Derby to Manchester Railway
Matlock to Buxton / Chinley Link Study
Executive Summary

June 2004

Derbyshire County Council

ON BEHALF OF THE FOLLOWING FUNDING PARTNERS:

- AMBER VALLEY BOROUGH COUNCIL
- BUXTON AND THE PEAK DISTRICT SRB 6 PARTNERSHIP
- COUNTRYSIDE AGENCY
- DERBY CITY COUNCIL
- DERBYSHIRE COUNTY COUNCIL
- DERBYSHIRE DALES DISTRICT COUNCIL
- EAST MIDLANDS DEVELOPMENT AGENCY (EMDA)
- EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF)
- GOVERNMENT OFFICE FOR THE EAST MIDLANDS (GOEM)
- HIGH PEAK BOROUGH COUNCIL
- PEAK DISTRICT NATIONAL PARK AUTHORITY
- PEAK PARK TRANSPORT FORUM
- RURAL DEVELOPMENT PROGRAMME
- STRATEGIC RAIL AUTHORITY
- TARMAC PLC

DERBY TO MANCHESTER RAILWAY
MATLOCK TO BUXTON / CHINLEY LINK STUDY

Executive Summary

VERIFICATION

	Name	Position	Signature	Date
Prepared By:	Bob Langford	Study Manager		08/6/04
Checked By:	Keith Wallace	Project Director		08/6/04
Approved By:	Keith Wallace	Project Director		08/6/04

EXECUTIVE SUMMARY

Introduction

The former section of railway between Matlock and Buxton once formed part of a direct main line rail link between London/Derby and Manchester and was once very busy with freight traffic and both local and Manchester to London passenger services. The route survived the line closures of the 'Beeching' era in the early 1960's but lost much of its freight traffic as a result of the rationalisation of rail freight that Dr. Beeching introduced.

Withdrawal of passenger services was eventually proposed by British Rail in 1966 with local services between Chinley, Buxton and Matlock ceasing in 1967. Express services between Manchester and London (which also used the route) were diverted to other routes in 1968 and the section of line north of Matlock finally closed.

The potential re-opening of the former railway line between Derby and Manchester via Matlock and Buxton/Chinley has been the subject of considerable interest over the past 10-15 years. Derbyshire County Council, acting as the client for the other key stakeholders, appointed Scott Wilson Railways on 23rd October 2002**,** to carry out a study which was to be seen as definitive on the case or otherwise of re-opening.

Study Approach

Overview

The Study has consisted of five principal stages - Data Collection, Review and Surveys, Analysis and Option Identification, Option Development, Option Appraisal and Reporting.

A wide range of issues have been covered, including Rail Infrastructure and Operations modelling, Environmental Appraisal, Demand Forecasting, Communication and Consultation and Costing, Appraisal and Funding.

Figure 1 (at the end of this document) shows the overall study area.

Rail Services

Various options of passenger train service frequency and route (either via Buxton or via Chinley) were identified and assessed for practicality, cost and demand. The market for rail freight services and the additional costs of accommodating them were also identified.

Eight combinations of services were taken forward to further assessment. These were:-

Option Group 1 – services operating via Buxton

Option 1A 'Low Specification' Passenger only service. Typically maximum speed 50mph with a frequency of one train per hour (a stopping service calling at all stations between Derby and Manchester) in each direction

Option 1B 'High Specification' Passenger only service. Typically maximum speed 75mph with a frequency of two trains per hour (one stopping – as per Option 1A; one 'semi-fast' calling at principal stations only) in each direction.

Option 1C 'Low Specification' Passenger service as per Option 1A plus freight capability of one freight train path per hour in each direction.

Option 1D 'High Specification' Passenger service as per Option 1B plus freight capability of one freight train path per hour in each direction.

Option Group 2 – services operating via Chinley

Options 2A to 2D Similar to 1A to 1D above but with the services operating via the Chinley route rather than Buxton with a possible new station at Chapel en le Frith.

Figure 2 (at end of the document) shows the Area Rail Network.

Alternative 'non-rail' options

A range of alternative 'non- rail' options were examined to identify if any offered a viable alternative to achieve the objectives set for the rail link.

The Route

The former railway route was subject to review to confirm the practicability and cost of re-instatement. This included development of proposals to replace missing infrastructure and overcome obstructions to the alignment.

Environmental

The environmental investigation commenced with a base line study of existing environmental conditions in respect of Planning, Land Use, Community issues, Landscape and Visual, Nature Conservation and Bio-Diversity, Cultural Heritage, Water Resources, Noise and Vibration and Air Quality. The options identified have then been assessed to identify potential effects in these areas.

Consideration has been made of alternative routes for a replacement Monsal Trail.

Demand Forecasting, Economic Assessment and Funding

Factors likely to affect future demand – including the existing transport infrastructure and public transport network, existing public transport usage and tourism and regeneration opportunities – have been assessed.

Demand forecasts for rail services have then been made over a 30 year period for a number of rail service options based on a 'notional' opening date of 2011.

These forecasts have been made for the overall study area (broadly the whole of the Peak District National Park plus Matlock to Ambergate and the Buxton area) and for a narrower core corridor enveloping the rail route and adjacent A6 road. The forecasts have included a 'Do – minimum' Reference Case. This Reference Case assumes that transport infrastructure and public transport services (rail and bus) remain as currently existing over the 30 years to 2041.

The economics of the proposals have then been assessed and tested for sensitivities in revenue and operating cost assumptions.

A review has been made of potential sources for funding for further development and implementation.

Consultation

Throughout the study period consultation has been made with stakeholder, interest groups and the general public. This has taken many forms including Project Reference Group meetings, market research, a web site, newsletters and a public 'roadshow'.

Key Findings

Passenger Demand

The area through which the railway would pass has limited regeneration and residential growth potential as a result of the Structure and Local Plan policies that are in place, particularly within the Peak District National Park. Tourism is, and is likely to remain, a key contributor to the local economy and the railway would undoubtedly assist in allowing further development and promotion of tourism on a sustainable basis – minimising the effects of tourism growth on the environment.

- The Reference Case forecasts that, by 2041, road traffic volumes in the rail corridor will have risen by 140% (i.e more than doubled). Rail demand (on the existing network) will have risen by 105%.
- Compared to the Reference Case the 'via Chinley' and 'via Buxton' routes both show further increases in passenger growth (additional to the Reference Case) along the core corridor by 2041 - 109% (via Chinley) and 55% (via Buxton).
- In 2041, a re-opened railway is forecast to result in 920,000 fewer car movements per year in the study corridor when compared to the 'Do Minimum' situation. However, this is only approximately 2% of predicted corridor road traffic in that year.
- Some of the forecast increases in passenger volumes between Manchester and Derby both on the 'via Chinley' and 'via Buxton' routes arise from passengers diverting from the alternative routes via Sheffield and Stoke on Trent.
- Compared to the Reference Case, introducing restraint to road vehicles in the Peak District National Park (modelled as an Area Charge) deters some people from using the road network and encourages increased use of rail. This is reflected in a 7% reduction in vehicle kilometres in the core study area and an increase of 70% in rail passenger volumes compared to the situation without road restraint.

The forecasts for additional annual rail journeys – over and above natural growth (i.e the Reference Case)- generated by the new link are:-

		Additional Journeys			
Option		1A via Buxton.	1B via Buxton.	2A via Chinley	2B via Chinley.
Year	Reference Case Annual Journeys	Hourly services	Twice Hourly services	. Hourly services	Twice Hourly services
2011	1,160,000	290,000	500,000	610,000	1,070,000
2021	1,590,000	470,000	810,000	870,000	1,500,000
2031	1,940,000	610,000	1,050,000	1,080,000	1,860,000
2041	2,270,000	700,000	1,210,000	1,260,000	2,170,000

Freight Demand

The demand for freight services is limited by the stated intention of the Strategic Rail Authority and Network Rail not to use the re-opened line as part of a strategic – or diversionary – freight route. The freight market that has been identified is partially dependent on the future strategic direction of the national aggregates industry in terms of sources of extraction and distribution terminal development. Resulting demand is assessed to be between 4 and 10 loaded trains per day.

Alternative 'non rail' options

A viable non- rail alternative has not been identified. A bus based solution offers the best alternative but this would deliver transport capacity on a vastly smaller scale to that achievable by rail. If a rail solution is not developed it is likely that the status quo will prevail.

Infrastructure

There are no insurmountable engineering difficulties in constructing a railway along the former corridor between Matlock and the existing Buxton to Chinley freight line at Blackwell Mill. However, a number of bridges will require to be replaced and a short section of new railway is required to pass around a gas regulator that has been constructed south of Rowsley.

Achieving a new station at Buxton, to suit the through route to Matlock, will, however, be difficult due to geometric, topographic and land use constraints. Two potential solutions have been identified including the continued use of the existing station (requiring trains to reverse direction). Neither are ideal. The more expensive option has been used in economic assessments of the project.

Significantly different levels of railway infrastructure are required to support the different options of rail service frequency.

Considerable work would be required to upgrade the existing freight-only route from Peak Forest to Chinley and this remains a key risk in using that route for new rail services.

The capital cost of the options are:-

For services via Buxton.

(1A). Hourly services	(1B). Twice Hourly services	(1C). Hourly services plus freight capacity	(1D). Twice Hourly services plus freight capacity
£84.1 million	£103.6 million	£108.85 million	£119.5 million

For services via Chinley

(2A). Hourly services	(2B). Twice Hourly services	(2C). Hourly services plus freight capacity	(2D). Twice Hourly services plus freight capacity
£89.5 million	£107.9 million	£113.1 million	£123.6 million

Environmental Appraisal

Reopening of the railway would have the potential to impact upon ecology, archaeological resources, water resources, soils, geology and air quality, as well as the landscape. The potential effects of noise and vibration also need to be taken into account.

Many of the environmental effects anticipated are common to all options being considered, however, the appraisal highlights that environmental effects increase as track usage intensifies. This is especially the case with the introduction of freight, which significantly increases impacts associated with noise.

With regard to the Peak District Dales Candidate Special Area of Conservation (cSAC), it is concluded that the integrity of the cSAC would not be significantly affected but would be subject to a minor adverse effect. The nature conservation features and objectives for which this area was designated would continue to be maintained - this is mainly due to the very small amounts of landtake compared to the overall size of the cSAC. With appropriate mitigation, no adverse effects should occur to affect the nature conservation importance of the River Wye SSSI.

The rail link does not appear to deliver any significant environmental benefits associated with modal shift from road to rail – although it is forecast to result in 920,000 fewer car trips in the A6 corridor by the year 2041 (measured against traffic volumes without a railway). As such, there appears to be an imbalance between environmental benefits and disbenefits.

The review of options for a replacement to the Monsal Trail has concluded that a new route - that satisfies the guidance provided by the Peak District National Park Authority - could be achieved. However, significant further planning and development would be required.

Financial and Economic

The approach taken to the Financial and Economic Cost Benefit Analysis has been to use the Strategic Rail Authority's Appraisal Criteria documents of April 2003. These follow the approach outlined in the Guidance on Methodology for Multi Modal Studies (GOMMMS), and are in line with Treasury Guidance on Appraisal and Evaluation in Central Government (The "Green Book").

The options have been assessed in terms of

Net Present Value – a process by which the capital costs, operating costs and revenues over a 30 year operating period are 'discounted' at an agreed annual rate (currently 3.5%) to provide a value of the project at current price levels.

Transport Economic Efficiency (TEE) - a calculation that provides a wider financial assessment – capturing the wider economic benefits including such items as the value of time savings to non rail users, increased tourism income etc, and

Annual operating profit or deficit.

All options show a significantly worse Net Present Value than the 'Do Minimum' Reference Case (i.e maintaining the status quo), with the ranking of the best three options being:-

1 'Do Minimum' Reference Case (NPV; minus £300,000)
2 Hourly services via Buxton (NPV; minus £95,400,000)
3 Hourly services via Chinley (NPV; minus £106,300,000)

The inclusion of wider economic benefits within the TEE calculation still result in Benefit/Cost ratios (compared to the 'Reference Case') of less than one – indicating that, even with the inclusion of other benefits, all the options are worse than the Reference Case.

A comparison of the operating profit/subsidy profiles over a 30 year period suggests that all options will require an operating subsidy for a number of years after commencement of rail services. However, this conclusion is very sensitive to changes in assumptions on operating cost and patronage/fare levels. The comparison shows that the hourly service via Buxton requires the lowest subsidy profile.

Providing regular train paths for freight traffic worsens the economic profile in all options. However, the 'passenger only options' would have some marginal capacity for freight which could be utilised for occasional services at no additional cost.

Funding and Delivery Mechanisms

It is likely that a substantial proportion of the funding will need to come from 'public sources'. However, opportunities do exist, in conjunction with various 'delivery mechanisms' to involve some private sector sources of capital.

In the current financial climate within the railway industry, the 'traditional' mechanism for development and funding the works – sponsorship by the Strategic Rail Authority and implementation via Network Rail as an 'enhancement scheme'- is unlikely to deliver the project.

Alternatives do, potentially, exist – although they remain largely untried in the national rail industry to date. These include the use of contractor led Special Purpose Vehicles to design, finance and build enhancements with the works then being transferred back to Network Rail for operation and maintenance. Alternatively the Special Purpose Vehicle can continue to own and operate the enhancement for a specified number of years.

Consultation

Whilst a significant majority of the public who expressed a view supported the proposed railway re-opening, the level of potential opposition is greater than might normally be expected for such a proposal. This is due, in part, to the specific characteristics of the route - its environmental sensitivity and the effects on the Monsal Trail.

If the project proceeds, application for an Order under the Transport and Works Act 1992 will, ultimately, become necessary. Based on the current knowledge of the views of stakeholders, special interest groups and the public, a significant number of objections can be anticipated.

CONCLUSIONS

The study has been carried out against a background of a rapidly changing national railway industry in both structural and economic terms. These changes are likely to continue in the near future.

The railway would clearly assist in achieving many of the Themes of the Derbyshire Local Transport Plan, in particular Better Travel Choice, Successful Local Economies, a Better Managed Road Network and Low Impact Leisure.

Current policy is supportive of the scheme, previous studies have been favourable, and consultation showed good support. However, the results of the study show a clear deficit in benefits to justify the capital costs of re-opening by 2011 or soon afterwards. This is based on the railway being part of the National Rail network and assessed – in capital and operating costs terms - accordingly. Network Rail and the Strategic Rail Authority have both expressed the view that the Hope Valley Line between Chinley and Sheffield has sufficient medium term capacity for both freight and passenger rail traffic growth. In the light of this we have not been able to attribute to the route any financial benefits arising from the additional overall rail network capacity (or the potential to carry emergency or planned service diversions), which the link would create.

In the longer term (2025 onwards), however, the economic assessment for the railway is forecast to be much better. A significant increase in road traffic is predicted in the corridor by 2041 and the railway is predicted to be able to slightly reduce this increase. The railway would, further, facilitate a greater reduction in the rate of traffic growth if combined with some form of road traffic restraint. Rail passenger traffic is forecast to grow significantly nationally over the same period and there is reason to believe that such growth trends would also occur in the study corridor.

All the economic forecasts indicate that a railway operating in the latter years of the study period (2025 onwards) would have a much better financial profile than one opening in 2011 or soon after.

The best option in economic terms is a ‘passenger only’ railway with an hourly service. Specific provision for regular freight traffic (the only freight identified is that originating in the north of the study corridor) would require specific additional funding. However, the ‘passenger only’ railway would still be capable of accommodating some freight services, although not on a regular hourly basis. All options considered show a worse economic assessment than the ‘Reference Case’ (maintaining the status quo in terms of transport provision within the study area).

No alternative means of delivering public transport within the corridor on both a regional and local scale has been identified. If the railway is not constructed it is, therefore, likely that the ‘status quo’ will prevail, with limited (local) public transport being delivered by bus services.

The former railway alignment affords the only, practical, segregated route through the area for public transport. Its condition overall is very good and reinstatement of a railway would not incur the need for the significant ‘new construction’ activity that would be required on any other alignment.

As with all such schemes, substantial capital funding will be required and the majority of this is likely to need to come from ‘public ’ sources. Whilst there has been a lot of support from various parties, no firm commitments to the principle of funding have been identified, and the climate for this funding has worsened during the course of the study.

RECOMMENDATIONS

Our recommendations are that the study partners should:-

1 On the basis of the longer term demand/economic forecasts together with the fact that the route offers the only practicable future route, consider putting in place or extending the safeguarding of the corridor for future public transport use.

2 Consider how blight, consequential upon retaining the safeguarding of the route, may be removed or reduced for those most affected. Establishing a 'not before' date may be one way of achieving this.

3 In any event, limit further development until such time as a funding mechanism for delivery of the whole project can be identified. Many aspects of further potential assessment – engineering and environmental – have only a short period of 'validity' and delays in project implementation would result in the need to repeat this work to capture any changes in circumstances in the intervening period.

4 In relation to item 3, consider how private finance opportunities may be maximised to reduce the public finance element of the overall project cost. These opportunities may be influenced by the composition of the 'project delivery' organisation (e.g. the creation of a Project Board or 'Special Purpose Vehicle')

5 Consider how, if recommendation (1) is accepted, the condition of the route – and in particular the structures - can be maintained in the future to minimise future costs of railway re-instatement.

Figure 1: Study Area

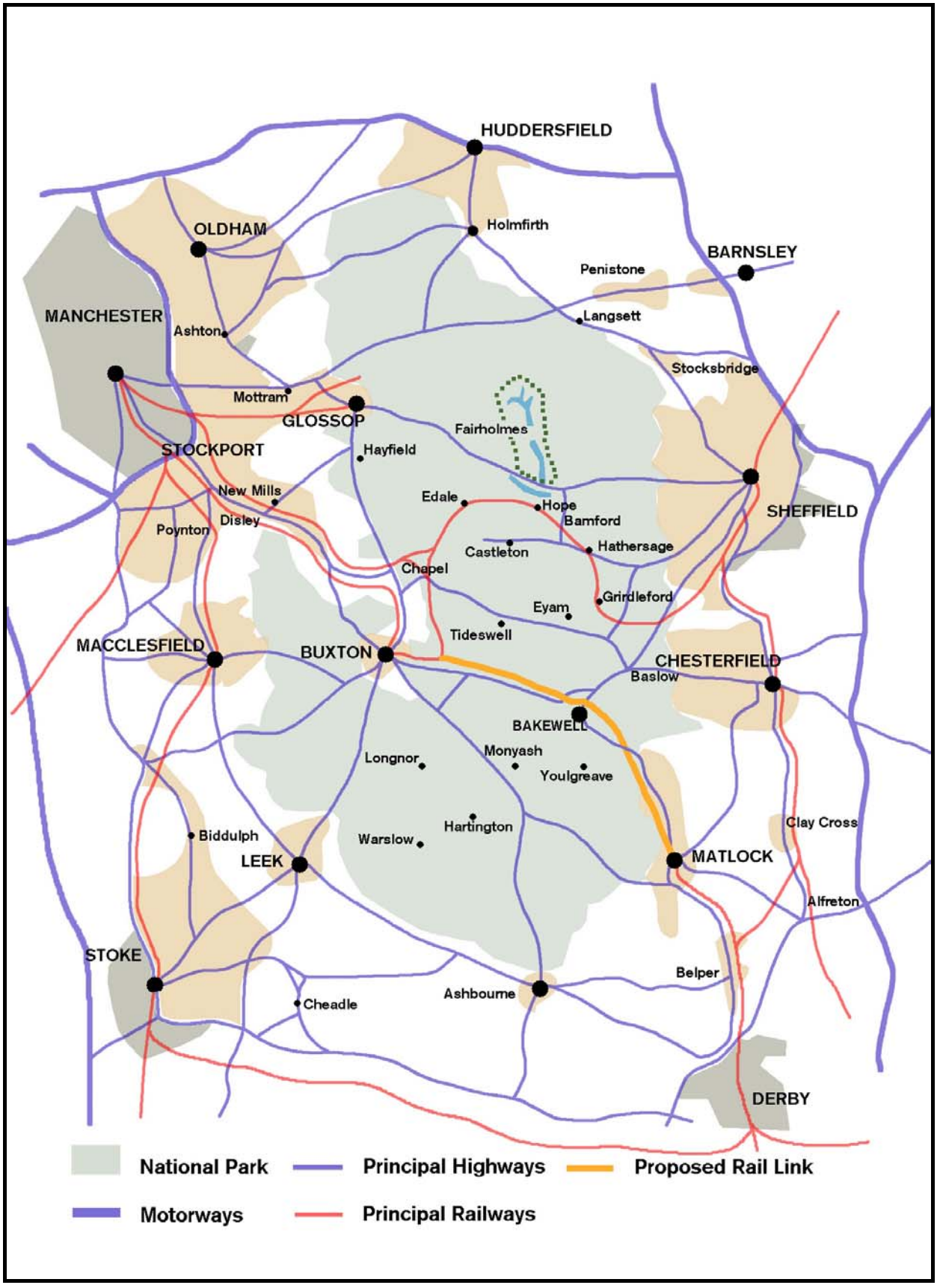

Figure 2: Area Rail Diagram