

REPORT TO FORMARTINE AREA COMMITTEE – 7 JUNE 2016

FRASERBURGH, PETERHEAD AND ELLON TO ABERDEEN STRATEGIC TRANSPORT STUDY

1 Recommendations

The Committee is recommended to:

- 1.1 Welcome the contents of this report, and the progress in developing the Study on the corridor between Aberdeen and Ellon, Peterhead and Fraserburgh;**
- 1.2 Note that officers will undertake further consultation with Transport Scotland, Bus Operators and Rail Operators to refine the specific packaging of elements for the Part 2 Appraisal, alongside officers of Nestrans;**
- 1.3 Note that further work will be undertaken to further develop the packages of potential measures for further appraisal;**
- 1.4 Note that Infrastructure Services Committee have requested Area Committee comments; and**
- 1.5 Provide comment on the report and Appendix.**

2 Background/Discussion

2.1 The purpose of this report is two-fold:

- (1)** To update local Members regarding outcomes of Nestrans' Fraserburgh, Peterhead and Ellon to Aberdeen Strategic Transport Study; and
- (2)** As requested by the Nestrans Board and Infrastructure Services Committee, to seek local Members' views on the key findings of the work to date, and the proposed further development of the study.

2.2 The study was previously reported to Infrastructure Services Committee on 19 March 2015 (Item 7 refers) and 12 May 2016 (Item 7 refers). Nestrans commissioned consultants SIAS, Peter Brett Associates, and Energised Environment to undertake a multi-modal transport study, considering the transport corridor linking Fraserburgh, Peterhead and Ellon to Aberdeen. The purpose of the study is to identify and examine options for improving strategic transport connections along this corridor, taking into account rail, bus, road and active travel. The study has been undertaken in line with guidance provided by Scottish Transport Appraisal Guidance (STAG), with separate stages considering the determination of problems and opportunities, the setting of transport planning objectives, option generation, finishing with an initial option appraisal (STAG Part 1).

- 2.3 Elected Members, stakeholders, key officers including Area Managers, and the wider public have had opportunities to input to the study. During the initial problem identification/objective setting stage, Elected Members were invited to a briefing at the Buchan Braes Hotel, Boddam, which followed on from a public on-line survey and series of Stakeholder workshops and individual discussions. In autumn 2015, consultation was also undertaken in relation to the emerging outcomes from the initial option appraisal. At this time Elected Member and public drop-in sessions were arranged in the Bridge of Don, Ellon, Peterhead and Fraserburgh with display boards and officers / consultants available to assist with questions etc. This exercise was also associated with another on-line consultation open to members of the public and other interested parties.
- 2.4 The study outcomes (up to Part 1 initial option appraisal) were reported to the Nestrans Board on 19 April 2016. A summary document, the assessment report, and series of Appendices have been placed on the Nestrans website, and are available at the following link. <http://www.nestrans.org.uk/fraserburgh-and-peterhead-to-aberdeen-strategic-transport-study.html>. A key findings note has also been produced by the study consultant team, and is attached as **Appendix 1** to this report. This sets out the important pieces of information that decision makers will need to take into account in moving forward to the more detailed assessment, and provides suggestions developed by the consultants for packages of measures for further appraisal.

Pre-Appraisal

- 2.5 The Pre-Appraisal report examined considerable amounts of economic, social and transport data, as well as stakeholder and public consultation information, in order to confirm the key strategic transport related problems and opportunities along the corridor, as well as establishing Transport Planning Objectives. Whilst many problems were identified (as presented in **Appendix 1**), they could be consolidated into three main categories:
- (1) Traffic speeds significantly below posted speed limits and unreliable and unpredictable journey times on strategic road links, namely the A90(T) and A952;
 - (2) Road safety risk on the A90(T) and A952; and
 - (3) Limited travel mode choice.
- 2.6 Following on from the consideration of key transport problems, six transport planning objectives were established:
- (1) Reduce journey time between North-East Communities and the Aberdeen conurbation;
 - (2) Increase journey reliability and predictability between North-East Communities and the Aberdeen conurbation;
 - (3) Reduce accidents on the A90(T) and A952;

- (4) Increase strategic travel choice between North-East Communities and the Aberdeen conurbation;
- (5) Increase direct public transport connectivity between North-East Communities and the main trip attractors within the Aberdeen conurbation; and
- (6) Increase mode share for non-car based modes between North-East communities and the Aberdeen conurbation.

Options for Part 1 Appraisal

2.7 Seven broad options were identified from the background analysis work, sifted from 130 suggestions identified during early stages of the study. These were necessarily broad and high level, and were designed to represent the alternative strategic interventions that could be considered. They were designed so that they would not preclude subsequent refinement and packaging.

- (1) Option 1 – Road: Phased dualling and junction improvements on the A90(T) Ellon to Peterhead, and the A952/A90 to Fraserburgh;
- (2) Option 2 – Road: Overtaking lanes and junction improvements on the A90(T) and A952;
- (3) Option 3 – Road: Road safety improvements on the A90(T) and A952;
- (4) Option 4 – Bus: Bus Service improvements (new direct and express services);
- (5) Option 5 – Bus: Option 4, plus bus priority measures and Park and Ride Strategy;
- (6) Option 6 – Rail: Phased reinstatement along the route of the Formartine and Buchan way, including examining options for either light rail or tram; and
- (7) Option 7 – Rail: Phased implementation of a new railway alignment (closely following the route of the A90(T) and A952 via the Bridge of Don, including options for either light rail or tram).

2.8 All the options above also took into account the committed infrastructure that is shortly due to be implemented within the area, including the AWPR, Balmedie to Tipperty improvements, Third Don Crossing, and Haudigan junction improvement.

Part 1 Appraisal

2.9 The Part 1 appraisal provides a qualitative assessment of seven broad options against the study objectives, and a variety of economic, social and environmental criteria using a 7 point scale, but does not include detailed quantitative appraisal. The aim of this stage of appraisal is to identify those options that perform best against the study objectives and appraisal criteria,

so that they can then be taken forward to the more detailed Part 2 appraisal, and those that should be set aside. It is noted that some high level quantitative figures have been included to assist with the qualitative assessment and comparison, but are considered to be indicative at this time.

- 2.10 High level conclusions from the work undertaken to date suggest the following:
- (1) Option 1; providing full dual-carriageway on the A90 and A952 is unlikely to attract the scale of capital funding to enable implementation in the short/medium term or be cost-effective. A hybrid package of dualling between Ellon and Toll of Birness, along with junction enhancements, overtaking opportunities (from Option 2) and safety interventions (from Option 3) would most likely achieve objectives and be more cost-effective;
 - (2) Options 4 and 5; offering bus-based solutions, can be pursued as integral parts of road or rail-based packages but do not achieve the objectives as stand-alone options;
 - (3) Option 6; fully reinstating the former alignment of the Formartine and Buchan rail line is ineffective beyond Ellon and should not be pursued further; reinstating the rail line to both Peterhead and Fraserburgh on a y-shape is also ineffective. Any further assessment should consider using the former alignment between Dyce and Ellon, and assume a new rail alignment for any extension to Peterhead (possibly broadly following the former Boddam branch alignment) and possibly thereafter onwards to Fraserburgh; and
 - (4) Option 7; a totally new rail or tram alignment is less effective than reinstating the former line between Ellon and Dyce. This does not provide the additional travel opportunity linking the corridor into Dyce, and additionally presents engineering feasibility issues in accessing Aberdeen Rail Station via the Bridge of Don, and it is considered that this should be removed from the packages at this stage.
- 2.11 The appraisal has confirmed that there are a range of connectivity requirements when considering the area as a whole. Many businesses in the area are particularly reliant on road freight on this corridor, and this freight cannot necessarily be easily transferred onto a rail service. For example, over 1 million tonnes of oil related freight cross the quays annually at Peterhead, and a substantial majority of this moves between the vendor bases in Aberdeen, and Peterhead Port. As another example, the value of fish landed at Peterhead and Fraserburgh can be in excess of £200m annually, and virtually all of this moves out of the area, alongside other movements of shellfish and frozen fish. It is imperative that these goods catch cut off times for Billingsgate fish market, as well as cut off times for cross channel ferries to enter the European supply chain at Boulogne Sur Mer. These freight flows have specific value to the regional economy; however the volume of freight movements on the corridor does impact on other road users.
- 2.12 Residents living in the study area and working, for example in Dyce and Aberdeen City, are also impacted by the performance of the transport

corridor, as are bus operators. Consultation and other supporting analysis revealed that a key issue are journey times (including bus users) and the unreliability of journey times. This affects sections of the corridor within the Aberdeen and Dyce area caused by peak period congestion, but also along the A90 and A952, due to heavy freight use, accidents on the road network, and some agricultural traffic. Projections of housing, population and employment along the corridor all point to continued growth in traffic and public transport demand.

- 2.13 Consultants have provided initial suggestions for how packages of options could be considered within the next stage of the appraisal, as per **Appendix 1**. Officers from Nestrans, Aberdeenshire Council, and Aberdeen City Council are of the view that based on the outcomes of the initial appraisal, packages of options are likely to produce the most effective and value for money solution. Transport Scotland officials, who also sit on the steering group, are currently reviewing the report. Further discussion will be required with them to determine their advice in taking the study forward. Further discussion is also required with bus and rail operators. The packaging of options will also have to consider the specifics of each option in greater detail than has been achieved to date. For any package including rail based elements, this would include stations and journey times; for any package including road based elements this would include the likely specific interventions.
- 2.14 In summary, the STAG Part 1 has clearly identified the key problems to be overcome, and the opportunities on the corridor. It has found that no single intervention is likely to address the overall objectives that have been set. The work has also helped to narrow down the most likely components of alternative packages of measures. These would most likely include:
- (1) The option for rail between Aberdeen, Dyce and Ellon (on existing alignment of the Formartine and Buchan Way), and thereafter consideration of possible extensions to Peterhead and Fraserburgh on new alignments;
 - (2) The option for a variety of road upgrade improvements on the A90 and A952, varying from dualling of sections, junction improvements, overtaking provision, and other road safety measures; and
 - (3) Bus priority and service improvements.
- 2.15 Moving to a STAG Part 2 assessment, further work will be required to work up the detail, feasibility and costs, and thereafter effectiveness of the measures listed above. These would then require to be tested individually, and then in a combination of packages to determine the optimal package for the corridor. Rail would be anticipated as forming a core element of a number of these packages, as would road based interventions, with the goal of finding the most effective combination of measures. This approach to testing of options will be required in order to demonstrate a robust business case to partners. Accordingly, the views of this Committee, Formartine Area, Buchan Area and ISC are being sought prior to responding to Nestrans regarding the packaging of options for the next stage of appraisal work.

- 2.16 The Head of Finance and Monitoring Officer from Business Services have been consulted in preparation of this report and their comments have been incorporated within the report.
- 2.17 The Head of Commercial and Procurement Services has been consulted in the preparation of this report and is supportive of the report.

3 Equalities, Staffing and Financial Implications

- 3.1 The immediate staffing implications of this report are for Aberdeenshire Council officers to continue to support the steering group for the study. This can be accommodated within staffing existing resource. Funding requirements for any further study work would be obtained from the Nestrans budget, which has £200,000 in its budget for 2016/17 for the next stage of appraisal work.
- 3.2 No EqIA has been undertaken at the current stage of the appraisal work, due to the current broad nature of options being considered at this stage of the appraisal. It is anticipated that EqIAs would be prepared to support the more detailed Part 2 appraisal work.

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Director of Infrastructure Services

Report prepared by Paul Finch
26 May 2016

APPENDIX 1 – KEY FINDINGS OF APPRAISAL



Fraserburgh & Peterhead to Aberdeen Strategic Transport Study

Key Messages

Study Scope

Purpose:

- To identify and examine the (multi-modal) options for improving strategic transport connectivity between Fraserburgh, Peterhead and Aberdeen.
- The study looks to 2035 and considers connectivity issues post implementation of the Aberdeen Western Peripheral Route, Balmedie to Tippetty dualling, Third Don Crossing and other committed transport schemes.

Study Area:

- Covers the area from central Aberdeen to Peterhead and Fraserburgh incorporating Dyce, Ellon and Mintlaw.
- A90(T) and A952 considered the strategic road network.
- *Buchan Link* bus services operated by Stagecoach cover the principal bus network.
- Closest rail stations at Dyce and Aberdeen.
- Principal active travel route along the Formartine and Buchan Way route between Dyce-Newmachar-Ellon-Maud, and then branching Maud-Mintlaw-Peterhead and Maud-Strichen-Fraserburgh.

Structure:

- The study has been undertaken in line with the Scottish Transport Appraisal Guidance, initially covering the Pre-Appraisal and Part 1 Appraisal stages.

Problems & Opportunities

Problems and Opportunities for the study identified through wide ranging data analysis covering the economy and all transport modes and a full engagement programme covering: businesses, elected officials, community and public, transport operators and providers, NHS, College and Universities, environmental organisations and others.

Appreciation of the economic and social context of the study and a clearer understanding of why and for whom transport improvements needed:

- Clear north-south divide in the study area with a lower economic rate, educational attainment and recent lower growth in northern areas when compared to regional figures.

- Clear economic rationale underpinning need for transport improvement given the dominance of primary industries in the area: Oil and Gas, Fishing and Farming. These industries are relatively transport intensive, with a heavy reliance on the movement of goods, principally by road. Current road delay impacts on businesses in the area with stock depreciation, inefficiencies and higher business costs.
- Business investment in the Energetica area felt to be constrained by existing transport connectivity.
- Accident data (2009 – 2013) highlights entire A90(T) route between Aberdeen and Fraserburgh with higher than expected proportion of ‘serious’ accidents than expected on similar road. Three locations identified with higher than expected proportion of fatal accidents. Southern section of A952 between Mintlaw and the Toll of Birness highlighted with higher than expected proportion of fatal accidents, with the Toll of Birness junction suffering from four accidents classed as ‘serious’ within 100m of the junction. Police Scotland, and Scotland Fire and Rescue suggest accidents caused by; driver frustration at lack of over-taking opportunity, young and inexperienced drivers; and older drivers who rely on the car for travel due to rural nature of their residence with limited public transport alternatives that suit their needs.
- Unpredictable nature of delay caused by accidents on business operations noted by business community. Road journey time unpredictability also an issue for bus operators.
- Many local people living in Fraserburgh and Peterhead employed in the towns. Important to provide transport connectivity that encourages the retention of local employment opportunities and support the regeneration priority for Peterhead and Fraserburgh.
- Population projections for the region alongside aspirations of Aberdeen and Aberdeenshire Local Development Plans will impact on transport network. The AWPR will provide improved journey times by road south of Ellon, but predictions show travel times north of Ellon will increase to above existing journey times by 2023.
- Existing travel time by bus not competitive with the car, with lack of direct services meaning interchange in Aberdeen often required.
- No connectivity by rail from Fraserburgh, Peterhead, Ellon etc.
- Distances involved in accessing Aberdeen means active travel not a viable option.
- Those without access to a car are disadvantaged in accessing the region’s employment opportunities, and retail and health facilities in Aberdeen.
- Strong support from Business community for road improvements but limited support for rail given the ‘just in time’ nature of business operations and size of loads being transported.
- Strong support from public for both road and rail improvements.
- Support from public for bus improvements – but not to same extent as support for road and rail improvements.

Transport Problems consolidated into three key problems:

- Traffic speeds significantly below posted speed limits and unreliable and unpredictable journey times on strategic road links, namely the A90(T) and A952.
- Road safety risk on the A90(T) and A952.
- Limited travel mode choice.

Key Opportunities identified include:

- Supporting both employment and housing land development including supporting and promoting the Energetica project.
- Supporting the growth aspiration of local businesses and encouraging inward investment.
- Increasing the accessibility of local and regional employment opportunities, and regional health, education and social services.
- Supporting the regeneration of Fraserburgh and Peterhead.
- Reducing feelings of peripherality and an image of remoteness.

Study Objectives

Six study Transport Planning Objectives (TPOs) set which reflect the problems and opportunities:

1. Reduce journey time between North-East Communities and the Aberdeen conurbation.
2. Increase journey reliability and predictability between North-East Communities and the Aberdeen conurbation.
3. Reduce accidents on the A90(T) and A952.
4. Increase strategic travel choice between North-East Communities and the Aberdeen conurbation .
5. Increase direct public transport connectivity between North-East Communities and the main trip attractors within the Aberdeen conurbation.
6. Increase mode share for non-car based modes between North-East communities and the Aberdeen conurbation.

Options for Appraisal

A range of options (around 130 options) developed. Option sifted and developed, and seven options taken forward for appraisal:

- **Option 1 - Road:** Dualling and junction improvements: A90(T) to Peterhead & A952/A90(T) to Fraserburgh.
- **Option 2 - Road:** Overtaking lanes & junction improvements on the A90(T) and A952.
- **Option 3 - Road:** Safety improvements on the A90(T) and A952.
- **Option 4 - Bus:** Bus service improvements (new direct and express services).

- **Option 5 - Bus:** Option 4 plus bus priority measures and Park and Ride strategy.
- **Option 6 - Rail:** Phased reinstatement on Formartine and Buchan Way including examining options for light rail or tram .
- **Option 7 - Rail:** Phased implementation of a new railway alignment (closely following the A90(T) and A952), via the Bridge of Don, including examining options for light rail or tram.

Option Appraisal

- Seven options appraised against TPOs, the five STAG criteria (Environment, Economy, Safety, Accessibility and Social Inclusion, and Integration), Feasibility, Affordability and Public Acceptability.
- Four public events undertaken, in Bridge of Don, Ellon, Peterhead and Fraserburgh to gather views on the options.
- Public event material made available on Nestrans website and public survey undertaken to gauge opinion on the options with the survey advertised through social media channels.

Key Appraisal Points:

- Option 7 (a new railway on a new alignment via Bridge of Don), Option 6 (reintroduction of rail route on Formartine and Buchan Way) and Option 1 (dualling) are anticipated to have the greatest environmental impact given the major construction works required and increased noise and air pollution close to railway/road alignment.
- The rail alignment proposed in Option 7, via the Bridge of Don, would require significant engineering works to enable a route into Aberdeen rail station from the north.
- All options expected to bring safety improvement with the greatest improvements if a road option were implemented. Safety benefits for bus and rail options would be dependent on any mode shift that could be achieved to sustainable transport – expected to be greater for rail than bus.
- Tram/light rail implementation (as opposed to heavy rail) would be a suitable option for accessing the City Centre from Dyce or potentially Ellon, however, it would not be suitable for longer distances such as to Fraserburgh or Peterhead which could only realistically be served by heavy rail.
- Heavy rail expected to bring greater journey time benefits compared to tram/light rail, given the lower top speeds achievable by tram/light rail and likely additional stops within the Aberdeen urban area – journey times could potentially be up to twice as long by tram to Ellon compared to heavy rail.
- Comparison of predicted 2023 journey times by road (which take account of future transport schemes and development) against predicted 2023 journey times **with** road and rail options shows:

- Road dualling could provide over 10 minutes of journey time saving between Fraserburgh and Aberdeen and up to 8 minutes journey time saving between Peterhead and Aberdeen (dependent on time of day and direction of travel).
- Overtaking lanes could provide around 30 seconds of journey time saving between Toll of Birness and Fraserburgh, and Toll of Birness and Peterhead (although this does not take account of potential further journey time saving on single carriageway sections due to the overtaking of slower moving vehicles on overtaking lanes).
- Journey times by rail that are:
 - Slower than predicted road journey times northbound in the morning.
 - Quicker than predicted road journey times northbound in the evening with rail providing a journey time saving of over 15 minutes to Ellon, Peterhead and Fraserburgh (dependant on alignment).
 - Quicker than predicted road journey times southbound to Aberdeen from Ellon in the morning, but slower from Peterhead and Fraserburgh if the alignment uses the Formartine and Buchan Way. Rail is predicted to be quicker from Peterhead and Fraserburgh if a new alignment via Bridge of Don were implemented (operating as a branch line from Ellon).
 - Slower than predicted road journey times southbound in the evening.
- Comparison of predicted 2023 road and rail option journey times shows:
 - Journey time by road, if roads dualled, always quicker than rail northbound in the morning.
 - Journey time by rail generally quicker than road (if dualled) northbound in the evening (due to anticipated future outbound road traffic from Aberdeen). Two exceptions are: from Aberdeen to Peterhead on a rail alignment on the Formartine and Buchan Way – due to the circuitous route via Maud, and from Aberdeen to Fraserburgh – if a new rail line via Peterhead were implemented.
 - Journey time by road, if roads dualled, quicker than rail southbound in morning and evening peaks with the exception of in the morning between Ellon and Aberdeen.
- Bus options with new direct services estimated to provide journey time saving compared to existing travel time, as an example around 50 minutes journey time saving to Dyce from both Fraserburgh and Peterhead.
- The rail and bus options provide the greatest opportunity to integrate transport modes – including with walking and cycling. Limited integration opportunities with road options.
- All options would provide improved accessibility but the bus and rail public transport based options provide the greatest opportunity to improve overall accessibility, especially in terms of social inclusion for those without access to a car.

- Road dualling and rail options have potential to cost over £1billion in capital costs.
- Bus based options would be the lowest cost options.
- Rail options have the potential to provide annual revenue costs greater than operating costs – but further work required to firm up on assumptions and analysis.
- Anticipated high public acceptability for road options given strong business desire for road improvement, and from public feedback from the Pre-Appraisal engagement programme, Public Events and on-lien survey, as well as local support for the *Why Stop at Ellon?* Campaign.
- Limited business desire for rail or bus option implementation given limited impact on business operations.
- While there is public support for bus improvements there is stronger public desire for road and rail improvements. If a bus only option were progressed, it would be likely be met with some disappointment that a more major intervention were not advanced. Bus options also unlikely to provide any significant economic benefit to businesses.

Consultants' Option Packaging Proposals:

- Recognition that mixing and matching elements from different options would provide more favourable options over any individual option on its own.
- Two option 'packages' developed:
 - Package 1: Road and Bus.
 - Package 2: Rail and Bus.

Package 1: Road & Bus

- Dualling Ellon to Toll of Birness - could be justified on the grounds of traffic volumes with journey time savings (in 2023) of around 01:30 minutes (£50 - £112.5 million).
- Junction improvement at Toll of Birness – to tackle accident location as well as provide journey time benefits (Approx. £50million).
- Over-taking lanes on A90(T) and A952 – to reduce accidents and provide journey time savings (Approx. £50million).
- Targeted safety improvements on A90(T) and A952 – to reduce high than expected accident rate on the roads, and bypass of Mintlaw on A952 to support impact of traffic growth on A952 due to anticipated future development (Approximately £40-£50million).
- Bus priority infrastructure and Park & Ride improvements - to capitalise on road improvement measures and encourage modal shift (Approximately £30million).
- New direct and express services from the Park & Ride sites to the main trip attractors in the Aberdeen conurbation, such as: Dyce, Aberdeen Royal Infirmary, Aberdeen Airport, Robert Gordon University etc. – to reduce public transport journey times and encourage modal shift (Approximately £12million).

Package 2: Bus and Rail

- Introduction of heavy rail service between Dyce and Ellon on the existing alignment of the Formartine and Buchan Way (£130 - £260million).
- Bus priority infrastructure and Park and Ride improvements - to capitalise on road improvement measures and encourage modal shift (Approximately £30million).
- New direct and express services from the Park and Ride sites to the main trip attractors in the Aberdeen conurbation, such as: Dyce, Aberdeen Royal Infirmary, Aberdeen Airport, Robert Gordon University etc. – to reduce public transport journey times and encourage modal shift (Approximately £12million).
- This option would enable:
 - *Potential* future introduction of heavy rail service, between Ellon and Peterhead on a new rail alignment.
 - *Potential* future introduction of heavy rail service between Ellon and Fraserburgh (branch line) on a new rail alignment, or between Peterhead and Fraserburgh (continuation of Peterhead line) on a new rail alignment.