Jubilee Line Extension Impact Study

Development Impact Study 2002

Task 1 Review of Literature

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1.1 *Introduction*

1.1.1 This section takes a second look at the literature and research associated with the development impact of new rail or fixed track transport infrastructure. The purpose is to establish whether studies of other systems have found evidence of development impact that can be attributed to new transport infrastructure, and if so whether this evidence reflects the evidence related to the JLE. A second purpose is to consider the methods used in other studies and to see whether and in what ways these can inform the methods used in the present study.

1.1.2 This review follows on from that undertaken as part of the first development activity study. Five studies were reviewed in 1998, namely:

- Metropolitan Atlanta Rapid Transit Authority (1997)
- Bay Area Rapid Transit Authority, San Francisco (1995)
- Tyne and Wear Metro (1978)
- Glasgow Rail Impact Study (1982)
- South Yorkshire Supertram (1998)

1.1.3 This review takes a critical look at the relevance of these other studies to the JLE, and in addition looks at some literature that has become available since the baseline study. Regarding the additional literature, the present author is not aware of any further studies of particular new rail systems, apart from some additional analysis of the South Yorkshire Supertram. All the supplementary literature is either of a theoretical nature, or mentions specific rail systems only by way of example.

1.1.4 A possible exception is the study undertaken for Transport for London by Faber-Maunsell of the impact of the Croydon Tramlink. This study, it is understood, included an investigation of the impact of Tramlink on economic activity, which may be of interest in terms of changed demand for property, but the study was not published at the time of this review.

1.1.5 The overall conclusion is that other studies have little relevance to JLE because they examine systems in wholly different urban contexts. There are no studies of which the author is aware of the impact of major new underground railways in a major metropolitan area comparable to London. This point is discussed further below. What other studies do contribute, however, is useful insights into the methodology of assessing development impact, and this also is discussed below.

1.2 *Studies of new rail systems*

1.2.1 The impact of new rail systems will not, as sometimes implied, be uniform as between different systems. Their impact will depend a range of variables, and the following are put forward as being of particular importance.

1 ***Size of the city.*** Many studies especially from Europe confirm that the share of public transport trips increases with city size and decreases with distance of homes from the centre. Development impact associated with public transport accessibility is therefore also likely to be lower in small compared to large cities.[1]

2 ***Size and intensity of the area served by the new line.*** The JLE serves an area in which more than one million people are employed, and which acts as a highly specialised service and cultural centre for an area with a population well in excess of 10 million people. The pulling power of central London is immense, and this cannot be matched except by a very small number of world cities such as New York and Tokyo.

3 ***Extent of opportunities for car accessibility.*** This is related to the above points. Opportunities for car use to central London are restricted both by lack of supply of roads and parking (in relation to potential demand) and for many people also by price. Also, parking is restricted in most of the intermediate locations of the JLE, which limits the choice of mode even for non-central trips. Such restriction is rarely found in smaller cities, especially in Britain and North America.

4 ***Critical mass of public transport.*** The role of an individual rail service in an area that is otherwise served by car may be quite different from that of a service that forms part of a comprehensive network, as is the case of the JLE.

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[1] Transport Research Laboratory et al,1999, "Integration of Transport, and Land Use Planning, Deliverable D2a, Land-Use Transport Interaction: State of the Art", Institute of Spatial Planning, University of Dortmund, for European Commission. Pharoah, T and Apel, D, 1995, "Transport Concepts in European Cities", Avebury, Aldershot.

5 ***Means of access to public transport.*** Some rail stations, especially in the USA, are seen as facilities that you drive to. This is quite different from rail stations in London where parking for "railheading" is restricted as a matter of deliberate policy, and has been so for more than three decades. For example, the Bay Area Rapid Transit system in the San Francisco area links downtown to widely dispersed low density areas. Access to most of the stations is almost exclusively by car, and to a lesser extent bus. By contrast, most access to the JLE (and other Underground stations) is directly on foot.

6 ***Image and integration.*** The JLE is part of a system that is well-known worldwide, and that is ingrained in the London culture. Indeed, the Underground is culturally so powerful that many Londoners ignore those parts of the city not directly served by Underground. Moreover, the JLE and other Underground services are supplemented by other major public transport systems (surface rail, bus and light rail) which, unlike those in provincial cities, are to a large extent jointly planned and marketed within a unified fare structure. Entrance to a JLE station is therefore also entrance to a vast network of public transport services throughout London and beyond.

7 ***General state of the local economy and property market.*** Putting rail infrastructure in a declining area is quite different from putting it into an area which is growing fast or where there is pressure on land, or where the market is strong enough that developers will negotiate layout, parking provision, density, quality and other aspects to fit with the rail access agenda.

8 ***The availability of non-transit development options in neighbouring or competing areas of development.*** Can developers avoid the low car parking, high design requirements of locations near to rail stations, by locating instead where ample parking is allowed and where little is asked in terms of financial contributions (to rail or other infrastructure)?

1.2.2 The table below compares the attributes of JLE in respect of the above variables to the attributes of other systems that have figured in other studies.

1.3 *Relevance of other research to the JLE*

1.3.1 The ideal situation would be where studies of other systems provide clear evidence of development impact, enabling comparisons to be drawn with the impacts discovered within the JLE corridor. Given the above considerations we may conclude that the literature does not allow such comparisons to be made. The way around this would be if studies were available of new lines in the world cities comparable to London such as New York or Tokyo. Regrettably the author has been unable to trace any such studies.

1.3.2 One issue in particular is difficult to resolve. The studies of "lesser" systems in "lesser" cities suggest that positive impacts on development are either small, ambiguous or requiring market interventions to make them appear. Does this mean that rail-led development plans in such cities are ill advised? Do the positive impacts found in the JLE corridor suggest that rail building is only really a positive feature in the major cities, where the criteria identified are met? There are certainly published supporters of this view, as discussed below.

1.3.3 An alternative viewpoint is that cities whose rail systems are limited can pursue a vision of the future in which the public transport network is much more highly developed, and in which public transport plays a much bigger role in the life of the city than it does at present. In this way new lines may not produce significant shifts in travel or development patterns in the short or medium term, but they can be seen as "laying the necessary tracks" for a public transport city in the long term. In other words smaller cities can plan for outcomes that gradually become more like those of London and the other major cities.

1.3.4 The concept of rail building as a means of sowing the seeds of future public transport use is recommended in the M1 East Midlands multi-modal study.[2] The study proposed rail services that do not meet the usual value for money criteria, arguing that these pre-date the Government's 1998 Transport White Paper aim of bringing about a mode shift to public transport.

1.3.5 Other literature points to evidence that higher levels of public transport use are associated with certain development density thresholds. This

[2] W.S. Atkins, "M1 Corridor in the East Midlands Multi Modal Study", draft final report, March 2002, p86 and reported in Local Transport Tiodya, No 337, 28th March 2002.

may in turn be related to the public transport network reaching a critical mass only when certain density thresholds are reached.

1.3.6 The conclusion of this section is that the available literature on the development impact of rail systems is of little relevance in understanding the development impact of the JLE. Nevertheless, the findings of other studies are briefly discussed below.