

# **TAY ESTUARY RAIL STUDY**

**Overview Report**

**Summary**

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**Prepared for:**

Dundee City Council in conjunction with  
Fife, Perth & Kinross and Angus Councils, and  
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## 1. OVERVIEW

### Introduction

- 1.1 This note presents a summary of the process undertaken by the study team in developing a preferred strategy to improve the local relevance of rail services in the Tay Estuary area.
- 1.2 The focus of the brief for the study was to identify and develop a funding application for *deliverable* local rail service improvements. The emphasis was that solutions should reflect a degree of pragmatism and realism, and be guided by the local planning objectives defined in conjunction with local consultees. The study was also to be guided by the emerging outcome of the Scottish Strategic Rail Study (SSRS), which has now reported and identified a set of short, medium and longer-term aspirations for the development of Scotland's rail network and services.
- 1.3 Since the time of the commencement of the study, the SRA has issued its latest Strategic Plan, which has changed the emphasis of expenditure from network expansion to making better use of existing resources. Improving reliability is a key aim for the SRA. The RPP fund has been frozen for at least two years and this had a considerable impact on the ability of local authorities in England and Wales keen to develop their rail services.
- 1.4 In Scotland it appears that the Executive is prioritising the development of rail services but all proposals will nonetheless have to compete for what will be a finite level of available funds (ring-fenced or otherwise). Therefore, any proposal that the Executive funds will have to demonstrate value-for-money and a strong policy fit (locally and nationally).
- 1.5 The appraisal process undertaken during this study meets the requirements of STAG and provides a clear and transparent audit trail through to the preferred strategy. In commissioning the development of STAG, the Executive was seeking to develop an objectives-led process for the development of transport schemes across all modes. The STAG process is designed to focus effort on those schemes that have the best chance of securing both funding and local support. Studies are therefore expected to involve stakeholders to ensure that there is some consensus on the objectives for the study and that emerging schemes are attractive to potential users because they address perceived transport problems. Furthermore the process, as it proceeds through option sifting, STAG1 appraisal and STAG2 detailed appraisal, should seek to gradually remove schemes from the reckoning because they either don't have a strong policy fit, perform particularly poorly in appraisal terms or have what might be called 'show-stopper' issues related to implementability or fundability.

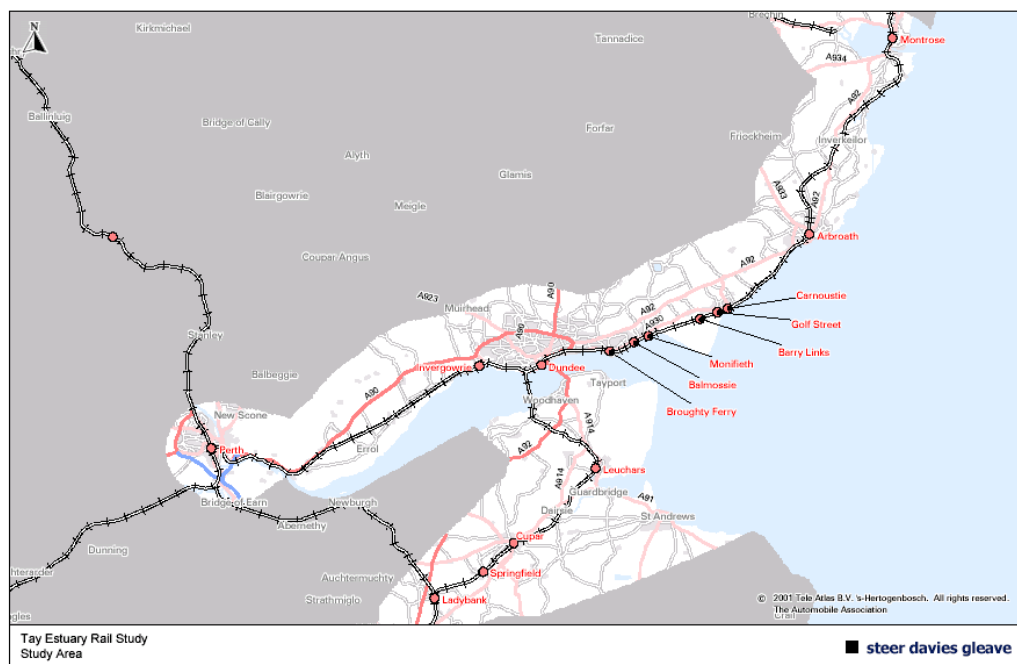
**Definition of Appraisal Framework<sup>1</sup>**

- 1.6 Drawing on a stakeholder workshop and focus groups undertaken within the study area, four planning objectives were defined for the study, being:
- i. Accessibility (PO1): to assess the change in the numbers of people living within a “representative journey” of selected key destinations;
  - ii. Efficiency and Effectiveness of Rail Operations (PO2): to increase the maximum number of “station-visits” feasible on the section of the network under consideration in the study;
  - iii. Quality (PO3): to deliver significant improvements in passenger satisfaction with the quality of provision; and
  - iv. Integration (PO4): creating the sense that individual public transport services are part of a unified whole.

**Initial Long List of Options<sup>2</sup>**

- 1.7 The study area was defined as including the three axes of the existing rail network bounded by Montrose to the north, Perth to the west and Ladybank to the south. In addition Brechin and St Andrews were included in the study area in order that the potential for reinstating former rail alignments to these towns was included in the study. A map of the study area is shown below.

**FIGURE 1 TAY ESTUARY RAIL STUDY - STUDY AREA**



<sup>1</sup> Working Paper A: Planning Objectives and Appraisal Framework

<sup>2</sup> Babbie Group Working Paper B: Constraints and Assessment of Options

- 1.8 A detailed operational analysis was undertaken by Babbie to identify where the restrictions on capacity are at present and how the pathing of existing services constrains and shapes any proposed overlaid local service. It was recognised at this stage that pathing arrangements are currently under examination and that the replacement of the ScotRail franchise might precipitate a recast of inter-regional express services that would impact on the capacity and available slots in the Tay Estuary area. This has implications for the phasing of the strategy which is referred to later.
- 1.9 Options were considered initially to run trains into Dundee from each of the three rail axes with varying degree of distance.

### **Option Sifting<sup>3</sup>**

- 1.10 STAG is clear that there is an opportunity for first-level option sifting to remove options that are unlikely to be justified either through significant infrastructure or operational constraints (implementability), or major concerns over fundability. The key findings from this stage of the option sifting was that:
- Local services operating north of Arbroath, other than occasional off-peak services, could not be justified in the context of this study due to the significant operational constraint posed by the single-track section at Usan. Brechin reinstatement was ruled out due to the cost of the scheme in its own right and also that to run an attractive service to Dundee or beyond would be dependent on removing the Usan constraint.
  - Options to reopen the St Andrews branch as a heavy rail service could not be justified due to the levels of cost and the indicative benefit-cost ratio. Options to reopen the branch as an LRT service would be even less attractive both in terms of likely costs and from considerations of operational efficiency.

### **STAG1 Appraisal<sup>4</sup>**

- 1.11 The definition of options was refined to represent a set of service options that were operationally coherent. Two new stations were considered at Dundee West and Wormit, tied in with the new services. Service options were defined linking Fife and Perth via Dundee/Dundee West, Fife and Angus via Dundee, and Angus and Perth via Dundee/Dundee West. Packages of station improvements were also considered.
- 1.12 The key findings were that:
- The best performing service option in terms of economic appraisal and policy fit was Arbroath to Perth. A new station at Dundee West could form part of this service package;
  - A full package of station improvements could only be justified at the more heavily used stations (Arbroath, Montrose, Carnoustie, Dundee, Perth and Leuchars). Lesser packages would be justifiable, and indeed appropriate in the

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<sup>3</sup> Working Paper C, Option Sifting

<sup>4</sup> Working Paper D Option Appraisal – STAG1

context of selling and branding a new local service, at the remaining less well used stations.

1.13 The Arbroath to Perth local service (and associated station improvements) was chosen as having:

- the best performance against the planning objectives of all the individual service options tested;
- an estimated benefit to cost ratio of 0.94:1 (at a 6% discount rate);
- potential for excellent synergy with proposals to facilitate speeding up of longer distance rail services; and
- is likely to be operationally robust and requires minimal levels of new track and signalling work.

1.14 In the light of the limited geographical coverage of the best performing option, analysis was then undertaken into the extent to which it might be possible to provide additional services to Montrose at certain times of day, and for other service options for stations in Fife.

#### **The Preferred Strategy<sup>5</sup>**

1.15 The agreed recommended strategy for the Tay estuary area was informed by the analysis and process described in the preceding paragraphs. Recommendations approved by the client team are for a strategy containing the following elements:

#### ***Service Improvement and Extensions***

- i. A new hourly service from Arbroath to Perth calling at all key stations;
- ii. A comprehensive package of station enhancements at Arbroath, Montrose, Carnoustie, Dundee, Perth on the line of the new service with lesser improvements at Broughty Ferry & Monifieth sufficient to raise quality to a minimum benchmark and brand the service.
- iii. A new station at Dundee West.

#### ***Supporting Elements***

- i. Development of provisions for interchange at Montrose with associated station enhancements. This requires appropriate works at Montrose to create bus layby facilities;
- ii. Improvement of Leuchars stations to enhance its role as a transport interchange hub and building on the quality bus initiative to Dundee;
- iii. Lesser packages of improvement at other Fife stations (Cupar and Ladybank) to bring up to a similar standard as the core Dundee stations.

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<sup>5</sup> also in Working Paper D Option Appraisal – STAG1

**TABLE 1.2 SUMMARY OF PREFERRED OPTION****Service Enhancements**

New hourly service between Arbroath and Perth, stopping hourly at Perth, Dundee West, Dundee, Broughty Ferry, Monifieth, Carnoustie & Arbroath. It is currently envisaged that service levels at Invergowrie, Balmossie, Barry Links and Golf Street would remain at 2002/3 levels.

**New Rolling Stock**

Three additional diesel multiple-units required

**Track and Signalling Works**

New up-line Loop at Carnoustie (requires land outside current rail boundary) and CCTV tail light camera adjacent to the Up Outer Home signal

**Station Enhancements**

	Service Level	Accessibility	Security	Station Facilities
Arbroath	X	X	X	X
Broughty Ferry	X	X	X	X
Carnoustie	X		X	X
Cupar		X		X
Dundee	X		X	X
Ladybank		X		
Leuchars				X
Monifieth	X		X	X
Montrose			X	X
Perth	X	X	X	X

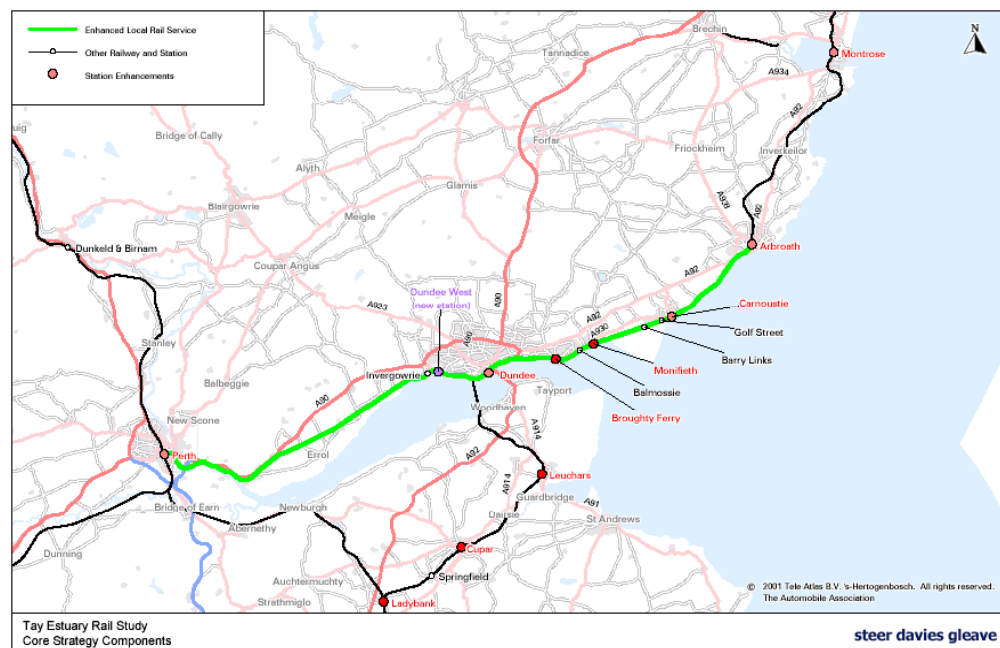
**New Station**

Dundee West

- 1.16 The overall benefit to cost ratio of the full strategy has been estimated at 0.98:1, with an economic NPV of -£0.8m.
- 1.17 A variant of the core Arbroath to Perth service was also examined which involves an extension of the service to Montrose where capacity permits. The assessment of the preferred option is set out in Working Paper E<sup>6</sup>.

<sup>6</sup> Working Paper E STAG2 Appraisal

FIGURE 3 TAY ESTUARY RAIL STUDY – CORE STRATEGY COMPONENTS



### Strategy Phasing

- 1.18 In recognition of the SRA's constraint on available funding and the timing of the replacement of the Scottish Passenger Rail Franchise (now estimated as taking place in October 2004) it is suggested that a phased approach to delivery of the strategy be considered. This would focus on station enhancements in the short term with the new service following in the medium term. It is unlikely that a new service could be implemented before May 2006.
- 1.19 The potential recast of Scottish Passenger Rail Franchises express network and the desire among many organisations to separate the roles of rail services into strategic express and local we believe dictates the timing of any new service introduction. The findings of this study have identified a stronger case for a local service than was identified through SSRS. This is to be expected considering the use of more robust local data and a finer focus to the work. As with the SSRS we would make the point that the case for a local service is improved if it is considered as part of proposals to speed up longer distance express services by allowing these services to skip 'local' stops. Without the fast service, the preferred local service would rank within the low to middle range amongst the schemes which the Executive has seen arising from the SSRS.
- 1.20 With the combination of an additional local service and a recast express network, Dundee would become an important interchange hub and the development of the station's facilities needs to reflect this. The development of the Whitehall area bus facilities makes a visible connection between the city's bus and rail services which should also be considered in the proposals for Dundee station.



## Next Steps

- 1.21 In taking forward the proposals to implementation, there are a number of areas where additional work may be justified. In particular, this includes
- i. Further clarification from the SRA and Scottish Executive regarding the potential funding mechanisms for the recommended strategy;
  - ii. Development of a fuller understanding of the potential synergy of the recommended strategy with proposals for recasting of the intercity timetable and particularly Glasgow/Edinburgh to Aberdeen services. This includes the proposals for service changes (if any) at stations not included in the recommended new local service, including Cupar, Leuchars, Ladybank and Montrose. It also requires an understanding of the potential connecting times between the local and intercity services at Perth, Dundee and Arbroath to encompass the requirements of journeys between the TERS study area and further afield;
  - iii. Discussion of the range of options identified by Babbie for the loop facility at Carnoustie with relevant bodies to ensure agreement regarding the proposed solution;
  - iv. Further assessment of the potential for complementary non-rail based improvements to build on the proposed improvements to interchange at Leuchars, Montrose and Dundee in particular; and
  - v. A further discussion with stakeholders as to the options for stations not proposed for significant improvement here, including Golf Street, Barry Links, Invergowrie and Balmossie and Springfield.

**CONTROL SHEET**

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