to public ownership after a designated period of time.

3. *Legislative and Regulatory Framework*

We learned from our European visit that the planning, financing, design, construction and operation of a high speed rail system is expensive, complicated, time-consuming and requires government leadership and participation at every stage of the process. Some

jurisdictions have been able to accomplish this without special legislation as is the case in France and Germany. Other jurisdictions have found it necessary to provide a specific legislative and regulatory basis for high speed rail projects. For example, Sweden created two state-owned corporations — one responsible for the construction and maintenance of the national rail infrastructure and facilities, the other for the management and operation of conventional and high speed rail services. The State of Texas recently passed legislation establishing the Texas High Speed Rail Authority. In Britain, it will be necessary to pass legislation for the construction and operation of a new high speed rail service between London and the Channel tunnel. Finally, the Australians envisaged that a legislative framework would be required for the Very Fast Train project.

In Canada, the question is whether the current legislative and regulatory framework is appropriate for dealing with the important issues surrounding the development of any high speed rail project. Such issues as financing, the environmental process, land acquisition for new right-of-way, labour practices and safety requirements would have to be addressed. It may well be that the most expeditious and effective way of dealing with these is through new legislation allowing for public involvement and accountability. Certainly, the federal government must be prepared to take the initiative on this issue if it is needed for the development of any high speed rail project in Canada. Therefore, the Committee recommends :

Recommendation No. 5

That the federal government be prepared to provide the appropriate legislative and regulatory regime for the financing, planning, design, construction and operational phases for any high speed rail project in Canada.

4. *The High Speed Rail Operator-Public or Private?*

One of the issues raised during the hearings was the question of who should manage and operate high speed rail in the corridor. In Europe all high speed rail services are operated by state-owned railways with a mandate to make a profit. VIA Rail indicated to the Committee that it is interested in being the operator of high speed rail in Canada. Sixty percent of VIA's total revenue comes from corridor services and if this traffic were lost to another operator the rest of VIA's system would be in serious jeopardy. Furthermore, the only way to maximize operating efficiencies, cost savings and passenger convenience on the national rail passenger system would be through the integration of high speed and conventional rail services. The potential for profits from high speed rail would reduce the total VIA subsidy and the corridor service would have a positive impact on the entire VIA network.

There is no doubt that if high speed rail is introduced in the corridor, it will be at least a decade before that happens. Several witnesses argued that it was important to try to improve existing VIA services. Not only because it is a necessary and competitive mode of transportation in the corridor today but also because it is vital to maintain this market support for any future high speed rail project. In Europe, a "railway culture" has been promoted and is now firmly entrenched. This significant conventional rail passenger market has been the basis for the launching of all high speed rail services in Europe.

The Committee believes that efforts should be made to enhance VIA's national network and strengthen its services in the corridor to preserve and promote the "railway culture". The latest initiatives by VIA to improve on time performance and increase frequencies on major corridor routes are to be welcomed. This trend must continue as the key to VIA's possible participation in any high speed rail project will be its reputation and proven record for providing good, reliable, competitive service in the corridor. Therefore, the Committee recommends :

Recommendation No. 6

That, in the event that the federal government makes a financial commitment to high speed rail, it provides within the overall regulatory and legislative regime for the designation of VIA Rail as the operator of the service, and for conventional rail passenger services outside the corridor.

5. *Environmental Considerations*

The magnitude of the environmental impact of high speed rail is, to a large degree, dependent upon which technology is chosen. Obviously, if existing right-of-ways are used, the impact will be much less than if a new dedicated right-of-way is built. This has proved to be the case in Europe. The environmental assessment process will be more complex and lengthy and result in more expense to satisfy environmental concerns. Indeed, if a substantial amount of new right-of-way is necessary for the viability of the project, it is possible that strong environmental opposition could jeopardize the whole project.

Clearly, whichever technology is finally chosen, environmental concerns are going to be a major and sensitive issue. In any environmental assessment of high speed rail, the federal government and the provinces of Ontario and Quebec will all have to be deeply involved. The process will require a great deal of cooperation and coordination among the governments. All three are participants in the recently launched feasibility study. In the Committee's view, there is an opportunity during the term of this study for the three governments to develop guidelines and parameters for a full-scale environmental assessment process. Moreover, the Committee believes that there is an opportunity for the federal government to take the lead in the facilitation and coordination of an environmental assessment review which would be required for any high speed rail project in the corridor. Therefore, the Committee recommends :

Recommendation No. 7

That the federal government ensure that the joint Federal/Provincial/Industry Feasibility Study includes a consideration of the scope and nature of any environmental assessment process for any high speed rail project in the corridor and,

Recommendation No. 8

That the federal government exercise a leadership role in cooperation with Ontario and Quebec to develop and carry out the appropriate environmental review of any high speed rail project in the corridor.

6. *A Multi-Modal Policy*

It was pointed out to the Committee that one of the major weaknesses of transportation planning and policy development today is that there is no clear idea of the level of public investment and support in each of the passenger modes. It is difficult for consumers to make intelligent choices regarding which mode to use because their choice is masked by the fact that hidden subsidies are inherent in the infrastructure of all modes.

With the advent of growing competition, there has been a more intense debate concerning the amount of subsidization for each mode. The argument is that in a deregulated environment, the basic premise is that all modes should start on a "level playing field." The Committee recognizes how difficult and complex it will be to develop an accurate, acceptable and fair assignment of the level of public support for each mode. Nevertheless, it has become a key issue and must be addressed. The Committee hopes that the Royal Commission on National Passenger Transportation will do exactly this in its final report. Therefore the Committee recommends :

Recommendation No. 9

That, considering it is essential to more accurately determine the amount of subsidy for each mode, the Royal Commission on National Passenger Transportation should place particular emphasis, in its Final Report, on the identification of the levels of hidden subsidization within each mode.

Certainly, it would be valuable for the federal government to have a fair accounting of public subsidization for each mode before a decision to fund high speed rail is taken. The reason for this is that a determination on high speed rail should not be made in isolation but rather, within the context of an integrated, multi-modal national passenger system. As has been indicated, the Europeans have done this with their high speed rail services. European railway stations are classic multi-modal hubs.

It was evident to the Committee that there was a need for, and commitment to, multi-modal planning and facilities for high speed rail projects. We think this approach should be adopted in Canada if a high speed rail system is established. Instead of concentrating on aggressive inter-modal competition, coordination and cooperation should govern the relationship among the modes. This may well be the long term solution for the establishment of an integrated, efficient and safe passenger transportation system in Canada.

Recommendation No. 10

That the highest priority be given to intermodal planning and the development of intermodal facilities for any high speed rail project established in Canada.

In connection with a multi-modal strategy for high speed rail, it is important that any decision take into consideration the possibility of a future North American high speed rail system. As was pointed out by one witness, it is very likely that rail passenger traffic between Canada and the United States will become increasingly interdependent, particularly in the

transborder markets. Certainly it does not make a lot of sense to develop incompatible high speed rail systems as has been the case in Europe. Surely, one of the objectives in the planning and development of a high speed rail project in Canada should be to try to ensure compatibility with any connecting high speed rail systems established in the United States.

The Committee believes that the planning and development of any high speed rail project must be part of an overall national transportation policy and only the federal government can make sure that this occurs. Therefore, the Committee recommends :

Recommendation No. 11

That the federal government ensure that the planning and development of any high speed rail project be part of a comprehensive, integrated, national passenger transportation strategy which should include, where possible, reasonable compatibility with any future Canadian-American transborder high speed rail links.

IV. Conclusion

During its visit to Europe the Committee looked at two high speed rail technologies. One operates on existing upgraded electrified track of which the Swedish X-2000 is an example, while the other uses new dedicated electrified track of which the French TGV and the German ICE are examples.

The infrastructure costs for existing track technology are much less than those for new dedicated track technology. However, it is clear that very high speeds of more than 250 kph can only be achieved on new dedicated track. The economic trade off between speed and cost is evident. In any assessment of the viability of a high speed rail project the difference in travel time provided by the two technologies is the pivotal ingredient.

European governments have always owned their railways and given high priority to rail passenger services. They have made the same commitment to high speed rail through massive and continuing investment, confident that this policy is in the public interest. The Europeans ultimate goal is the establishment of an integrated high speed rail network stretching from London to possibly Moscow some day.

In Canada, the high speed rail technology choices are currently the same as the Committee examined in Europe. Speed versus travel time is the key issue and of vital importance when comparing the merits and costs of the two competing high speed rail technologies. Another essential issue to the success of a high speed rail project is the amount of modal shift from the plane and the automobile.

To date, there is little evidence that the modal shift has been significant enough to produce substantial benefits to the public which would make a compelling case for federal government funding of high speed rail in the national interest. The Committee firmly believes that the case for federal funding has to be much more convincing than it is at the present time. Only then, as the Committee has recommended, should the federal government consider financial support. Apart from this pivotal issue there are several important non-monetary items that must be resolved for high speed rail to be a success. As the Committee has pointed out all of them require federal government leadership and support.

Additional studies are being done on the feasibility of high speed rail in the corridor. The Committee recognizes that these may help to better identify the socio-economic benefits and more accurately define the mix of public and private funding for a high speed rail project. However, when all is said and done and the studies are completed, the Committee believes that a "leap of faith" is going to be required before high speed rail will happen in the corridor, or for that matter anywhere else in Canada.

V. Summary of the Committee's Observations, Findings and Recommendations

A. Observations and Findings from the European Visit

- There are two high speed rail technologies operating in Europe—one is designed for upgraded existing electrified track, the other for new dedicated electrified track.
- The two technologies are expensive but the infrastructure costs for existing track technology are much less than for dedicated track.
- Travel time not speed is the key parameter in assessing the performance and cost of high speed rail.
- High speed rail services have been very successful at capturing airline traffic but not at getting people out of their cars.
- High speed rail has a perfect safety record to date.
- The environmental considerations for a new dedicated track for high speed rail are much more time-consuming and costly than using upgraded existing track.
- High speed rail services are part of an impressive intermodal network.
- All European governments own their railways and as a matter of policy are prepared to make massive investments in high speed rail projects. European geography (e.g., closeness of city pairs), higher concentrations and densities of population and, significant highway and airway congestion may well justify these huge public investments.

B. Observations and Findings from the Ottawa Hearings

- The Quebec City/Windsor corridor is reasonably well served by both public and private modes of transport with the automobile being the dominant mode.
- The Canadian studies demonstrate beyond any doubt that high speed rail is technically feasible but will require significant public sector funding.
- The technology choice for the corridor is either upgraded existing electrified track or new dedicated electrified track.
- Current labour practices will have to be streamlined for high speed rail operations to ensure commercial viability in Canada.

- Both technologies will require considerable testing in Canada's harsh winter conditions.
- The economical Swedish approach to level crossing safety for their high speed rail service might be applicable to high speed rail in Canada.
- The debate on a high speed rail project must be market not technology-driven.
- To date, the Canadian studies reflect the European experience which is that high speed rail is not capturing a significant amount of automobile traffic.
- Currently, there is little evidence to indicate that any modal shift from air and the automobile to high speed rail would be large enough to justify the avoidance or deferral of government expenditures on airport and highway infrastructure.
- The Canada-Ontario-Quebec joint feasibility study should give priority to determining what motivates people to make modal choices.
- The Governments should not attempt to modify modal choice by forcing people to shift from their cars to high speed rail through, for example, higher gas taxes or tolls.
- Significant environmental benefits only accrue from high speed rail if there is a huge modal shift of traffic from the highway.
- Without significant modal shift of automobile traffic caution must be exercised in using the environmental argument as a major justification for high speed rail.
- In Canada, there is no possibility of a high speed rail service sharing the same track with freight operations.
- One of the priorities for the new Canada/Ontario/Quebec Feasibility Study should be to undertake a "corridor protection study" to identify a future corridor that would provide the necessary flexibility and design characteristics required for a HSR project.

RECOMMENDATIONS

1. That the federal government should not make a financial commitment to the development of high speed rail in the corridor at this time but, consider making a financial commitment if and when it has been clearly demonstrated that substantial and tangible socio-economic benefits will accrue to the public interest from such a transportation project.
2. That the federal government ensure that the Federal/Provincial/Industry Feasibility Study identify and analyze the technology transfers, industrial development, and export opportunities that would derive from each of the proposed high speed rail technologies for the Canadian economy.
3. That the federal government provide the necessary leadership to facilitate the identification of the most appropriate high speed rail route, and ensure through the power of the Governor in Council under the *National Transportation Act*, that the route is protected and maintained for the future.
4. That, in any agreement with the private sector concerning a high speed rail project in Canada, a condition for government funding is that the infrastructure revert to public ownership after a designated period of time.
5. That the federal government be prepared to provide the appropriate legislative and regulatory regime for the financing, planning, design, construction and operational phases for any high speed rail project in Canada.
6. That, in the event that the federal government makes a financial commitment to high speed rail, it provides within the overall regulatory and legislative regime for the designation of VIA Rail as the operator of the service, and for conventional rail passenger services outside the corridor.
7. That the federal government ensure that the joint Federal/Provincial/Industry Feasibility Study includes a consideration of the scope and nature of any environmental assessment process for any high speed rail project in the corridor and,
8. That the federal government exercise a leadership role in cooperation with Ontario and Quebec to develop and carry out the appropriate environmental review of any high speed rail project in the corridor.
9. That, considering it is essential to more accurately determine the amount of subsidy for each mode, the Royal Commission on National Passenger Transportation should place particular emphasis, in its Final Report, on the identification of the levels of hidden subsidization within each mode.
10. That the highest priority be given to intermodal planning and the development of intermodal facilities for any high speed rail project established in Canada.
11. That the federal government ensure that the planning and development of any high speed rail project be part of a comprehensive, integrated, national passenger transportation strategy which should include, where possible, reasonable compatibility with any future Canadian-American transborder high speed rail links.

APPENDIX A

List of Witnesses

Name/Organization	Issue	Date
ABB (Asea Brown Boveri Inc.) Peter Janson, President and Chief Executive Officer; Zelko Lendich, General Manager, Transportation Segment.	9	Dec. 5, 1991
Air Canada Léo Desrochers, Executive Vice President and Chief Operating Officer; Pat Kelly, Senior Vice President, Corporate Strategy and Information Services.	6	Nov. 26, 1991
Air Transport Association of Canada Howard P. Goldberg, Vice President and Secretary.	10	Dec. 10, 1991
Amtrak, National Railroad Passenger Corp. (USA) Edgar E. Courtemanch, Senior Director, Capital and Business Planning.	10	Dec. 10, 1991
Association of Consulting Engineers of Canada R. Wayne Bowes, Chairman and Chief Executive Officer; Pierre A.H. Franche, President and Chief Operating Officer; Anthony W. Burgess, Director of Communications and Policy Development.	9	Dec. 3, 1991
Bombardier Inc. Pierre MacDonald, Vice President, Transportation Equipment Group; Jules Pleau, Director, TGV Project.	9	Dec. 5, 1991
CN Rail Ronald E. Lawless President and Chief Executive Officer; John H.D. Sturgess, Senior Vice President, and Chief Operating Officer; B. Eldon Horsman, Vice President, Strategic Issues.	7	Nov. 27, 1991

Name/Organization	Issue	Date
Consumers Association of Canada Wendy Butler, Executive Vice President, Ontario Region.	6	Nov. 26, 1991
CP Rail I.B. Scott, Chairman and Chief Executive Officer; Michael E. Kieran, Director General, Infrastructure.	6	Nov. 26, 1991
Federation of Canadian Municipalities James Knight, Director General; Massimo Bergamini, Senior Policy Analyst.	10	Dec. 10, 1991
High Speed Rail Association (USA) Robert J. Casey, President; Robert K. Pattison, Chairman of the Board.	10	Dec. 10, 1991
Ontario-Quebec Rapid Train Task Force Robert C. Carman, Co-Chairman; Rémi Bujold, Co-Chairman.	8	Nov. 28, 1991
Quebec/Windsor Coalition of Corridor Mayors Mayor Jean Doré, City of Montreal; Mayor Jacquelin Holzman, City of Ottawa; Denis de Belleval, Director General, City of Quebec.	10	Dec. 10, 1991
Transport 2000 Bob Evans, President; David Jeanes, Member, National Board of Directors.	8	Nov. 28, 1991
VIA Rail Canada Inc. Ronald E. Lawless, President and Chief Executive Officer; James Roche, Executive Vice President and Chief Operating Officer; J.R. Paquette, Vice President, Planning and Finance; André Gravelle, Specialist, High Speed Rail.	7	Nov. 27, 1991

APPENDIX B

List of Submissions

Name/Organization	Issue	Date
ABB (Asea Brown Boveri Inc.)	9	Dec. 5, 1991
Air Canada	6	Nov. 26, 1991
Air Transport Association of Canada	10	Dec. 10, 1991
Association of Consulting Engineers of Canada	9	Dec. 3, 1991
Bombardier Inc.	9	Dec. 5, 1991
Federation of Canadian Municipalities	10	Dec. 10, 1991
Seaway-Adirondack Transport Group	-	Dec. 13, 1991
Third Dimension & Associates Ltd.	-	Dec. 5, 1991
Transport 2000	8	Nov. 28, 1991
VIA Rail Canada Inc.	7	Nov. 27, 1991

REQUEST FOR GOVERNMENT RESPONSE

Your Committee requests that the Government respond to this report in accordance with Standing Order 109.

A copy of the relevant Minutes of Proceedings and Evidence (*Issues Nos. 6, 7, 8, 9, 10 and 11, which includes this report*) is tabled.

Respectfully submitted,

ROBERT A. CORBETT, M.P.,

Chairman.

Minutes of Proceedings

TUESDAY, FEBRUARY 4, 1992

(18)

[Text]

The Standing Committee on Transport met, *in camera*, at 10:10 o'clock a.m. this day, in Room 253-D, Centre Block, the Chairman, Robert Corbett, presiding.

Members of the Committee present: Iain Angus, Ken Atkinson, Robert Corbett, Stan Keyes, Denis Pronovost.

Acting Members present: D. Bjornson for G. Wilson, John Manley for Sergio Marchi.

Pursuant to Standing Order 108(2) and the terms of reference adopted by the Committee on September 17, 1991, the Committee proceeded to consider a draft report on high speed rail.

At 11:50 o'clock a.m., the Committee adjourned to the call of the Chair.

AFTERNOON SITTING

(19)

The Standing Committee on Transport met, *in camera*, at 3:40 o'clock p.m. this day, in Room 253-D, Centre Block, the Chairman, Robert Corbett, presiding.

Members of the Committee present: Iain Angus, Robert Corbett, Stan Keyes, Lee Richardson.

Acting Members present: D. Bjornson for Ken Atkinson, Ken Monteith for Denis Pronovost, Marcel Tremblay for Geoff Wilson.

Pursuant to Standing Order 108(2) and the terms of reference adopted by the Committee on September 17, 1991, the Committee proceeded to consider a draft report on high speed rail.

At 4:10 o'clock p.m., the Committee adjourned to the call of the Chair.

TUESDAY, FEBRUARY 11, 1992

(20)

The Standing Committee on Transport met, *in camera*, at 10:15 o'clock a.m. this day, in Room 253-D, Centre Block, the Chairman, Robert Corbett, presiding.

Members of the Committee present: Iain Angus, Ken Atkinson, Robert Corbett, Stan Keyes, John Manley, Denis Pronovost, Lee Richardson, Geoff Wilson.

Pursuant to Standing Order 108(2) and the terms of reference adopted by the Committee on September 17, 1991, the Committee proceeded to consider a draft report on high speed rail.

At 12:35 o'clock p.m., the Committee adjourned to the call of the Chair.

AFTERNOON SITTING

(21)

The Standing Committee on Transport met, *in camera*, at 3:40 o'clock a.m. this day, in Room 253-D, Centre Block, the Chairman, Robert Corbett, presiding.

Members of the Committee present: Iain Angus, Robert Corbett, Stan Keyes, John Manley, Denis Pronovost, Lee Richardson, Geoff Wilson.

Pursuant to Standing Order 108(2) and the terms of reference adopted by the Committee on September 17, 1991, the Committee proceeded to consider a draft report on high speed rail.

At 4:05 o'clock p.m., the Committee adjourned to the call of the Chair.

TUESDAY, FEBRUARY 18, 1992

(22)

The Standing Committee on Transport met *in camera* at 10:10 o'clock a.m. this day, in Room 269, West Block, the Chairman, Robert A. Corbett, presiding.

Members of the Committee present: Iain Angus, Ken Atkinson, Robert A. Corbett, Stan Keyes, John Manley, Denis Pronovost, Lee Richardson and Geoff Wilson.

Other Member present: Marcel Tremblay.

In attendance: From the Research Branch of the Library of Parliament: John Christopher, Research Officer. David Cuthbertson, Consultant.

Pursuant to Standing Order 108(2) and the terms of reference adopted by the Committee on September 17, 1991, the Committee proceeded to consider a draft report on high speed rail. (*See Minutes of Proceedings and Evidence, dated September 17, 1991, Issue No. 1.*)

It was agreed,—That today's report on high speed rail, as amended, be adopted by the Committee and that the Chairman present it to the House before the second week of March 1992.

It was agreed,—That the Committee print 2,000 copies of this Report, in tumble bilingual format, with a distinctive cover.

It was agreed,—That the said Report be entitled: "High Speed Rail: the Canadian Concept".

It was agreed,—That, pursuant to Standing Order 109, the Committee request that the Government table a comprehensive response to this Report within one-hundred-and-fifty (150) days.

It was agreed,—That the Chairman be authorized to make such typographical and editorial changes as may be necessary without changing the substance of the Report to the House.

It was agreed,—That the Committee hire a Text Editor to review the Committee's Report on high speed rail and that he be paid up to \$2,000.00 to perform his duties.

The Committee proceeded to the election of a Vice-Chairman (Opposition).

It was agreed,—That Stan Keyes be elected Vice-Chairman (Opposition) of the Committee.

At 11:15 o'clock a.m., the Committee proceeded to consider its future business.

At 11:30 o'clock a.m., the Committee adjourned to the call of the Chair.

Marc Toupin
Clerk of the Committee



CANADA
CHAMBRE DES COMMUNES

ÉTUDE SUR LES LIGNES À GRANDE VITESSE : LA VERSION CANADIENNE

RAPPORT DU COMITÉ PERMANENT DES
TRANSPORTS

ROBERT A. CORBETT, député
président

Mars 1992

