

Executive Summary

Introduction

A study has been completed for TfGM and Wigan Council, working in conjunction with Network Rail and Warrington Borough Council, to examine a strategic high level transport business case for rail service and infrastructure improvements in the Leigh Area.

A range of options were considered and following a sifting exercise, a number of preferred options were identified. The criteria for sifting the preferred options included assessment of rail operational issues (reflecting the proposed Northern Hub changes), policy fit, value for money, deliverability and affordability. This sifting process was based on a standard methodology adopted for many major transport projects seeking funding from Central and Local Government.

Preferred Options and Costs

The preferred options, accompanied by the capital and operating costs of each, are summarised in Table 1. The range covers a new station in the Pennington area (south-west of the Atherleigh Way / St Helens Road junction and adjacent to the fire station) with services operating to Manchester, Warrington and Liverpool, and a shuttle service to a new station on the Chat Moss line (all proposed on the existing rail line would be in Warrington Borough, so outside of Greater Manchester). Also included in the options is a new station on the Chat Moss Line at either Glazebury or near Kenyon. All services and stations are assumed to have a half-hourly service in each direction of travel, to fit with TfGM minimum desired service level. Tests have considered a less frequent service at hourly.

Initial rail operational assessments have been completed assuming the proposed Northern Hub infrastructure improvements and timetable adjustments being developed by Network Rail in consultation with the Train Operating Companies and Passenger Transport Executives. The ability to accommodate additional Leigh Area services is dependant upon the location, for example what is possible along the Chat Moss line might not be possible elsewhere. The Chat Moss route is likely to have capacity for additional trains because, with the proposed three minute headways, in theory 20 tph should be possible, but in practice Network Rail run at a maximum of 80% of capacity, to allow for the mix of train types, stopping patterns and freight trains. Therefore 16 trains per hour are likely to be the maximum number that can be operated on the Chat Moss line; however constraints elsewhere on the network also have to be taken into account.

Travelling eastwards to Manchester from Leigh, the first major constraint is the Ordsall Lane Junction where the Chat Moss line crosses routes from Bolton and Wigan to Piccadilly. The corridor from Castlefield to Piccadilly is already at capacity under the Hub proposals which means that any new Leigh area services would have to serve Victoria. Westwards towards Warrington Bank Quay and Liverpool Lime Street, further network constraints restrict additional services being added to the network without other services being displaced or reductions in service stopping patterns.

Based on initial assessments of potential demand catchments and evidence from existing stations in the local area, it was very evident that the main access mode to any of the new station options would be car. This is due to the lower density population areas within a reasonable walking distance catchment (800m based on evidence of existing rail stations) and the limited bus services routing in close proximity. Costs for a park and ride site, including highway improvements, have been investigated. A station at Kenyon requires a new link road between the East Lancashire Road and the

station site. Proposals for park and ride, of up to 350 spaces, may not be fully supported through the emerging local transport strategies due to limited sustainable travel options, and could generate localised transport concerns for neighbouring communities.

Table 1: Summary of Options

Option	Total Infrastructure Costs	Annual Operating and Maintenance Costs
Option 1 - Pennington to Manchester Victoria Service	£63.1	£4.6
Option 2 - Warrington to Manchester Victoria via Pennington	£101.3	£7.5
Option 3 - Pennington Station with rail shuttle service to Kenyon, plus link to Leigh Town Centre	£47.9	£2.1
Option 4 - New Station at Glazebury	£11.1	£0.5
Option 5 - New Station at Kenyon with Road Link and Bus Shuttle Services	£17.2	£1.2

Note: all values are presented in £m's in 2016 outturn prices (including Optimism Bias at 66% based on DfT WebTAG standard rate for a rail scheme are preliminary stage of design).

Appraisal of Options

The value for money analysis included an economic appraisal, which required the generation of the DfT's BCR values. The benefits of the options were estimated using the TfGM SPM2PT model (public transport assignment model) for the County, a local Park & Ride Model and the standard TfGM appraisal template. Included in the template were revenue impacts for all public transport modes and scheme costs, including capital, maintenance, renewals and operating costs.

The do-minimum network against which options were compared included the Northern Hub infrastructure and service pattern proposals, electrification of the Chat Moss route, the Leigh Salford Manchester Busway and other committed TPD – Transport Development Programme - schemes in the County. Development assumptions for the Leigh Area were reviewed in the appraisal process to reflect the latest proposals. The assumptions indicate significant growth in the area, pointing to potential opportunities for rail travel in the future.

The headline results of the demand and revenue forecasting and the value for money appraisal are reported in Tables 2 and 3. The first table presents the economic appraisal results and the second table provides a comparison of revenues and also operating and maintenance costs.

The net annual revenue figures generated for each option are compared against operating costs, as shown in Table 3. All options fail to generate enough revenue to cover operating costs, hence a subsidy would be required of over £5m p.a. (2016 prices) for Option 2.

Table 2: Economic Appraisal Results

Option	Annual Passenger Demand	Benefits PVB	Costs PVC	Benefits: Cost Ratio BCR
Option 1- Pennington to Manchester Victoria Service	375,000	60.6	68.3	0.89
Option 2- Warrington to Manchester Victoria via Pennington	567,000	111.6	120.2	0.93
Option 3- Pennington Station with rail shuttle service to Kenyon, plus link to Leigh Town Centre	270,000	4.8	47.0	0.10
Option 4- New Station at Glazebury	144,000	9.3	7.4	1.25
Option 5- New Station at Kenyon with Road Link and Bus Shuttle Services	303,000	20.0	14.3	1.40

Note: all benefits and costs are presented in £m's in 2002 present values

Table 3: Financial Impacts

Option	Annual Gross Revenue	Annual Net Revenue	Annual Operating & Maintenance	Annual Subsidy
Option 1- Pennington to Manchester Victoria Service	£2.6	£1.6	£4.6	£2.9
Option 2- Warrington to Manchester Victoria via Pennington	£3.6	£2.2	£7.5	£5.2
Option 3- Pennington Station with rail shuttle service to Kenyon, plus link to Leigh Town Centre	£0.6	£0.4	£2.1	£1.6
Option 4- New Station at Glazebury	£0.4	£0.3	£0.5	£0.2
Option 5- New Station at Kenyon with Road Link and Bus Shuttle Services	£1.5	£0.6	£1.2	£0.6

Note: all values are presented in £m's and in 2016 outturn prices. Fare growth is assumed to be RPI+1% p.a.

The forecasting of demand and revenue, and the subsequent appraisal of options, has demonstrated that the Pennington station options (1 and 2) generate a strong level of demand that is comparable to other stations in the area. Levels of passenger benefit are also high, reflecting the travel time savings these options would generate. However, given the very significant capital and operating costs for the schemes, the value for money case is poor and the transport economic benefits fail to exceed the costs, and the revenues fail to cover operating costs leaving a very significant subsidy requirement. In order for a scheme to gain funding approval from the Department for Transport, the benefits must be at least 2.0 times the costs. Hence, the option of a station in Pennington, with rail link, would not pass the basic criteria set by the most important UK funding agency. The appraisal does not include wider regeneration benefits, as the appraisal has focussed purely on transport benefits at this stage of the assessment. This approach is consistent with the requirements of the DfT for a major scheme bid.

The options (3, 4 and 5) for a new station on the Chat Moss line with access mode improvements provided through better highway links to the site and a network of feeder bus services, provide moderate demand levels and benefits. The benefits of option 4 only just cover costs and for option 5 are above 1.0 the costs, but well below the value of 2.0 required by the DfT for possible funding. The benefits of strong bus feeder services are shown in Option 5, and there could be merit in linking such services to the committed LSM – Leigh Salford Manchester Busway.

The case for the scheme is very sensitive to assumptions on cost and the potential negative impacts to through passenger demand resulting from increased journey times in the timetables to accommodate the additional stop. If the latter is increased, the station reduces in value for money to a BCR just above 1.0. Option 3, the shuttle service, has a BCR of only 0.1. The appraisal reflected increased traffic congestion in the future and the larger time savings benefits the rail service will offer over the car.

The headline results of a number of key sensitivity tests on Options 2 and 5 are provided in Tables 4 and 5.

Table 4: Sensitivity Testing – Option 2

Sensitivity Test - Option 2	Benefits PVB	Costs PVC	BCR
Option 2- Warrington Bank Quay to Manchester Victoria via Pennington	111.6	120.2	0.93
Option 2 - Fares at RPI+3%	102.1	100.8	1.01
Option 2 - Exclude Staffing and Booking Office	111.6	115.1	0.97
Option 2 – Reduced Rolling Stock Requirements by 25% so reducing leasing costs	111.6	101.3	1.10
Option 2 - Stobart Costs	111.6	106.8	1.05
Option 2 - Stobart Costs with Hourly Service	88.2	76.1	1.16
Option 2 - Stobart Costs, Hourly Service and Higher Growth	103.2	69.9	1.48
Option 2- Assume 44% OB instead of 66% OB	111.6	115.3	0.97

Note: all benefits and costs are presented in £m's and in 2002 present values as required by DfT for a major scheme business case.

Table 5: Sensitivity Testing – Option 5

Sensitivity Test - Option 5	Benefits PVB	Costs PVC	BCR
Option 5- New Station at Kenyon with Highway Link and Shuttle Buses	20.0	14.3	1.40
Option 5 - Fares at RPI+3%	18.3	9.1	2.02
Option 5 - Higher Demand Growth	23.4	12.2	1.92
Option 5 - Unstaffed Station and No Booking Office	20.0	13.5	1.48
Option 5 - Greater Disbenefits to Through Passengers	16.0	15.5	1.03
Option 5 - Less Feeder Services	13.9	12.8	1.09

Note: all benefits and costs are presented in £m's and in 2002 present values as required by DfT for a major scheme business case.

Recommended Strategy

Considering the findings of the study, the following recommendations are made for further action should a decision be made to continue to promote rail improvements in the Leigh area.

Regarding the Pennington station options, the costs of constructing a station and spur, plus the operating costs of the new service are high when compared to the projected benefits. Whilst the forecasting shows strong demand and revenue for a station at Pennington, the net operating subsidy is high, meaning that it is challenging to see how this option could be taken forward solely in a transport context. A wider business case, which included regeneration benefits to Leigh, could be explored in the context of supporting potential future funding bids, but the significant gap between costs and projected benefits of the scheme must be recognised.

The options for a station sited on the Chat Moss railway line station also have overall benefits that are relatively low in relation to the costs, and fall short of current DfT guidance for taking transport schemes forwards.

Recognising the challenges set out in the report, the ability to take any of the options forward would require significant funding given the assessments against DfT business case requirements. The actions below are suggested in order to take advantage of any future funding opportunities:

- **Funding Routes.** There would need to be an investigation of all possible other sources of funding for the scheme, including for example funding sources related to regeneration programmes, or development-led contributions. The opportunities for new developments around the proposed station sites are however limited by Green Belt and other constraints. This study case has considered only the transport benefits of the proposed options. There may be merit in the scheme being reviewed in terms of the wider economic regeneration benefits (e.g. GVA benefits). Such work was outside the remit of this study.

- **Operational Assessment.** There would need to be a detailed assessment of possible railway timetables (including the impacts to all services in the Chat Moss corridor), and an understanding of any increased travel time to existing passengers through additional stops or reliability issues. Issues need to be assessed given the possible impact of other proposals in the Northern Hub timetables, as the changes in the Leigh Area services may have wider negative consequences.
- **Scheme Costs.** There would need to be detailed surveys and more robust estimates of costs, including capital and operating costs, to ensure all items are covered and risk and contingency are fully reflected.
- **Baseline Demand.** Given the high proportion of existing rail demand forecasted to switch to using the new stations, a better understanding of current travel patterns at these stations is suggested. Also, the forecasting models used for the assessment are very focused on trips within and to Greater Manchester; hence more travel data representing Leigh area trips to Warrington and Merseyside should be collected.

Given the challenges associated with the options set out above there may also be merit in examining options that improve access to existing railway stations.