

## **RAIL HUBS AND CORRIDORS: LINCHPIN FOR DEVELOPMENT**

### **INTRODUCTION**

In a recent interview, Roberto Camagni an economist and expert in regional and urban development said, "... cities and regions can neither devaluate nor reduce salaries in order to gain competitiveness" as the United States does. Likewise, he said, "... they should never resort to methods of impoverishing one's neighbour, such as lowering taxes to attract investment nor to sectarian policies. Many errors have been made in their name." His recommendation is: **"Horizontal policies are more effective: improvements in accesses to territories, the infrastructures and the human capital."**

Naturally, in this conference I will consider the first two aspects: the accesses to territories and the development of the infrastructures - both of which are determining factors for the mobility of people, goods and services. I will focus on rail transport.

### **THE MOBILITY PUZZLE**

I believe that the mobility problem is very complex. We could refer to it as a puzzle with a lot of pieces that we must try to fit together. I have tried to reflect this puzzle in slide number 1. Here we find various elements that could form different sub-sets of pieces. On the one hand, we have the infrastructures such as highways, ports, railways and airports which are all systems that allow passengers and freight to move via trucks, cars, buses, boats and planes. The good growth and development of these systems is channelled through mechanisms which not only guarantee maximum personal safety but also regulate and control all of the traffic types. Regulation that, in some cases, demands sophisticated techniques such as air and rail traffic control.

The companies that offer these transport services need a good management system. Moreover, they are currently feeling the pressure of the privatisation processes that, in part, are trying to improve efficiency and overcome economic problems. Here it is important to point out the operation deficit that the railways are experiencing especially when they are run by integrated public companies. We must also consider that both the railway companies and the airlines are subjected to corporate pressures from certain groups such as the airline pilots and train drivers who seriously condition the companies' income statements.

This puzzle is completed with a very important piece - urban planning - which is the basis for real estate development, as well as with the impact problems that these infrastructures produce in urban areas. Trains, motorways and highways connect cities and towns but they also divide urban continuity, pollute and create noise pollution. The railway tracks that normally run along the outer limits of cities have found themselves surrounded by buildings and they have become an unpleasant problem. The solution is to bury the tracks by building urban tunnels or other types of territorial integration.

Finally, we cannot forget that the world of transport is subject to strict and complicated regulations that lead to rigid bureaucracy both in the internal organisation of the company as well as in its customer service image.

## **RESPONSIBILITY IN RAILWAY INFRASTRUCTURE MANAGEMENT AND PERFORMANCE**

Although this graph shows a certain order in the presentation of this problem it is worthwhile to consider a system that lets us fit all of the pieces together correctly. The base of this system is a good definition of public responsibilities. Considering railway transportation specifically, I have divided this into two large areas: infrastructure itself and the administration and management of the service.

- When we look at **infrastructure performance** and the transport networks it is important to point out that transportation should be considered from an inter-modal perspective because the movements from one place to another, when they are carried out by public means always require various modes. If we are going to use the train or the aeroplane, we must reach the station or the airport by car, by bus, by commuter train or by taxi. So infrastructure planning must take into account this characteristic. In developed countries, public responsibility in the definition of the infrastructure plan, in the choice of investments, in the balanced awarding of contracts to the various modes as well as the determination of priorities must fall on the various Parliaments and not on the companies who are offering the services as has been happening in the past. In this global world in which we live, the transportation networks must overcome the borders between countries which demands better co-ordination that, in the case of Europe, must be the responsibility of the European Union. (See Slide number 3)

With respect to the building of these infrastructures, the responsibility of the planning and performance of the works must fall on the governments of the various states. In the case of the railroad I believe that it is clear that the financing of these types of works must come from the State. The specific realisation however, could fall on the companies themselves whether they are national, public railways or companies exclusively in charge of the realisation of infrastructures -- as now occurs in the majority of the European countries.

- ◆ Nevertheless, to give a good answer to the right of mobility we must not forget that the **management system** is fundamental because infrastructures are really useful when they are used effectively and efficiently. In order to do that it is essential to have a good care and maintenance plan whose responsibility is fundamentally public; above all if we refer to the railroad. Its financing must be based on the public budget although public concessionaires could carry out its management. Great Britain who opted for the privatisation of their infrastructure maintenance services, through Railtrack, was obliged to rethink this decision and they are currently in the process of developing a system, as a new alternative, that has been named "Public, Private Partnership" (PPP). It is precisely the debate that has grown in Britain that shows us that what cannot be privatised is the responsibility for the safety of human beings. It is also beginning to become clear that maintenance must be carried out based on standards that ensure the quality of train circulation. (See Slide number 4)

Normally when we talk about infrastructure problems we forget that the management of the service is a key aspect to strengthen the use of the various modes. On the highway, service falls directly on the owners of the mode of transport. the car or on the many companies that manage the buses or trucks

while in aviation and navigation the service is offered by public or private companies. In the railways the service is in the hands of public companies with the exception of Great Britain, Japan, Australia and the United States. In the latter, railway passenger transport depends on a public company.

As we mentioned before, these companies affront the challenge of demonstrating to the public that they are efficient. The railway, that was the mode of transportation par excellence until the middle of the last century, experienced an important crisis due to the incursion of aviation and the highway. The automobile is currently the supreme system, with market shares that range from 65% to 80% depending on the country. The entirety of the highway, that is to say, cars buses and trucks, can reach shares of up to 90%.

Therefore, from the point of view of a transport service, the train has ceased to be a monopoly and must compete, strongly, with other modes in aspects such as flexibility, comfort, price and adaptability to the customers' needs. This challenge cannot be met by large, integrated and heavily bureaucratized public companies that are aimed at fulfilling the demands of operation. It must be met by operations that have been decentralised according to the type of service and are concerned with serving the customer. In this sense, the services of freight trains in general or of passenger trains in specific markets, face the alternative of opting for new management alternatives and nothing shows that they must be irremediably public property.

## **THE RAILWAY AS A LINCHPIN OF URBAN DEVELOPMENT**

The market share of passenger trains in Europe oscillates between 5% and 15%. If we consider this plus all of the modes that include the highway, aviation and navigation we can deduce that their influence on urban development does not have the weight that it had during the second half of the 19<sup>th</sup> century. On the other hand, this quota is made up of various segments of railway service, specifically Commuter Services, Regional Services, Long Distance Services and High Speed Services. From those segments only those of Commuter Services, that more and more resemble metropolitan transport systems, and High Speed Services, have a real influence on the models of development and urban growth.

Efficient Commuter Services are a necessary condition, although not enough to fight the threat of urban sprawl. By that, I mean the exodus of families towards the periphery prompted by overpopulation and the increase in the price of housing in urban centres. A good transportation network brings nuclei closer together, shortens distances, favours regular movement and creates real integrated metropolitan areas. The planning of urban development is favoured under these conditions and thanks to this it can be more balanced.

High Speed defines itself as a service that can join urban centres a maximum of 600 km apart when that distance can be travelled in no more than three hours. You say the limit is 3 hours because in this case train is faster than car and similar to the plane, but train has an advantage over the plane because it links centre city to centre city and an additional road trip is unnecessary. In this distance train competes to car because is faster, more safety and comfortable. As you can see in slide number 6, (Modal distribution: train/plane), when the length of the trip is less than three hours the High Speed train has a market quota higher than that of the plane. It

also shifts the use of the car to capillary relations of short distances. If we look at the graph we can see that the quota is 97% between Paris and Brussels, 90% between Paris and Lyon and 78% between Madrid and Seville. Nevertheless, in similar distances such as Rome -- Milan where the length of the trip is four hours, the quota drops to as low as 42%.

On the other hand, we must consider that the High-Speed train (HST) is used mainly for business trips while the conventional long distance train is used mainly for vacations and pleasure trips. When a passenger travels for business or for work s/he most appreciates speed and comfort while when s/he travels for pleasure, the traveller most appreciates price and safety. Trips for business and work are on a regular basis and generate economic inter-relations that influence the urban models. Pleasure trips are sporadic and barely influence urban settlement policies or economic activity other than tourism.

The High-Speed system in Europe must be seen from the supra-state scope. If we take a look at slide number 7 we can clearly notice the foreseeable development for the European network for 2020. The current network is the line in brown. We can see that the current hubs are basically Paris and Munich. Berlin, Brussels, Madrid, Barcelona and Rome will join them in one or two years. For the time being Rome, Barcelona and Madrid are bi-directional hubs and not multi-directional as is the case of Paris.

In fact, the High Speed network cannot be seen as a complete spider web. It works within a medium range distance in a travel time of three hours from one urban hub to another.

Until now, only Europe and Japan have bet seriously for the development of high speed lines. A few years ago the United States started planning new railway development to cover maximum distances of 600 km that are ideal for high speed. The plan hoped to improve relations between big cities that are relatively close together such as Florida, with the hub in on Miami or California in Los Angeles or Illinois in Chicago (see slide 8)

The changes for Europe can be seen in slide 9 where the evolution of European High Speed in the 90's is shown. We can also see the provisions for change in the train's market share between 1990 and 2010 in slide 10. As you notice they expect train passes from 14% of market share in 1990 to 24% in 2010.

## **THE EFFECTS OF HIGH SPEED**

**The High Speed services change geography** as we can see in slide number 11 which shows us the French map of these services using equivalency time curves for the various distances from Paris. The competitive distances are in different shades of blue. The span of mobility modifies geography in the sense that the time factor rules over physical distance.

If we look at the map we can also see that high speed is a determining factor for the approximation between medium sized cities that generally do not have air transport services. Precisely the changes in urban development derived from implanting high speed lines are clearly seen in cities that are close to large capitals such as Paris and

Madrid. This is the case of Le Mans and Tours on the TGV Atlantique line, Lille on the TGV North-Europe line and Ciudad Real on the Madrid - Seville AVE line.

If we refer to Ciudad Real we can point out that the implantation of the AVE line generated induced demand. That is to say, it strengthened the building of new lines derived exclusively from the creation of the new service; thus it created a demand which had been non-existent. This new induced demand was evaluated in 34% in 1992 (the year that the line was opened) and it continued growing in the following years. It is a new demand that grows because the travel time on the Ave between Ciudad Real and Madrid is 45 minutes by 26,54 €. This is a circumstance that means that people who live in one of these cities can travel to work in the other city daily. Among people who travel for work reason the most important job sectors are education, health and business. Likewise, between 500 and 600 new houses have been built as a consequence of the new proximity between this city and Madrid. This supposes a population increase of approximately 4%.

High Speed has given us an opportunity to introduce new forms of railway service management. In the case of Spain, the new line was organised as a Business Unit that started its activity as if it were a new company with new processes, new work procedures and completely professional personnel. The new business unit was not exposed to the conventional routine of the traditional Railway Company. The new quality assurance policy that was introduced led the business unit to receive the EFQM award in 1998.

Finally, the arrival of high speed revitalised activity in the railway stations by increasing the number of travellers. These stations are the inter-change junctions of a multi-modal transport system that not only favour accessibility to the trains and the associated services, but also turn them into centres of commercial and civic activity of huge urban importance.

Definitively the importance of the high speed train lies not only in its capacity to compete with the car and the aeroplane but also in the fact that it **modifies the balance of power between cities.**

Mercè Sala Schnorkowski  
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