

Railways as the core of Intermodality Worldwide best practices for railway stations



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As the main point of intersection between the town and the railway, the station is the only link within the rail system that has the ability to leverage its positive effects.

A showcase of railway activity, it is a key channel in the promotion and retail of transport products to travelers. As a structure in its own right it contributes to the identity and image of the transport medium it serves. As an everyday living space, it is the central link in the mobility chain as well as a key element in the organisation of intermodal transport. The station also represents the modernity, progress and development that have been embodied by rail transport since it was first invented.

In the history of rail transport, the functions of the station have gradually evolved. Today it has become much more than the point of access to the rail network or a place serving the railway alone. It is now an infrastructure attributed with the most ambitious of objectives (a tool in economic development, in spatial planning, in social or even cultural initiatives, and much more).

The station is an eminently political entity. Its organisation lays at the heart of the governance strategies which all the stakeholders of “intermobility” have to put in place.

The station, the backbone of this “intermobility”, needs to have policies at its disposal to ensure all the players

can coordinate to provide efficient interconnections, accurate, up-to-date information, integrated fares and ticketing, and a harmonised image of the whole rail sector.

In addition, station organisation is increasingly influenced by the use of information and communications technology (ICT), which has revolutionised the travel process for those using not just the train but also other means of transport. The latest generation of this technology (NICT or new ICT) is contributing to enhancing the experience of station users, but is also creating new demands from passengers using the rail network, meaning new services need to be provided.

I Managing << intermobility >> from station to multimodal exchange hub

It is more often in the multimodal exchange hub than in a simple railway station that a chain of transport providing door-to-door service is organised. It is also within such a structure that so-called “green” or environmentally friendly transport can be developed, including bicycles and cycle lanes, car-sharing systems, electric vehicle charging stations and pleasant and safe pedestrian routes.

Efficient connections, regulated timetables,

fast and accurate information services for passengers (signage, real-time display of delays, etc.), integrated fares or the possibility of combined travel tickets, these are some of services the modern multimodal station is expected to provide. With the rail system being the backbone of any mobility policy, it would be difficult to conceive of an effective intermodal policy without the existence of organised hubs that are practical for users and accessible to all.

Accountability and coordination are two key factors in the integration of all the links in the mobility chain, enabling smooth running of the exchange hub. With stations attracting many businesses, they involve many different decision-makers with different issues which have to be reconciled with each other. The management of intermobility in the station is thus a very political matter.

II The economic model of the multimodal station The advantages of << intermobility >>

The primary sources of income for stations are naturally linked to rail services: reception of trains in the station, provision of station facilities, providing assistance to passengers, etc. However, it should be borne in mind that the station is not merely an incidental element

alongside the main activity, that of transport. It is rather a focus point where travelers, rail operators and other service providers come together. It is a place in its own right where a wealth of opportunities is concentrated for all those ready to seize them.

With traditional sources of funding for transport infrastructure becoming increasingly thin on the ground, it has become essential to seek new types of financing. For this reason, we see station managers turning more and more to commercial activities to help finance infrastructure projects. In this way, a part of the economic potential of the station can be tapped by operating multi-modal exchange hubs, even though the funding of infrastructure cannot rely entirely on this.

III Information and communications technology: constantly evolving tools serving the stations

Information and communications technology is an essential tool in the smooth running of a multimodal station. Real-time posting of information in stations, ticketing, internet connections, etc. are all necessary for the “intermodality” of the future.

The station is the scene of all types of innovation, impacted by today’s digital

world, and intermodality is a particularly favourable ground for pioneering initiatives, with new tools arriving on the scene to modernise rail transport.

Several factors have fostered the development of new technology in the field of transport for passengers who are increasingly connected to their smart devices. New technology has appropriated this domain, in particular in the field of ticketing, real-time information and geo-positioning. There are many opportunities arising from the need to respond to people’s growing mobility. New mobility services have emerged and the trend is to gradually digitalise “intermodality”.

IV The passenger experience in the station: the station as a day-to-day environment

Travelers increasingly demand high levels of service and they no longer expect the station to be just a place to pass through. For many, the multimodal exchange hub should be a place where it is easy to find one’s way in order to cross from one mode of transport to another as quickly as possible. The best possible time management at these changeover points is therefore of vital importance in the multimodal journey. It is above all when waiting time is long that this period must be experienced positively,

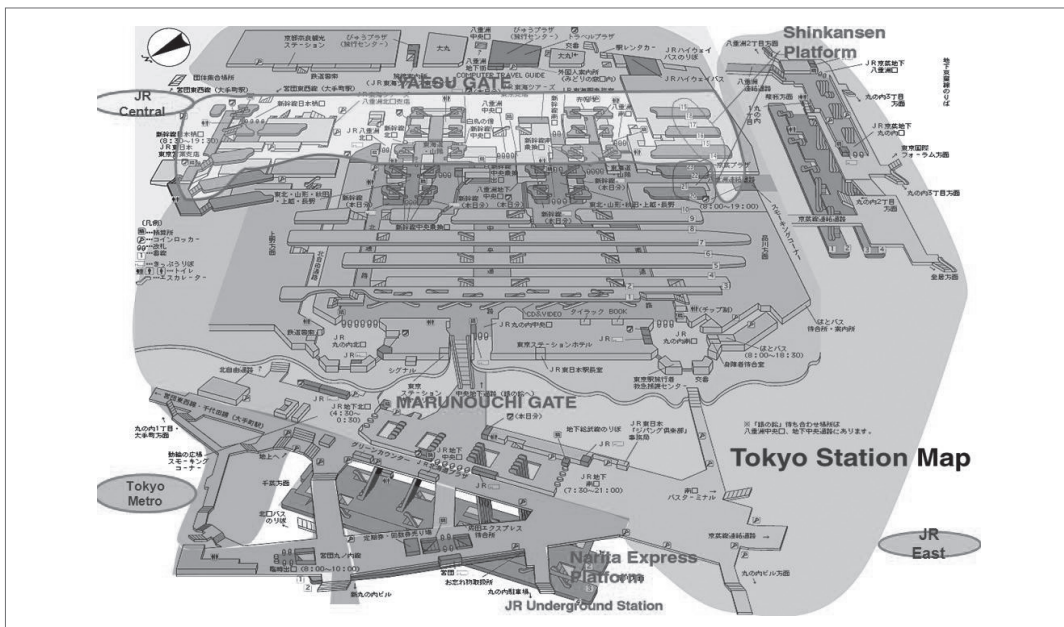
especially as it is estimated that travelers spend nearly 30% of their journey time changing between modes of transport.

One of the main challenges of intermodality is therefore to minimise the time spent in the station but also to improve the experience. Comfort, availability of services, attractive prices, information and accessibility are therefore key criteria contributing to improving the mobility chain where passenger flows meet and disperse in stations.

for renovation or construction work in stations through funding from operators of commercial premises, through setting up innovative commercial concepts, or even by using the proceeds of property development in the case of regeneration schemes for complete neighbourhoods in cities. This was how Prague central station was converted into a full intermodal hub within the Czech capital, when the Czech rail operator České Dráhy decided to use a private investor (following a public private partnership between České Dráhy and Grandi Stazioni) to finance and oversee refurbishment work, who would then benefit from the operation of the commercial space within the station.

V International experience

This can be in the form of contributions



[Figure 1] Tokyo Station Map. The Japanese (passenger) railway system is governed on a regional basis: JR Kyushu, JR Shikoku, JR West, JR Central, JR East, JR Hokkaido. Tokyo Station is run principally by JR East, but certain parts of the infrastructure are administered by other rail companies (in this case JR Central for trains on the Shinkansen high-speed line) or by firms responsible for modes of transport other than the train (Here, Tokyo Metro). (Source: JR East timetable)



[Figure 2] Berlin Hauptbahnhof: the picture shows the shopping centre and the platforms on the lower levels. (Source: berliner-bahnen.de.)

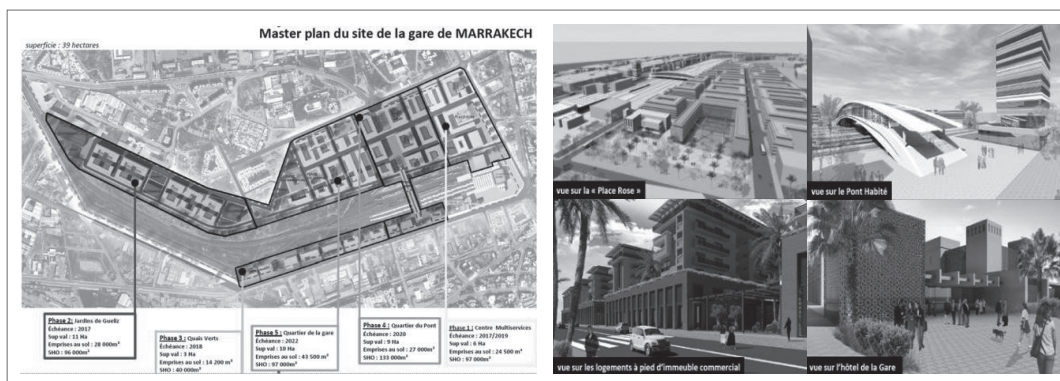


[Figure 4] Central station, Prague (Czech Republic) by night (Source: www.zelpage.cz and Marc Guigon)

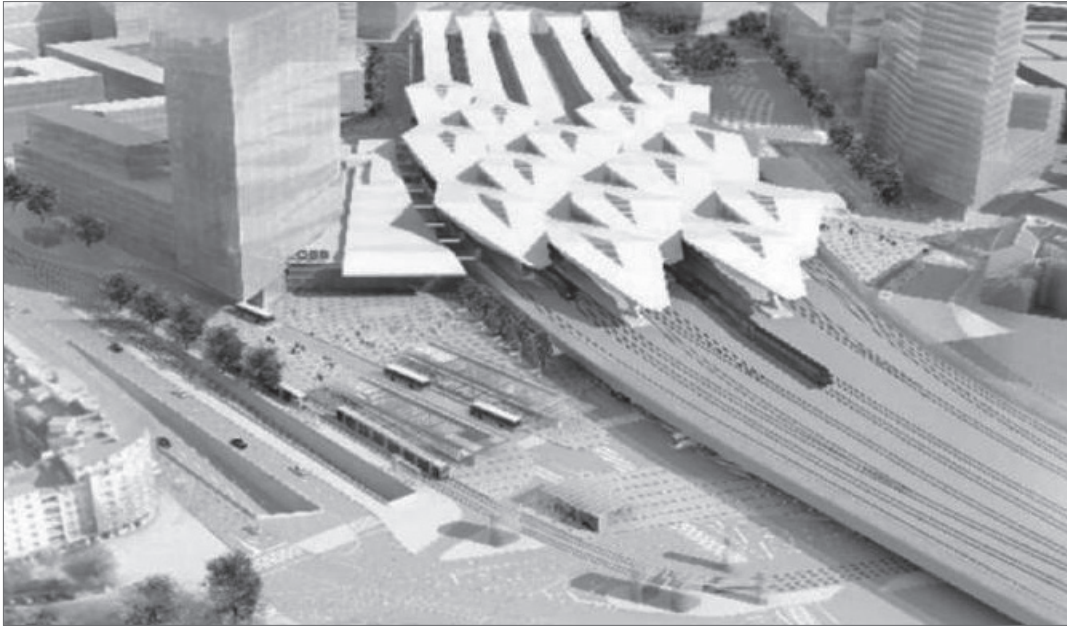


[Figure 3] Leipzig Hauptbahnhof (Germany): the platforms at ground level and the shopping centre on the lower floors. (Photo courtesy of Andreas Taubert)

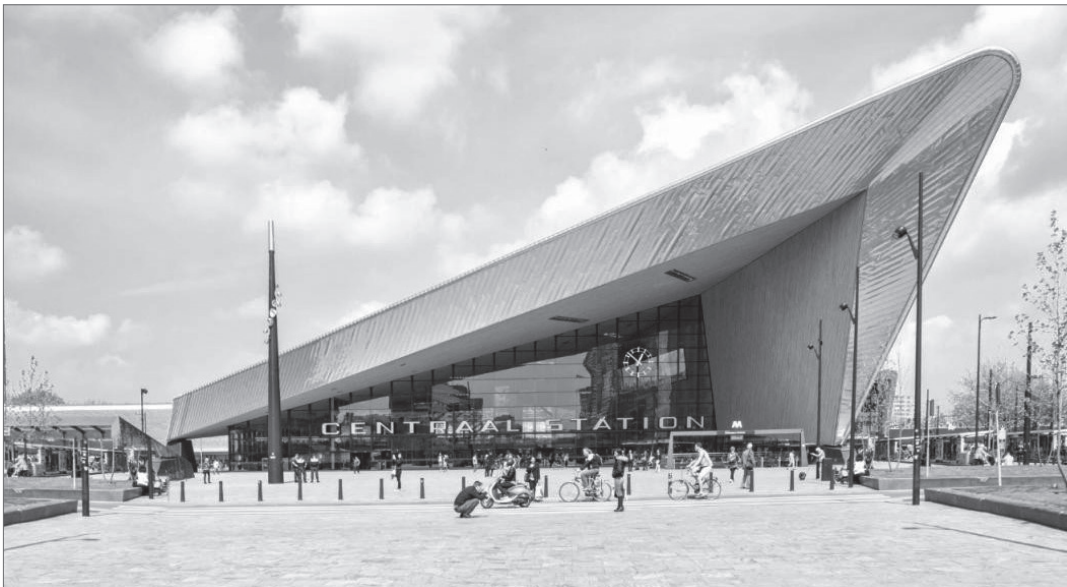
In Morocco, urban regeneration plans around the stations of Marrakesh and Casablanca (Casa-Voyageurs), have sparked off cultural heritage projects in the station neighbourhood



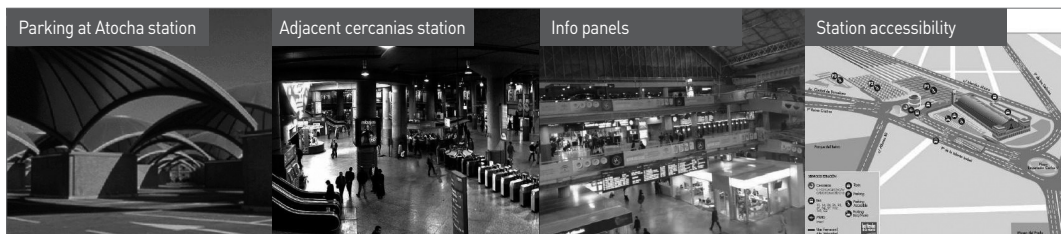
[Figure 5] The urban regeneration project for railway-owned land round Marrakesh Station is part of a blueprint for upgrading stations and railway installations in various cities in the Kingdom of Morocco. [...] Spread over a total covered area of 465 000 m², this project involves the construction of a new, versatile, multifunctional urban hub, including residential, retail, hotel and office space and green areas [...] The project is divided into five phases and will be completed between 2017 and 2022." (Source: ONCF)



[Figure 6] View of Vienna Central station. The plan for the Austrian capital includes the construction of a central station to replace two terminus stations and the reorganisation of the tracks over an area of 55 hectares. In the zones reserved for urban development round the station, nearly 8 ha will be dedicated to roads, pedestrian paths, cycle tracks and parks. The construction of the latter will be financed by the city of Vienna. The majority of the remaining land has been sold by ÖBB to various third-party developers and investors to build housing, office buildings and hotels which will generate sufficient income to cover their construction costs. (Source: ÖBB quoted in La Fabrique de la Cité)



[Figure 7] In the Netherlands, Rotterdam Station has been modernised as part of an ambitious urban development project for Rotterdam Central District. The economic capital of the country is located at the heart of a European high-speed rail network, which is of international dimensions but must respect a long local tradition of urban and architectural construction. This is the so-called "glocal", a compromise between the local and the global in which the station can play its full role both on a local level and internationally. (Source: Brunel Awards 2014)



[Figure 8] Atocha Station, Madrid

- Easy access to high-speed lines from suburban trains (served by 7 lines);
- Transfer time: just 5 minutes;
- Additional services with the arrival of high-speed trains: VIP lounge, automatic systems and dedicated boarding area;
- 27% of high-speed train passengers leave the station by taxi, 14% by underground, 12% by suburban trains and 9% on foot;
- Atocha station in Madrid connects the capital to the country's second city, Barcelona.

(Source: High Speed and the City 2010, UIC)



[Figure 9] Shanghai Hongqiao Airport Station, an example of rail-air intermodality (Source: Marc Guigon)

Air-Rail intermodality: Complementarity between modes at all levels. Many large airports are connected to the high-speed rail network: Schiphol (The Netherlands), Frankfurt (Germany), Charles de Gaulle (France), Brussels (Belgium), Hongqiao (Shanghai), etc. For companies operating in these airports, high-speed rail gives them

access to their main markets. For these companies, the high-speed rail network complements their “hub and spoke” model, even at times replacing short-haul flights. In fact, the setting up of rail-air intermodality is a good example as it illustrates all the challenges of “intermodality”: reservation and issuing of tickets valid for both modes

of transport, (compatible timetables and updating of availability), the practical aspects of the journey as a whole (checking in and embarking, signage, facilities such

as baggage handling, etc.), administration (e-tickets, payment, real-time information, etc.).



Biography

Marc Guigon

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Marc Guigon joined UIC (International Union of Railways) in June 2012 and is responsible for Telematics Applications for Passengers (TAP). He is project leader for MERITS (timetable data), PRIFIS (Tariffs and fares data), ticketing and other Telematics projects (Europe and worldwide). He is also involved in station management (International conference NextStation), commuter and regional transport and High Speed.

Prior to joining the UIC, Marc worked in the office of the French Prime Minister, responsible for French national policy of transport in the field of spatial planning, including railways, roads, urban transport, airports, ports and waterways.

Prior to that Marc was in charge of railway freight strategy and innovation at the SNCF (French National Railway), rolling-stock maintenance and management and carried out European projects of research in the field of railway transportation.