Findings Report
October 2015

Action WP6A29

Integrated corridor appraisals and master plans for regional cases: Developing the South Fylde Line for tram-train, and territorial benefits (working draft)
Sustainable transport for North-West Europe’s periphery

Sintropher is a five-year €23m transnational cooperation project with the aim of enhancing local and regional transport provision to, from and within five peripheral regions in North-West Europe.

INTERREG IVB

INTERREG IVB North-West Europe is a financial instrument of the European Union’s Cohesion Policy. It funds projects which support transnational cooperation.
SOUTH FYLDE LINE - FINDINGS REPORT
INTRODUCTION

This Findings Report is about one of the Actions undertaken for the SINTROPHER project funded under the INTERREG IVB North West Europe programme - part of the project extension work implemented in 2014/2015.

The central objective of SINTROPHER has been to use innovative transport links to connect peripheral regions of NWE with the core European transport network of high-speed trains, via effective interchange hubs.

Project results show that weaker cities/regions are not receiving the investment because they cannot demonstrate adequate economic returns, mainly because current appraisal approaches do not adequately take account of wider potential regeneration and growth benefits. It is in the weaker cities and regions of NWE that the case for transport investment is very important, alongside wider policy initiatives, for economic growth; yet perversely difficult to make through the current appraisal process as the ‘user benefits’ and ‘wider economic benefits’, as presently calculated, appear too low. The problem has been exacerbated in the bleak fiscal climate following the 2008 crisis, which has led to delays and cuts in public expenditure programmes.

So three key areas for further work in SINTROPHER were identified:

1. **Low-cost technologies and new service patterns for transport links**

Test and demonstrate the innovative low-cost solutions examined in SINTROPHER, in different city/regional contexts, including new developments in technical solutions and radical improvements in service patterns, bringing major enhancements in accessibility and increased patronage. Demonstrate how lower costs can transform the business case for investment in these transport links.

2. **Capturing the wider urban and economic benefits of innovative transport links**

Strengthen and demonstrate a much more proactive approach to investment in these innovative transport links as part of a positive integrated territorial strategy for the city/region e.g. master plans or “corridor” plans.

There is a parallel need to develop a new Framework for project development and decision-making for these links (including a practical operational decision support tool) in order to better measure and take account of wider city/region regeneration and growth benefits.

3. **Innovative financing of transport investments**

There is major gap, and opportunity, to demonstrate new ways to assemble finance for investment in innovative transport links, especially in the current period of economic austerity and cuts in public expenditure.

The work in this Report reflects key area 2. It summarises results of work in the South Fylde area of Lancashire/Blackpool UK. It is one of the 5 regional test-cases implemented under SINTROPHER Action 29.
STUDY METHODOLOGY

The study was undertaken in two phases:

Stage 1 – Evidence Base and Conditional Output Statements

The purpose of the first phase of the study was to develop, in conjunction with the Study Partners, an evidence base that would underpin targeted proposals to enhance the rail network / tramway serving the study area with the goal of maximising economic, regeneration and transport returns as well as overcoming access barriers.

Stage 2 – Option Appraisal

Based on the outcomes of Stage 1, Stage 2 of the study identified and developed economically viable interventions to deliver the conditional outputs. This included identifying any suitable lower-cost interventions with particular reference to the Network Rail Alternative Solutions Route Utilisation Strategy (July 2013). A long list of potential options was generated, which were assessed against their contribution to conditional outputs, their deliverability and their practicality. This sifting process resulted in a shortlist of six better performing options, which were then taken forward for more detailed appraisal.

REVIEW OF STAGE 1

A comprehensive analysis of the demographics of the Study area was undertaken in Stage 1. The following key observations were reported:

Socio - Economic

A comprehensive analysis of the demographics of the Study area was undertaken in Stage 1. The following key observations were reported:

• Blackpool has a higher population and population density than Fylde.
• The Fylde has an older population profile than the area as a whole.
• There is a low level of unemployment in the Fylde (5%), when compared to Blackpool (10%), with wage levels in Fylde around the national average and above the regional level, and wages in Blackpool are around a quarter lower.
• Half of Fylde residents work locally and a third work in either Blackpool or Preston.
• Only a third of jobs within the Fylde area are within 800 metres of a station on the South Fylde Line.
• Car ownership is high in Fylde, with only 19% of households having no car. This compares to Blackpool where 37% of households have no car.
• The most deprived areas along the South Fylde Line are around Blackpool South Station, with three local areas that are in the top 50 most deprived areas in England. This is in contrast to Lytham where there are relatively low levels of deprivation.
Public Transport & Connectivity

Detailed connectivity analysis was undertaken in Stage 1 of the study. That assessed the existing public transport connectivity between key population areas within and beyond the study area. The key observations have been summarised as follows:

- There is good public transport accessibility for trips within the Blackpool area and north to Fleetwood.
- Preston has good accessibility from the North Blackpool area and the North Fylde Line, but not from the South Fylde Line.
- The South Fylde Line operates with a frequency of 1 train per hour to Colne via Preston, whereas the North Fylde Line operates at 4 trains per hour on a non-clock face schedule to a wider range of destinations including Manchester City Centre, Manchester Airport and Liverpool.
- Longer distance trips from South Fylde, e.g., to Manchester or Liverpool require interchange at Preston.
- There are no direct rail services from the South Fylde area to Blackpool or Wyre.
- The Blackpool tram operates a good level of service between Fleetwood and Starr Gate, but does not serve the Lytham or St. Annes' areas.
- On the South Fylde Line Blackpool South, Blackpool Pleasure Beach and Squires Gate Stations are within tram stop catchments.
- Residents within the South Fylde have a good level of bus services into Blackpool, but have to interchange if heading further north. Services are also available to Preston.
- Private car journeys are quicker than public transport for a range of movements internal to the Fylde area and beyond into the wider region, except for trips from St Annes and Lytham to Preston.
- Bus and tram are the best public transport options between South Fylde and Blackpool (and north to Fleetwood) due to lack of rail connectivity, but are poor compared to car.
- Generalised journey time analysis (a measure of overall journey time as perceived by passengers) identified that, overall, buses perform best for trips to Blackpool and rail to destinations further afield such as to Manchester or Preston.
- The perceived rail journeys are much worse than car journey times due to poor rail frequency and the need for interchange for longer trips.
- Tram is the most reliable form of public transport. The Blackpool Tramway has 99% reliability.
- Reliability on the South Fylde Rail Line has improved, but it still suffers from reliability issues.
- Buses in the local area have a respectable level of reliability when set in the regional and national context.
Existing Rail Network Constraints

The rail network constraints in terms of the route, stations and operations and how these impact on rail performance are summarised as follows:

- The capacity of the single line is restricted to one train per hour and is caused by the:
  - Length of the single line section coupled with no passing loops;
  - Method of work meaning the single line section can be occupied up to 57 minutes of each hour;
  - Maximum permissible speed of 70mph and a number of restrictive Permanent Speed Restrictions
  - The User Worked Crossing at north farm not being interlocked into the railway fail safe system; and
  - Inability to automatically activate the Moss Side Automatic Barrier Crossing when travelling eastbound.

- The trains used in the subject area are 30 years old and although their reliability is similar to other Train Operating Companies (TOC) they perform less well than a more modern unit would be expected to.

- The passenger accommodation of the Class 142 ‘Pacer’ unit is outdated. (NOTE: the Invitation to Tender (ITT) for the new Northern franchise indicates the withdrawal of these trains).

- The Blackpool South service forms part of the Blackpool South to Colne service. This creates a number of journey and connectional opportunities, however direct journey times are slow.

- The timetable is not robust; particularly the turn round times at Blackpool South.

- There are no Sunday winter services between November and mid-February.

- Rail service performance is influenced by a number of infrastructure constraints and the timetable between Colne and Blackpool South. This has led to Northern Rail having a number of contingency arrangements in place in an attempt to get trains back to time on their return or subsequent journeys, including turning back short of their destination at St Annes-on-the-Sea.

- Reliability (as measured by the Public Performance Measure Moving Annual Average) is improving on the Colne to Blackpool service but still lags behind its service group measure and Northern Rail’s overall figures.

The analysis of future development opportunities and the associated transport demand in the study area were assessed in the Stage 1 report which showed that:
• The South Fylde Line is in close proximity to 18 designated development sites identified from the local plans. This includes:
  - Employment Sites at land at and around Blackpool Airport, at and around Preston New Road and near Kirkham.
  - Housing sites at West Blackpool, near Blackpool and Fylde Industrial estate, at and around Blackpool Airport, Lytham St. Annes and Wrea Green

• A number of developments are proposed in the wider area. These include:
  - Blackpool – Talbot Gateway and Town Centre development schemes.
  - Fylde – Warton and Whyndyke.
  - Wyre – Hillhouse International Business Park and Little Poulton Lane.
  - Preston – North West Preston and Cottam Hall Housing Areas, Red Scar, Preston East and Roman Road Farm.

Supporting Economic Objectives

• Line improvements may play an important role in supporting:
  - The Fylde Coast's visitor appeal, linked to wider investments being made in the area.
  - The creation of employment opportunities and improving residents' physical access to them, both within the local area and beyond.
  - Reducing pockets of unemployment and low pay.

Supporting Longer Term Development Programmes

• South Fylde Line can help support longer term development opportunities not included in the Local Plans:
  - Redevelopment of Blackpool Airport as an Enterprise Zone
  - Blackpool South Car Park
  - Preston Western Distributor Opportunities
  - Growth surrounding the Warton Enterprise Zone

The Need for Intervention

The need for intervention is summarised as follows:

• Improved connectivity is required to improve accessibility to employment, and provide a catalyst for growth & regeneration.
• A need to extend connectivity and access to/from the South Fylde coast to key economic centres across the North-West, the Northern Powerhouse and international gateways
• A need to reduce interchange between rail, tram and bus services for many trip movements, particularly from the South Fylde area into Blackpool.
• The physical constraints of the existing Infrastructure on the South Fylde Line contribute to a poor level of service, delays and cancellations.
• Current rail station facilities are below the newly developed Rail North minimum standards.
• To significantly improve the passenger ambiance and capacity compared to the current rolling stock.

Stage 1 of the study identified an overall vision for the South Fylde area and from this a set of objectives to meet that vision. A series of rail-based outputs were proposed which would deliver these objectives.

These outputs are known as ‘Conditional Outputs’, and form a key step in Network Rail’s scheme development process for rail schemes (GRIP). The Conditional Outputs were based upon the findings of the Stage 1 study and through discussion with the study’s Steering Group.

Vision

To improve rail connectivity within and beyond South Fylde, in order to facilitate future economic growth and regeneration within the Fylde Peninsula.

Objectives

• Economic growth and regeneration.
• Improve rail performance on the South Fylde Line.
• Improve passenger experience through better facilities particularly at rail stations along the South Fylde Line and improved journey quality.
• Encourage a modal shift from private car to public transport.
• Increase rail capacity.

Conditional Outputs

In order to meet the vision and deliver the objectives, twelve conditional outputs were identified:

• Economic Growth and Regeneration:
  - Improve connectivity to/from Blackpool.
  - Improve connectivity to/from key economic growth sites.
  - Improve connectivity to/from potential key growth sites beyond the local plan period.
  - Improve connectivity to/from Sub-Regional Centres.
  - Improve connectivity to/from Regional / National / International centres.
  - Provide adequate train and track capacity between Preston and Blackpool South.
• Performance:
  - Improve South Line reliability to at least average for Northern Rail (92.5%) by the end of CP5.
  - Reduce South Line cancellations to at least average for Northern Rail by end of CP5.

• Journey Quality:
  - Improve the quality of South Line rolling stock provision to improve passenger experience.
  - Improve station facilities on South Line.

• Mode Shift:
  - Improve the attractiveness of public transport to car users in Fylde.
  - Encourage public transport use by providing direct services or improving interchange.

STAGE 2 OF THE STUDY

Based on the outcome of Stage 1, a long list of options was generated that could help achieve the defined objectives.

The long list of options was populated by undertaking a review of previous studies, discussions at Steering Group workshops and the identification of new options that would address specific conditional objectives.

Further sub-options and packages of options were also defined. In total, over 70 options were identified.

This included rail, tram and bus options, together with options for alternative alignments for tram extensions within Blackpool.

The long list included many options similar to each other, so these were amalgamated. Further to this, an initial sift against the conditional outputs and practicality and deliverability identified a number of options that had very limited opportunity of being viable or that did not achieve the conditional outputs. The revised list of options was endorsed by the Project Steering Group.

To compare the remaining options against each other an Option Sifting tool was developed. This was based on a tool used in previous similar studies by the consultants, and that meets the UK Government's present requirements for options sifting.

In the sifting tool, each option was assessed against each of the conditional outputs using the criteria shown below. Each option was also rated in terms of practicality and deliverability. The assessment of the final six front-runner options (two rail and three tram-
train and a segregated rail / tram alternatives) against the conditional outputs is summarised in the table on page 16 of this report.

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Table: Sifting Criteria

In many cases an option did not in isolation contribute significantly to the conditional outputs. Some options were therefore combined into packages. A shortlist of 18 options was developed covering all public transport modes and presented to the steering group and wider stakeholders on 9th February 2015.

A further sift and development of the shortlist was undertaken, taking account of the stakeholder comments. This resulted in a list of six better-performing front-runner options.

These were developed to provide maximum contribution to the objectives and conditional outputs. The six front-runner options were endorsed by the Project Steering Group on 20th February 2015 and hence were taken forward for detailed appraisal.

The six options are summarised below:

- **Heavy Rail:**
  - Option 1a Regional Rail Service (to Manchester).
  - Option 1b Local Rail Service (to Preston).

- **Light Rail:**
  - Option 2a Light Rail (Tram or Tram-Train) to Preston, via “Central” Route in Blackpool.

- **Combined Light Rail & Heavy Rail:**
  - Option 2b “Regional” Tram or Tram-Train to Lytham, via “Central” Route in Blackpool.
  - Option 2c “Regional” Tram or Tram-Train to Lytham, “Promenade” Route in Blackpool.

- **Segregated Tram & Heavy Rail:**
  - Option 3 “Local” Tram to Lytham, via “Promenade” Route in Blackpool and 2 Trains per hour between Preston and St Annes only.
Each of these options is summarised below.

Option 1a – Regional Heavy Rail Service to Manchester

The plan below shows Option 1a, the ‘Regional Heavy Rail Service’ option. This option provides two trains per hour on the South Fylde Line: the existing Colne service plus a second train extended to Manchester and Manchester Airport.

This option includes the following improvements:

- Additional hourly service to Manchester and Manchester Airport;
- Improved rolling stock on the existing South Fylde Line service;
- Station Improvements (weather protection & seating);
- Ticket Machines;
- Real Time Information;
- Integration/timetables & Information;
- Security (CCTV); and
- Improved interchange with non-car modes.
Option 1b – Local Heavy Rail Service to Preston

The plan below shows a diagram of Option 1b, the ‘Local Heavy Rail Service’ option. This provides two trains per hour: the existing Colne service and a second train between Blackpool South and Preston (only).

The option includes the following improvements:

- Additional hourly service to Preston;
- Improved rolling stock on the existing South Fylde Line service;
- Station Improvements (weather protection & seating);
- Ticket Machines;
- Real Time Information;
- Integration/timetables & Information;
- Security (CCTV); and
- Improved interchange with non-car modes.
Option 2a – Light Rail to Preston, via “Central Route” in Blackpool

The plan below shows a diagram of Option 2a. This option provides a “Regional” Tram-Train to Preston, using the “Central” Route in Blackpool. Option 2a replaces the existing heavy rail service on the South Fylde line with a light rail service from Blackpool North to Preston via South Fylde.

The option includes the following improvements:

- 4 tram-trains/hr between Blackpool North and Preston via the South Fylde Line;
- New tram train rolling stock;
- Station Improvements (weather protection & seating);
- Ticket Machines;
- Real Time Information;
- Integration/timetables & Information;
- Security (CCTV);
- Improved interchange with non-car modes; and
- 10 new tram stops situated between Central Pier and Moss Side.
Option 2b – Light Rail to Lytham, via “Central Route” in Blackpool

The plan below shows a diagram of Option 2b. This option provides a “Local” Tram-Train to Lytham, following the “Central” Route in Blackpool. Option 2b includes 2 trains per hour: the existing Colne service and a second train extended to Manchester and Manchester Airport (as in Option 1a). The tram service connecting Blackpool North to Lytham via the South Fylde Line would operate at 4 trams/hr through the majority of the day.

The option includes the following improvements:

• New tram train service from Blackpool North to Lytham via South Fylde Line/ “Central Route” with new trams;
• 4 trams per hour between Blackpool North and Lytham (Saltcoates);
• Additional hourly heavy rail service from Blackpool South to Manchester Airport;
• Improved rolling stock on the existing South Fylde Line service;
• Station Improvements (weather protection & seating);
• Ticket Machines;
• Real Time Information;
• Integration/timetables & Information;
• Security (CCTV);
• Improved interchange with non-car modes; and
• 10 new tram stops situated between Central Pier and Moss Side.
**Option 2c – Light Rail to Lytham, via “Promenade Route” in Blackpool**

The plan below shows a diagram of Option 2c. This provides a “Local” Tram-Train to Lytham, following the existing “Promenade” Route in Blackpool. Option 2c includes 2 trains per hour: the existing Colne service and a second train extended to Manchester and Manchester Airport. The existing Blackpool tram network to Starr Gate would be extended via Squires Gate to Lytham via the South Fylde Line.

The option includes the following improvements:

- New tram train route from Blackpool North to Lytham via “Promenade” to Squires Gate then via South Fylde Line 4 trams per hour between Blackpool North and Lytham (Saltcoates);
- Additional hourly heavy rail service from Blackpool South to Manchester Airport;
- Improved rolling stock on the existing South Fylde Line service;
- Station Improvements (weather protection & seating);
- Ticket Machines;
- Real Time Information;
- Integration/timetables & Information;
- Security (CCTV);
- Improved interchange with non-car modes; and
- 7 new tram stops situated between Starr Gate and Moss Side.
Option 3 Tram to Lytham, Via “Promenade” route in Blackpool, segregated from Rail – St Annes to Preston.

The plan below shows a diagram of Option 3. This option provides a “Local” Tram to Lytham, following the “Promenade” Route in Blackpool. Option 3 includes 2 trains per hour: the existing Colne service and a second train extended to Manchester and Manchester Airport but to St Annes only. The tram service connecting Blackpool North to Lytham via the existing Promenade Route and part of the South Fylde Line, and would operate at 4 trams/hr through the majority of the day and on a single track alongside and segregated from the rail line.

The option includes the following improvements:

- New tram service from Blackpool North to Lytham via South Fylde Line/ “Promenade Route”;
- 4 trams per hour between Blackpool North and Lytham (Saltcoates);
- Additional hourly heavy rail service from St Annes to Manchester Airport;
- Shortening of existing Colne service to turn back at St Annes.
- Improved rolling stock on the existing South Fylde Line service;
- Station Improvements (weather protection & seating);
- Ticket Machines;
- Real Time Information;
- Integration/timetables & Information;
- Security (CCTV);
- Improved interchange with non-car modes; and
- 6 new tram stops situated between Starr Gate and Moss Side.
Partners

Sintropher is coordinated by

In partnership with

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