
4a Fraserburgh, Peterhead and Ellon to Aberdeen Strategic Transport Study: Part 1 Appraisal Report

- Purpose of Report

The purpose of this report is to update Members regarding progress with the Fraserburgh/ Peterhead/ Ellon to Aberdeen Strategic Transport Study and to recommend a way forward.

- Background

Members will be aware that an appraisal is being undertaken to look into strategic transport options for improvements on the corridor between Aberdeen and Ellon/ Peterhead/ Fraserburgh. The options include reopening the former railway line, the possibility of a new rail line as well as road and other public transport options.

As previously reported to Board, a consortium of consultants has been appointed to conduct a Part 1 Appraisal: SIAS, Peter Brett Associates and Energised Environments. The Part 1 appraisal following Scottish Transport Appraisal Guidelines (STAG) has included public and stakeholder consultations, and focused on identifying issues and problems, agreeing objectives and an initial high level appraisal of how the strategic options best address the problems and achieve the objectives.

As presented to Nestrans Board at its meeting on 9 October 2015, seven options have been appraised - three road options, two bus-based options and two rail options.

- Part 1 Appraisal Report

The consultants have now produced a Part 1 Appraisal Report, which has been the subject of scrutiny and discussion with officers of Nestrans, the two Councils and Transport Scotland.

The Part 1 appraisal provides an indicative assessment of the options against, for example, economic, social and environmental criteria using a 7-point scale, but does not include detailed quantitative appraisal. The key aim of this stage of the appraisal process is to identify those options that best meet the criteria and objectives so that they can then be taken forward to the more detailed Part 2 appraisal.

At this stage of assessment the options have been subject to a mainly qualitative assessment. **Some high level quantitative figures have been included to assist with the qualitative assessment and comparison but these should be considered as very much indicative at this time.** Detailed quantitative assessment forms part of the Part 2 appraisal. Therefore options taken forward will be subject to a much more rigorous assessment to provide a robust set of evidence-based appraisal conclusions. These can then be used to make an informed decision to take forward an effective and value for money transport solution that will solve the existing transport problems along the corridor and also deliver future opportunities identified for the area.

The finalised document is available from the members' section of the Nestrans website. The report has three sections and can be found using the following link:

<http://www.nestrans.org.uk/members/index.php>

- A summary
- The assessment report
- Appendices

A key findings note has also been produced and is attached as Appendix 1 to this report. It sets out the important pieces of information that decision makers will need to take into account in moving forward to the more detailed assessment.

It includes the following highlights:

- Differing sections of society are looking for different solutions
 - Businesses are mostly concerned about the impact on journey times due to the volume and movement of freight with a large proportion of this freight traffic being time-sensitive cargo. The current volume and movement of freight are impacting on journey times and roads based solutions are therefore considered to offer the greatest benefit here.
 - The general population is more concerned about accessibility issues. Here the rail-based options are viewed as most important but there is a proportion which considers roads solutions to generate most benefit.
- Journey times have been **estimated** for the various options. **Care should be applied** here as to the level of detail in the estimates. Full modelling hasn't been carried out and the **figures shown are indicative** to provide an indication of what might be achieved. An estimate has also been made to try and identify the journey times that might be expected when the AWPR/B-T and the new Don crossing within Aberdeen are completed with the anticipated housing increases along the corridor.
 - The figures **estimated at this time** show a mixed picture when comparing road journey times to rail journey times
- **Indicative** construction cost ranges, operating costs and where appropriate revenue returns are estimated for each option. (At this stage these are not scheme costs or fare returns, rather they provide a ball-park for consideration of whether an option will be affordable and should be considered further in the Part 2 appraisal.)
- A qualitative assessment of how each option fares against the agreed Transport Planning and STAG objectives has been undertaken with key advantages and disadvantages described for each option.
- The consultants have offered the view that packages of the options, or parts of the options, should be taken forward for further detailed consideration in the Part 2 appraisal.

Officers from Nestrans and the two Councils, who form part of the Client Steering Group, are of the view that packages of options are likely to produce the most effective and value for money solution and are working with the consultants to agree on which packages should be recommended for the Part 2 appraisal.

Transport Scotland officials, who also sit on the Client Steering Group, are currently reviewing the report. Further discussion will be required with them to determine their advice in taking the project forward.

High level conclusions suggest:

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;

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;

Option 6; reinstating the former 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 ineffective and 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;

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 should be removed from the packages at this stage.

- Next steps

The consultants report provides a basis for making a decision on which packages of options, or parts of options, should be taken forward for the detailed Part 2 appraisal.

However it is suggested that the Board should seek some further information before coming to a conclusion on this. This should include:

- The Board should seek the views of Aberdeen City and Aberdeenshire Councils on the information presented in the consultants report
- Officers should continue discussion with Transport Scotland officials to determine their advice in taking the project forward
- Officers of Nestrans, the Councils, Transport Scotland, the SDPA and the consultants should further consider the packaging of options
- The views of the Bus Operators on the bus options suggested should be sought

Through this process, it will be possible to reach high level conclusions reducing the number of options to two or three packages which can then be subject to detailed appraisal. This Part 2 appraisal will provide detailed costs and benefits to enable consideration of a preferred value-for-money strategy for the future development of transport links on the corridor.

It is therefore suggested that the Board should seek a further report including the information described above and further clarity of the options / packages to take forward and therefore clarity on those options, or parts of options, that would not be considered part of the preferred packages.

- Recommendation

It is recommended that the Board:

1. Notes the contents of this report and the progress in developing the Study on the corridor between Aberdeen and Ellon/ Peterhead/ Fraserburgh;
2. Notes the further discussions to take place with Transport Scotland officials;
3. Agrees to further work being undertaken to further develop the “hybrid” packages of potential measures as outlined above;
4. Refers the consultants report to the constituent local authorities seeking their input and views on the key findings and proposed further development of the study;
5. Agrees that officers seek the views of the Bus Operators for consideration; and
6. Instructs officers to report back to a future meeting with the additional information detailed in the report;

RGM 07 April 2016



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 & 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 & 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 & Ride strategy
- **Option 6: Rail:** Phased reinstatement on Formartine & 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 & 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 & 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 30seconds 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 & 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 & 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.

Option Packaging:

- 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 & Bus
 - Package 2: Rail & 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 & Buchan Way (£130 - £260million)
- 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)
- 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