

International redevelopment of railways

Internationally, there seems to be renewed energy in the redevelopment of railway stations (Bertolini & Spit 1998:5). There are a variety of factors driving this initiative, such as the promotion of sustainable transport and land use, the stimulation of local economies, technological and institutional change, the business cycle and the spatial impact of globalisation (Bertolini & Spit 1998:3). A successful redevelopment of such railway areas can prove vital for the attractiveness of the city and the region.

Of the many changes that are accompanying the roles of public and private parties involved in the transport industry, the most striking influence on railway companies is the idea captured by privatisation (Bertolini & Spit 1998:6). This has serious implications for the industry as a whole. However, despite what may be said about privatisation, it is an open-ended rather than a fixed state. In addition, the term has different meanings in different countries.

Railway stations play an important part in a larger European approach to urban planning. Internal borders have virtually come to an end with the establishment of the European Union (EU), and capital flow is increasingly becoming footloose. Accordingly, metropolitan areas will do their utmost to

promote themselves. The redevelopment of certain inner-city areas is an important element in this campaign. Along with waterfronts, railway station areas can be considered one of the most important assets in this endeavour (Bertolini & Spit 1998:8).

In Japan's major metropolitan areas, interchange stations (where passengers can transfer between commuter trains and local transport) have been the focus of intense property development, mostly promoted by private railway companies (Bertolini & Spit 1998:43). Three factors contribute to this phenomenon namely: (1) the much more central role of the train in mobility patterns in Japan; (2) the large share of railway travel in passenger transport in Japan is possible only because of the much higher net population density; and (3) institutional differences of the roles between more conventional national public railway companies and the private railway conglomerates (Bertolini & Spit 1998: 44-45).



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5.01 TGV station at Aix-en-Provence, France (Botes 2004)

5.02 Waterloo Station, London, England
(<http://www.networkrail.co.uk/waterloo.html>)

South African railway industry

Several characteristics of the railway industry in South Africa have previously been mentioned (p.37). In addition, it can be stated that South Africa currently has around 2,228km of open railway tracks (Metrorail 2008). Around 279 train sets and 3,290 coaches are in service, and operated 511.9 million passenger trips during the 2005/2006 period. There are 471 operating railway stations in the country.

Gautrain Rapid Rail Link

First announced in 2000, the Gautrain Rapid Rail Link is a proposed high-tech rail network for the Gauteng Province. The rail network is aimed at connecting Pretoria with Johannesburg and then with the OR Tambo International Airport. The three major stations will be located in Pretoria, Johannesburg and at the airport, with several minor stations on route between these. Hatfield Station is one of these minor on-route stations. The station is a terminal station as this is the point where the Gautrain line terminates in Pretoria.

The project has the objective of boosting economic growth in the province, and is expected to generate around 148,000 jobs (ProjectPro 2008). In addition, the project is aimed at encouraging public transport use and to alleviate the congestion experienced on the N1 highway between Pretoria and Johannesburg. An estimated 300,000 vehicles currently commute between these two cities (ProjectPro 2008).

Construction on the Gautrain line between Sandton and OR Tambo Airport began in 2006, and aims to be completed in time for the 2010 FIFA Soccer World Cup. The project was originally estimated to cost around 7 billion Rand (ProjectPro 2008).

Vision for the Hatfield Station:

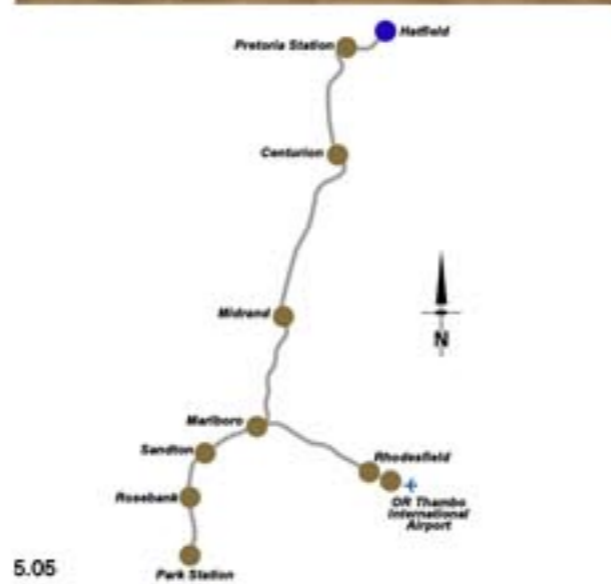
The Hatfield Gautrain station complex is situated within Hatfield's CBD, between Hilda and Duncan Streets. The actual station building is located next to Grosvenor Street and on top of the railway line. It thus sits between the Metrorail stations of Rissik and Hartbeesspruit. Facilities provided for at the Hatfield Gautrain Station include a multi-story parking garage, drop-off stops, as well as facilities for bicycles. Public transport (in the form of busses and taxis) is also planned to stop at the station and provide users with access to various locations within easy reach of the Gautrain station.

The Gautrain station provides direct access to businesses and residential developments in the surrounding area. One major consideration with the project is "safe, efficient and pleasant pedestrian linkages" (ProjectPro 2008). In effect this helps to strengthen the already existing pedestrian flow along the railway line that occurs between Rissik and Hartbeesspruit Metro stations. Hatfield Gautrain station's access to its immediate surroundings will be further enhanced with the extension of Grosvenor Street across the railway line (ProjectPro 2008).

Access to the Hatfield station:

Potential Gautrain passengers are anticipated to walk, cycle, or to make use of public and private transport to arrive at, and depart from the station. In this sense, the existing Metrorail services will play an integral part as a form of public transport which links the Gautrain station with its immediate surroundings and areas as far away as Soshanguve and Mamelodi (Gautrain 2008).

Construction on the Hatfield station is currently underway.



5.03 Artist impression of the Hatfield Gautrain Station (<http://www.gautrain.co.za/hatfield.html>)
5.04 Board outside the Gautrain construction site in Hatfield
5.05 Gautrain route (<http://www.gautrain.co.za/hatfield.html>)

Railway station redevelopment Railway station as node and place

Railway stations have the unique characteristic in that they function both as node and place. As a node it is a point of access to trains and, increasingly, to other transportation networks. At the same time it is a place, a specific section of the city with a concentration of infrastructure but also with a diversified collection of buildings and open spaces.

The unique challenge of the development of node-places is the need to deal, simultaneously, with both transport and urban development issues (Bertolini & Spit 1998:17). This entails among other things two distinct and at least partly autonomous and often conflicting sorts of policies, markets, administrative and management structures, and technical domains.

In contrast to airports and seaports, railway stations have a much more articulated place as opposed to a node dimension. This implies that for station areas the leading, "ordering" role of transport development is much less undisputed than in the other categories of node. As a result, autonomous urban development trends have a much greater weight.

Development potential

The development potential of railway stations is closely connected to their features as both nodes and places. Since the 1930s the railway network has not grown globally and has declined locally. This is especially so after the Second World War, and a direct result of the train's lower flexibility than that of the car. Another fatal situation proved to be that trains travelled at lower speeds than that of the aeroplane. Under-investment and ineffective management have added to these weaknesses, together with a generalised trend towards spatial spreading of homes and jobs. This accumulation of

factors has brought rail transport into a spiral of declining market shares and profitability (Bertolini & Spit 1998:2).

More recently, however, there have been signs of a comeback. The dominant car-centred transport system may be approaching saturation, and could possibly open up windows of opportunity for alternative transport solutions (Grübler 1990; Grübler & Nackicenovic 1991). Concerns about the negative impact of other modes on congestion and the environment, together with technical and organisational innovations within the railways, may lead to the advent of "a second railway age" (Banister & Hall 1993).

The statistics for railway infrastructure in Europe at the end of the twentieth century isn't particularly encouraging (Cornet 1993; Batische 1994). Market shares have dropped in all sectors, with the exception of high-speed and commuter services. Whereas in 1970 trains accounted for 10.4% of Europe's passenger-kilometres, by 1993 that figure was down to 6.6%.

Japan is the industrialised country where travel by train has the largest market share by far. There, about 150 railways carry 19 billion passengers each year. In comparison, passenger transport by rail has virtually disappeared from the USA, with the partial exception of the North East Corridor.

Capitalising on strengths

Frequently cited strengths of the train are that it is relative environment-friendly, it is safe, and it is reliable. Its frequently cited weaknesses are its lack of flexibility, its generally non-reactive and cumbersome organisation, and (with a few exceptions) its poor performance and image.

From an environmental point of view, the advantages of rail transport seem significant. While the visual and acoustic impacts of road and rail transport are roughly comparable,

rail scores much better on land uptake, chemical pollution, energy consumption, and safety. Congestion is another area of externalities where a shift towards the train would be welcome. The costs of road congestion are high and growing.

Implications for redevelopment

If a series of conditions can be met, including the internalisation of the social and environmental costs of travel, adequate investment, and appropriate land-use planning, then railway traffic might be expected to grow, even if moderately, and at least hold on to its share of the market.

The essential condition for growth of railway transport is integration with other forms of transport. From a qualitative point of view, a railway station's essential feature thus appears to be its function as an intermodal interchange, rather than as a "place where trains arrive and depart". The railway station is to be seen, as Amar (1996) suggests, as an urban exchange complex. The railway station has to offer full connectivity in both infrastructure and services. Integration involves many different actors in a unified terminal management.

Outside Europe, the integration of railway and other operations in Japan could provide food for thought. In most cases the required transformation would be a matter of (re)ordering the existing elements, and of dealing with continuous change, rather than of creating something from scratch. In the process, a railway station turns into a place to be, not just a place to pass through.

Conclusion

An integrated framework of analysis would have to comprise both node and place variables, but also process and context factors. In this regard, the urban context plays a dominant role.