



PARTNERSHIPS FAVOURING A SUSTAINABLE MOBILITY TO AND FROM THE BRUSSELS INTERNATIONAL AIRPORT

Category: Workshop

In case of a workshop: Economic community

Name: Johan Vanhove

Organisation: NMBS/SNCB (Belgian Railways)

Country: Belgium

E-mail address: johan.vanhove@b-rail.be

PARTNERSHIPS FAVOURING A SUSTAINABLE MOBILITY TO AND FROM THE BRUSSELS INTERNATIONAL AIRPORT

Increasing traffic congestion is threatening the accessibility of many airports and consequently it is putting a break on the development of both the airports and their hinterland. The combination train/aeroplane is therefore increasingly seen as an ideal solution to develop a more sustainable transport chain. In Belgium too, the roads network around the national airport is nearing saturation. A better rail service for the airport will not only improve accessibility, but will also take away some of the pressure on the surrounding road network, which would favour mobility in the entire Brussels region. Moreover, additional railway infrastructure, which is essential for a better train service to the airport, may even offer extra possibilities for the domestic railnet as a whole.

In 2001, industry, the airport authorities, the government and the railways joined their forces in order to set up partnerships for more sustainable mobility to and from the Brussels international airport.

1. Introduction

In 1955, Brussels became the first European capital with a direct rail link between the centre of the city and its airport. The former Belgian national airline company Sabena opened a check-in terminal for its customers next to Brussels Central Station, which is only a few hundred meters away from the historical Grand-Place. Thus passengers could take the escalator or the elevator to the platform from where a shuttle train carried them directly to the airport in the neighbouring town of Zaventem.

Almost half a century later this airport as well as air traffic in general, have known a complete metamorphosis. Thanks to an intensive growth, especially in the nineties, the Brussels international airport receives every year some 20 million passengers, which is twice the total population of Belgium. As a result, the Brussels airport ranked in 2000 as the eleventh European airport for passenger traffic and was number five on the freight chart. Its central position, its continuous expansion, the growing importance of Brussels as the European capital and the general economic development of the hinterland will boost the importance of the airport even more.

In the spring of 2001 an average was recorded of 95.000 daily commutes to and from the airport by air passengers, personnel, suppliers and other visitors. This number is expected to increase by half during the next ten years.

Two events at the end of 2001 had a major impact on the airport. First of all, the events of September 11 caused a global downfall in air traffic. Secondly, the bankruptcy of the Belgian national airline company Sabena, which generated an important number of flights.

We must however put the long-term consequences into perspective. Belgium's international appeal will continue and the Belgians will keep travelling by air for various reasons, either with foreign companies, which are already increasing their market shares, or with new Belgian airlines.

From the mobility point of view, only passengers with Brussels as point of departure or destination of their flight, the so-called land-side passengers, are important. The current drop of the number of transfer passengers, who are only transiting to another flight, is therefore of no consequence to overland traffic to and from the airport, except for the personnel volume, whose growth is expected to slacken in the short and medium run. Even if traffic to and from the airport only grows by a mere 30 or 40 % during the next ten years instead of the originally expected 50 %, the urgency to take mobility measures remains unchanged. The surrounding road system is already showing signs of saturation. Counts on the highway near the airport produced an average result of over 150.000 vehicles per working day in 2001. If the growth of traffic to the airport mainly results in extra road traffic, the daily traffic jams will become permanent and the airport will be in danger of becoming inaccessible from its hinterland due to complete road congestion.

Hence guaranteed accessibility is essential to the Brussels-based European and international institutions as well as to business and tourism. In this respect the railways hold a unique trump card. Rail is indeed the only transport mode that can offer a transport system which is unaffected by the congested roads. The train is moreover an environmentally friendly mean of mass transport, which, in a country as Belgium, with one of the densest railway networks in the world, combines smooth accessibility with speed, comfort and safety.

2. How to change the modal split

Less than 7 % of the commutes to and from the airport are currently made by bus or train. Following the example of other airports abroad, Brussels aims at a 38/62 modal split of collective/individual transport by 2012. The Belgian railways intend to cover some 30 % of all traffic from and to the airport. The increased market share and the expected growth of overall traffic imply that the number of passengers travelling to the airport by train will multiply by five over the next ten years.

In order to achieve this goal it is necessary to take a series of coherent measures such as clear information in various languages and trains offering adequate comfort and luggage facilities. Price measures, such as for example allowing passengers holding a plane ticket to take the train, which could be financed by slightly increased airport taxes, can also stimulate the use of rail transport.

Increasing the number of direct connections from different regions in the country is one of the key solutions in this respect. In May 1998 the Belgian Railways launched the Brussels Airport Express, offering four connections per hour both ways between the airport and the three major Brussels stations. Due to limited railway capacity this service is temporarily limited to three trains per hour during the peak period. Some of these trains run on to destinations in the western part of Belgium and are most successful.

The comparison of the 1997 ticket sales to the ticket sales in 2000 for some cities which were granted a direct connection to the airport in 1998, shows that the average national increase of tickets to the airport by 50 % is largely exceeded: 140 % for Ghent, 270 % for Aalst, 130 % for Mons and 180 % for Halle.

The primary obstacle at present is the fact that the airport railway station is a terminus station with only three platform tracks and for trains it's only accessible from the Brussels. A rail connection to the eastern part of Belgium is currently under construction, but a connection to the north still needs to be developed. The political authorities decided that this should be done by extending the present dead end tracks under the main runway of the airport in the direction of Antwerp, Belgium's second city with some 450.000 inhabitants and the fourth largest seaport in the world. The layout of this new railway line offers various options, each with their specific advantages and disadvantages.

In order to determine the ideal layout of the line, partnerships were established in 2001 between several important actors like the companies based in the airport zone, BIAC (Brussels International Airport Company), which is the official operator of the airport, the Belgian Railways and the Flemish regional authorities.

The partnership conducts various studies, all with a view to increase the railway accessibility of the airport. One of these studies examines the possibility to install a hub for high-speed freight trains at the airport, whereas another study analyses the impact of the various layout options on town planning and the environment. The most important partnership, in terms of mobility management, was the constructive co-operation that has led to the ideal choice of layout with a view to the future train offer that has the assets required to achieve the intended modal split.

3. Critical success factors for these partnerships

The first essential condition is to have **accurate data**, which allow to assess the present and the future situation as accurately as possible and which can be used as a basis to evaluate the measures taken.

There are three types of traffic flows to and from the airport: land-side passengers, staff and visitors. The visitor category strongly depends on the figures recorded for the other two categories.

To gain a better insight into the points of departure or destination in Belgium of land-side passengers, BIAC ordered in June 1997 a fairly extensive study with the consultants of *Tritel*. In order to find out where the airport personnel lives, it was necessary to have the co-operation of the various companies based in the airport zone. BIAC managed to convince most companies to feed staff data, such as their place of residence, their mode of transport and their work system to a central database, which is available to the public transport companies within a geographic information system (GIS). That gives us most detailed information about some 70 % of all airport personnel. Setting up uniform databases within a GIS is time-consuming but absolutely essential. Drawing conclusions based on incomplete or incorrect information usually leads to the wrong decisions, which may provoke a heavy social or economic impact.

Providing such confidential information is anything but obvious. Therefore it is essential to win the trust of these companies, to persuade them of the value of such a database and to offer them the necessary guarantees that all information remains strictly confidential because each partner only has access to a previously determined and limited level of database information. The purpose of this database is not only to underpin the future train offer, but above all it is a tool for companies to offer the best possible solutions to the mobility needs of their personnel. Apart from the Belgian Railways, other transport companies such as *De Lijn*, the Flemish bus and tram company, consult these data to set up a high-frequency bus service network in the wide vicinity of the airport in order to offer to the workers, as close to their homes as possible, a worthy alternative for their daily commutes to the airport.

The merging of staff, visitor and passenger data and a future projection applied to those data allowed to establish a ranking of the stations with the highest passenger potential to and from the airport. As mentioned earlier, direct rail services are a key factor to attract more passengers and hence to shift the modal split in favour of public transport.

It would seem that the ideal solution consists of offering as many direct connections to the airport as possible, but given the limited capacity on the existing railway lines and the available budget, that could prove fatal to the rest of train traffic. In fact the entire project has led to an optimisation process that takes into account the wishes of the various partners and aims at minimising journey times and costs, and maximising direct services for potential customers and improvements for other domestic train connections.

Based on the fairly accurate data it was possible to draft a proper transport plan and to analyse what additional infrastructure would best meet the needs of potential passengers. From a mobility management point of view, the layout which uses part of the very wide central reservation of the E19 motorway between Brussels and Antwerp, offers the best solution to extend the present dead end railway tracks of the Brussels airport railway station. Besides the fastest journey times to the various destinations, this layout, contrary to other options, only joins the existing tracks in the bigger stations, so that there's no extra strain on them. It also allows to better spread the existing trains and to have them run more punctually. Furthermore new possibilities arise for other train connections. Besides an extensive service offer of seven domestic trains per hour, both ways, to 47 destinations, this layout also offers adequate possibilities for receiving various high-speed trains.

The next step was to check whether this draft operating plan offered sufficient potential to achieve the fixed goal of a 30 % market share for rail. We can state that by 2012, in accordance with the proposed airport transportation plan, direct rail services will be offered at maximum 5 km from one's home or destination for about 50 % of all traffic to and from Brussels International Airport. That share stands currently at less than 9 %. If the Belgian Railways manage to obtain a market share of 40 % for stations that will have a direct connection to the airport, and 20 % for the other train stations, then an average market share of 30 % is realistic. Hence the necessity to **evaluate**, to assess whether the goals are actually achieved or can be achieved.

As the improved accessibility of the airport has a considerable effect on mobility in Flanders and as the Flemish regional authorities are to issue the building permits required, the Flemish Region analysed the impact of the proposed airport transportation plan on the basis of a multimodal traffic model. This model calculated the effect on the number of rail passengers and the pressure on the surrounding road system. The results of this exercise do not only reflect a favourable influence on the number of train passengers to and from the airport, but also and especially on various domestic rail connections. After all, these connections become more attractive thanks to better service possibilities as a result of the new connections to the airport. This proves that the results of a partnership that applies an **overall approach** of the problem can be more positive than originally assumed. If the proposal had been based on the airport's point of view only, the result might have been slightly better for the airport itself, but the situation for the other rail passengers would have been unchanged or even affected negatively.

Also in terms of the co-operation between the different partners such an overall approach is essential to come to productive results. Instead of each partner lobbying to get the most out of it for himself, **one common goal favouring the public interest as much as possible** has to be clearly defined and pursued.

This common goal can only be reached if the study is drafted in **an atmosphere of confidence**. All options have to be debatable and leaks are out of the question. Every partner needs to make sure of course that his interests do not suffer, but in the long run the ideal overall solution will be the most advantageous one for every individual partner.

A partnership is not about quickly taking some decisions. Thorough multidisciplinary research, where every partner brings in his expertise, is the recipe. Considering the time, the trust and the specialised work required for such studies, **the R&D departments of the various partners should draft the studies**. Private consultants may be involved to bring in extra know-how and IT support. As soon as the study is concluded, the management of the various partners involved and the political authorities can take a decision based on this study or give their preference to one of the proposed options.

4. Conclusion

This example shows a partnership of industry, airport authorities, government and railways that has led to a proposal of a demand-oriented operational scheme that determines the necessary infrastructure and combined with other measures, should shift the modal split of traffic to and from the airport. And moreover, it also generates positive effects for other domestic passengers.

This partnership mainly owes its success to highly detailed information which was provided in confidence by the companies and which served as a basis together with the enquiry results, to a creative reflection process where all possibilities were debatable. Various evaluations show that the common goal, the pursuit of a 38/62 modal split collective/individual transport is realistic after the implementation of the transport plan, which resulted from this partnership. In the next few months, other partnerships will lead to an infrastructure project that hopefully has the support of all parties involved. This support is essential to achieve fast implementation.

A partnership does not end when the study is concluded. The actual work starts then, with the implementation, the follow-up and the constant fine-tuning of the project. Essential in this respect is the development of other measures of mobility management that will boost the effects of the new transportation plan to create real sustainable mobility that will safeguard the accessibility of the Brussels International Airport.