

ABERDEEN CITY COUNCIL

COMMITTEE	City Growth and Resources
DATE	03 February 2021
EXEMPT	No
CONFIDENTIAL	No
REPORT TITLE	External Transportation Links to Aberdeen South Harbour and Wellington Road Multimodal Corridor Study – STAG Part 2
REPORT NUMBER	COM/21/001
DIRECTOR	Steve Whyte
CHIEF OFFICER	Gale Beattie
REPORT AUTHOR	Ken Neil
TERMS OF REFERENCE	3.2

1. PURPOSE OF REPORT

- 1.1 To advise the Committee of the outcomes of the (1) External Transportation Links to the Aberdeen South Harbour (ASH) Scottish Transport Appraisal Guidance (STAG) Part 2 study and progress on (2) Wellington Road Multimodal Corridor Study – STAG Part 2.

2. RECOMMENDATION(S)

That the Committee :-

- 2.1 Note the contents and outcomes of the Aberdeen South Harbour (ASH) Scottish Transport Appraisal Guidance (STAG) Part 2 study, as per Appendix 4;
- 2.2 Approves the progression of recommended Road (Option A4), Public Transport (Options B1 and B2) and Active Travel (Options C1 and C4) from the External Transportation Links to the Aberdeen South Harbour Scottish Transport Appraisal Guidance (STAG) STAG Part 2 Appraisal Report, as shown in Appendix 1;
- 2.3 Subject to approval of the of options in 2.2, instruct the Chief Officer – Capital to develop a business case for these options and to report this to the City Region Deal Joint Committee upon completion, and
- 2.4 Subject to approval of the of options in 2.2, instruct the Chief Officer – Strategic Place Planning to continue with the Wellington Road Multimodal Corridor Study, ensuring that subsequent appraisal work reflects the decision of this Committee on a preferred option from the External Transportation Links to the Aberdeen South Harbour study, and to report the outcomes of the Wellington Road STAG Part 2 appraisal to this Committee in June 2021.

3. BACKGROUND

External Transportation Links to Aberdeen South Harbour

- 3.1 The External Transportation Links to Aberdeen South Harbour Study was originally commissioned in 2017 by Aberdeen City Council with the aim of examining transport connectivity to / from the new Aberdeen South Harbour at the Bay of Nigg, and to identify appropriate transport improvements which would then be taken forward for detailed appraisal of a preferred option. The study is an Aberdeen City Region Deal project, fully funded by the Scottish Government and United Kingdom Government and has been undertaken in line with the Scottish Transport Appraisal Guidance (STAG). The City Region Deal Agreement confirms commitment to investing up to an indicative £25 million in supporting state-aid compliant roads infrastructure to maximise the impact of the harbour project on the wider regional economy, subject to satisfactory business case.
- 3.2 Reference is made to the report to the 'City Growth and Resources' Committee of 27 November 2018 on the initial study which covered the 'Initial Appraisal: Case for Change' and 'Preliminary Options Appraisal' stages of STAG. Following approval of options, Aberdeen City Council commissioned the subsequent stage of STAG, the 'Detailed Options Appraisal'. Throughout the study, cognisance has been taken of the potential wider economic benefit the new harbour can bring to the region. The study fully recognises that improved connectivity to the harbour, and the industrial areas located nearby, can act as a key driver in improving the region's attractiveness for international trade and investment, and can support businesses in the oil and gas supply chain to internationalise in key global markets. This will help address the economic challenges facing the region and capitalise on available opportunities, such as the transition to renewables.
- 3.3 The emergence of the proposed Energy Transition Zone (ETZ) means the study now has a wider remit focussing on ensuring appropriate transport connectivity to / from the harbour, the proposed ETZ sites and the surrounding industrial area and ensuring appropriate access between the harbour and proposed ETZ area. Any new connections therefore need to ensure appropriate linkages between the harbour, proposed ETZ, the nearby industrial areas of Altens and East Tullos, as well as to the wider business districts around Aberdeen, and further afield.
- 3.4 The work being undertaken for this study has also taken cognisance of the ongoing 'Wellington Road Multi-modal Corridor Study'. Where options have the potential to constrain or support the proposals of the 'Wellington Road Multi-modal Corridor Study' this is noted within the appraisal reporting.
- 3.5 An Executive Summary of the consultant's STAG Part 2 report is provided in Appendix 3, while the full report is provided in Appendix 4. A list of the options that have been assessed for the External Links to Aberdeen South Harbour are as follows:

Option	Description	Cost Estimate
Road - A2a/b	New road link from either Greenwell Road (Option A2a) or Greenbank Road (Option A2b) across St Fitticks Park to new Coast Road junction (new underbridge at the railway line)	A2a- £11.1m A2b- £8.9m
Road - A3a/b	New road link from Greenwell Road (Option A3a) or Greenbank Road (Option A3b) across the former Ness Landfill Site and a new bridge across the railway to Coast Road	A3a- £15.1m A3b- £13.9m
Road - A4	New bridge on Coast Road combined with potential widening of Coast Road	£6.5m
Road - A5	New road link between Coast Road and Souter Head Road and new bridge over the railway	£7.7m
Bus - B1	Extend existing / reinstate bus services so that they serve Aberdeen South Harbour and the proposed ETZ sites	Annual subsidy - £0.15m
Bus - B2	New direct bus service between Aberdeen South Harbour and Aberdeen City Centre primarily for cruise tourists	Maximum Annual Contract Cost - £0.02m
Bus - B4	New direct regular bus service between the city centre and Aberdeen South Harbour and both proposed ETZ sites	Annual subsidy - £0.08m
Bus - B5	New circular bus service linking the city centre and Aberdeen South Harbour, proposed ETZ site at St. Fitticks Park and East Tullos.	Annual subsidy - £0.09m
Active Travel - C1	Enhanced active travel routes between ASH / proposed ETZ sites and Aberdeen City Centre / Deeside Way	Segregated path -£1.83m
Active Travel - C4	Enhanced active travel routes between ASH / proposed ETZ sites and Wellington Road (South)	Tiered cycleway - £0.86m

3.6 The road cost estimates include optimism bias but do not include allowances for:

- Costs associated with land / property acquisition;
- Statutory approvals / consents;
- Adjustments to existing public utility apparatus;
- Surveys and investigations;
- Design and works supervision fees; or
- Value Added Tax (VAT) and Inflation, as the date of construction is yet to be established.

Cost estimates presented above will be further developed during subsequent stages of design development as the results of ground, utility and other investigations become known and design work progressed.

A number of annual Bus subsidy scenarios and Active Travel options were developed and the cost estimates relate to the potential maximum cost for each option.

- 3.7 An online public consultation event was held in conjunction with the Wellington Road Multi-Modal Corridor study during November/December 2020 and the STAG report contains a summary of the feedback from this event. The consultation responses indicate that for the road options, Option A4 is the only option where the overall feeling was agreement with the option as opposed to disagreement. There is a particularly negative feeling towards Options A2a and A2b and a mixed feeling towards Options A3a and A3b. There is also a mixed feeling towards the bus options (Options B1, B2, B4 and B5) but an overall positive agreement with the proposed active travel options (Options C1 and C4).
- 3.8 Additional discussions were held with the company which would be most affected by the progression of Option A5. This was useful in understanding the additional range of issues and costs that could be associated with this option, in terms of business impacts, and site impacts.
- 3.9 Aberdeen Harbour Board have been a key stakeholder throughout the study, and provided relevant information on the new harbour and future activity projections and have worked with the study team at each of the key reporting stages. A key aspiration remains both the improvement of connectivity to the wider region, as well as both Altens and East Tullos industrial estates.
- 3.10 A summary of the key outcomes for each option from the STAG Part 2 is provided in Appendix 2. An Executive Summary of the consultant's report is also provided in Appendix 3, while the full STAG Part 2 report is provided in Appendix 4.
- 3.11 Officers have considered the outcomes of the STAG report and in comparing the outcomes from the appraisal for each option and particularly considering how they meet the scheme objectives, have concluded the following:

Roads Options

Options A4 and A5 provide the greatest economic benefits over the 60 year assessment period (benefit to cost ratio). Both options provide consistently reduced journey times to the Harbour / proposed ETZ area across all time periods and there would be no additional traffic on Wellington Road north of Hareness Road. They also both significantly reduce the current constraint caused by the existing road over rail bridge on the Coast Road.

Option A4 provides the lowest cost estimate and has the least risk attached to it.

In the public consultation Option A4 is the only option where the overall feeling was agreement with the option as opposed to disagreement

The technical feasibility for Option A4 from an environmental, topographical, ground and transport perspective would make construction of this option significantly less problematic when compared with other options.

The appraisal suggests that if Option A4 is preferred, then in the longer term the extension to include a link through Souter Head Road within Option A5 would provide additional benefits. However, the significant additional cost and risk means that its provision is not supported in the shorter term. If Option A4 is progressed, then there is the potential that the scheme could be phased and the additional work to upgrade to Option A5 can be added at a future date, if future demand justifies this approach.

The constraints of the railway line, site topography, and the location and status of the Ness Landfill Site preclude officers from being able to recommend an option that provides an improved link to East Tullos Industrial Estate, at this time. Reflecting the importance of such a link to Aberdeen Harbour Board, it is recommended that officers continue to examine the feasibility of such a link, which could form a future variant to Option A4.

Public Transport Options

Options B1 would improve access between potential workers and the new harbour and both proposed ETZ sites, particularly for those without access to a car. It would also link to the city centre enabling interchange to other bus services / rail.

Option B2 boosts the ability of the harbour to cater for cruise tourism and benefits the economy of the wider area by encouraging cruise passengers to explore the local tourism offering. The cost of the service depends on hours of operation and whether the service is operated on a contract basis or as a registered local service but could be operated to be commercially viable if cruise passengers were encouraged to come ashore.

Active Travel Options

Options C4 follows the route and therefore complements Road Option A4 in that it provides an active travel route from Aberdeen (South) to both the Aberdeen South Harbour area and with the inclusion of Option C1 a route through to the city centre.

- 3.12 Following approval of any option, it is anticipated that the next stage would be the development of a business case for consideration by the City Region Deal Joint Committee prior to seeking approval from the UK Government and Scottish Government. Thereafter, the work would quickly move to design stages, with the aim being to commit the majority of funding within the ten year period of the City Region Deal. The exact steps for UK and Scottish Government approval are currently being confirmed.

Wellington Road Multi-Modal Corridor Study

- 3.13 The Wellington Road Multimodal Corridor Study aims to identify and appraise options for improving conditions for all modes of transport on the A956 Wellington Road corridor, between the A92 / A956 Charleston Interchange and Queen Elizabeth Bridge.
- 3.14 Developed in tandem with the External Transportation Links to ASH study, the Wellington Road study is similarly at Detailed Appraisal stage, following completion of the Initial Appraisal in 2018. This considers the road, public transport and active travel options identified and approved from the STAG Part 1 reporting process to a more detailed and quantified level of appraisal. The 8 options taken forward from the STAG Part 1 study for more detailed consideration are:
1. Strategic Cycle Improvements;
 2. Shared Bus/HGV Priority Lane;
 3. Souterhead Roundabout Improvements and More/Better Crossings at Souterhead Roundabout;
 4. Hareness Roundabout Improvements and More/Better Crossings at Hareness Roundabout;
 5. Additional capacity between Souterhead and Hareness Roundabouts;
 6. Upgrade to dual carriageway at former HM Craiginches Prison Site;
 7. Bus Quality Package; and
 8. Right-turn/Traffic Signals Priorities Review Package.
- 3.15 As part of the more detailed STAG Part 2 appraisal, 16 individual concepts (based on the STAG Part 1 options) are currently subject to assessment, both individually and as packages of options, with the options being modelled in the recently developed Wellington Road Corridor Traffic Model. This includes modelling the options in combination with External Transportation Links to ASH options to understand the combined impacts of different options and scenarios, and the compatibility of the options under consideration in the separate studies. The options currently being assessed for Wellington Road are:
1. Northbound Shared HGV/Bus Lane between Souterhead Roundabout and Queen Elizabeth Bridge;
 2. Southbound Shared HGV/Bus Lane between Queen Elizabeth Bridge and Souterhead Roundabout;
 3. Shared HGV/Bus Lane in Both Directions between Souterhead Roundabout and Queen Elizabeth Bridge;
 4. Existing Northbound Bus Lane Converted to Shared HGV/Bus Lane;
 5. Existing Souterhead Roundabout with New Pedestrian Crossings;
 6. Souterhead Junction Improvement;
 7. Hareness Junction Improvement;
 8. Additional Lane between Charleston Road North and Hareness Roundabout (Northbound);
 9. Dualling between Grampian Place and Polwarth Road (Southbound);
 10. Extension to Existing Northbound Bus Lane;
 11. New Southbound Bus Lane (Grampian Place to Kerloch Place);
 12. Right-Turn Ban (Wellington Road to Abbotswell Road);

13. Right-Turn Ban (Wellington Road to Girdleness Road);
14. Right-Turn Ban (Wellington Road to Abbotswell Road and Wellington Road to Girdleness Road);
15. Two-Way Segregated Cycleway; and
16. Bi-Directional Cycleway.

3.16 It has become clear during the assessment process to date that some options for the northern sections of Wellington Road may be incompatible with certain options under consideration as part of the External Transportation Links to ASH Study, and that agreement on the options to be taken forward for the latter study is required prior to further development and more meaningful appraisal of the options for Wellington Road.

3.17 The proposed next steps are therefore to:

- Finalise the Wellington Road option packages and carry out a detailed appraisal in line with STAG, reflecting the decisions of this Committee in relation to the options for the External Transportation Links to ASH study (from February 2021);
- Undertake additional consultation on Wellington Road's detailed appraisal outcomes (Spring 2021);
- Present the outcomes to the June 2021 meeting of this Committee.

4. FINANCIAL IMPLICATIONS

4.1 The project's funding was approved as part of the Aberdeen City Region Deal by both Councils on 17th August 2016 and by the UK and Scottish Governments on 21st November 2016. Within the Aberdeen City Region Deal, £25m has been allocated from the UK Government (£12.5m) and Scottish Government (£12.5m) for the transport infrastructure to support the harbour expansion. To date £0.4m has been spent on the STAG appraisal process and the overall cost for the recommended Road, Bus and Active Travel options is estimated to be within the overall £25m budget.

4.2 The Wellington Road Multimodal Corridor Study is currently funded by Nestrans. The financial implications of the delivery of the recommended appraisal outcomes will be considered when the outcomes of this study are reported in June 2021.

5. LEGAL IMPLICATIONS

5.1 Any external support required as part of the development of the detailed business case will be undertaken in line with the Council's Procurement Regulations.

5.2 An assessment may be required in terms of subsidy control commitments as part of the assessment of "implementability" of any road upgrade option, although this assessment was not required as part of this stage of the appraisal process.

6. MANAGEMENT OF RISK

Category	Risk	Low (L) Medium (M) High (H)	Mitigation
Strategic Risk	Delivery of a transport link to the new harbour supports a number of the Councils strategic objectives relating to economy and a sustainable transport network. Failure to deliver could undermine the Councils ability to meet these aspirations.	M	Ensure appraisal is evidence based, fully supported by the STAG criteria of environment, safety, economy, integration, accessibility and social inclusion.
Compliance	Any option may be subject to objection as we move through the design and procurement/ delivery process. This may be a particular issue for land acquisition through the Compulsory Purchase process and any planning applications required.	M	Continue to work with the public and stakeholders to understand and mitigate potential issues. Management of the project in accordance with internal procedures, scheme of governance, and external City Region Deal governance requirements.
Operational	There may be risk around the continued operation of the existing route during the construction process but these are not defined at this stage.	M	Identify and monitor risks, and identify mitigations as the project moves from feasibility to design and delivery.
Financial	The project can be achieved within the allocated budget.	M	Regular reporting to the Aberdeen City Region Deal Transport Working Group to enable appropriate monitoring of budgets moving forward.
Reputational	There is a risk inherent in not progressing this key infrastructure	M	Continuing to progress the project and regularly communicating progress with partners will

	improvement set out in the Aberdeen City Regional Deal which will deliver a range of benefits including improved access to a major new development facility in the south of Aberdeen. There is a reputational risk to the City if it does not invest in transport infrastructure that caters for the needs of a high performing international city economy by providing a transport network with capacity to cope with the demands of a major facility.		demonstrate the Council's commitment to tackling these issues and that action is being taken.
Environment / Climate	There are a number of environmental designations in the study area such as, a Site of Special Scientific Interest, Local Nature Conservation Sites and a community park. There are also several listed building and scheduled monuments within the study area. The site of the former Ness Landfill is located within the study area.	M	One of the key Transport Planning Objectives is to minimise the environmental impacts. This will form part of the detailed design process with the development of Environmental Impact Assessment, including any mitigations, for the approved option. This project also now takes into account the proposed ETZ, which contributes to the Council's Net Zero Carbon objectives.

7. OUTCOMES

<u>COUNCIL DELIVERY PLAN</u>	
Impact of Report	
Aberdeen City Council Policy Statement	The proposals within this report support the delivery of Economy - Policy Statement 5 Support the Aberdeen Harbour expansion and work collaboratively to maximise tourism opportunities, including attracting high value cruises. The report seeks to improve transport links to the new harbour

	thereby maximising the economic potential of the facility. Aberdeen Harbour Expansion is a City Region Deal Project.
Aberdeen City Local Outcome Improvement Plan	
Prosperous Economy Stretch Outcomes	The proposals within this report support the delivery of Stretch Outcome 1 in the LOIP: <i>10% increase in employment across priority and volume growth sectors by 2026</i> . The implementation of transport infrastructure improvements for the Harbour Development at Bay of Nigg directly supports a range of economic policies and strategies that will benefit the economy and support access to key employment areas.
Prosperous People Stretch Outcomes	The proposals within this report support the delivery of Stretch Outcome 11 in the LOIP: <i>Healthy life expectancy (time lived in good health) is five years longer by 2026</i> . Active travel is known to improve a number of health conditions, potentially increasing life expectancy. The options include measures to increase the use active travel and public transport elements thereby producing less greenhouse gas emissions, leading to more sustainable travel habits.
Prosperous Place Stretch Outcomes	The proposals within this report support the delivery of Stretch Outcome 14: <i>(Addressing climate change by reducing Aberdeen's carbon emissions by 42.5% by 2026 and adapting to the impacts of our changing climate)</i> in that the options to increase active travel and public transport will also reduce carbon emissions, as well as the linkage to the ETZ. The report also supports the delivery of Stretch Outcome 15: <i>38% of people walking and 5% of people cycling as main mode of travel by 2026</i>
Regional and City Strategies	The proposals within this report support the Regional Transport Strategy, Strategic Development Plan, the Regional Economic Strategy, the City Region Deal and locally the Local Transport Strategy, Aberdeen Active Travel Action Plan, Sustainable Urban Mobility Plan, Aberdeen City Centre Masterplan, LOIP, Air Quality Action Plan, Local Development Plan and Aberdeen Net Zero Vision.
UK and Scottish Legislative and Policy Programmes	The proposals within this report support the aims of Aberdeen City Region Deal. Delivery of active travel and public transport measures contributes towards the delivery of the Scottish National Transport Strategy (NTS2), Clean Air Strategy, Nestrans and ACC policies.

8. IMPACT ASSESSMENTS

Assessment	Outcome
Impact Assessment	The STAG process appraises impacts across a range of categories (Economy, Environment, Accessibility and Social Inclusion, Safety and Integration).
Data Protection Impact Assessment	Not required

9. BACKGROUND PAPERS

- 9.1 [External Transportation Links to Aberdeen South Harbour Pre-Appraisal and STAG Part 1 Report](#)
- 9.2 [City Growth and Resources Committee Report – 27 November 2018 - External Transportation Links to Aberdeen South Harbour Pre-Appraisal and STAG Part 1 Study – Item 12](#)
- 9.3 Wellington Road Multi-Modal Corridor Pre-Appraisal and STAG Part 1 Report
- 9.4 [City Growth and Resources Committee Report – 18 September 2018 - Wellington Road Multi-Modal Corridor Study – Item 16](#)

10. APPENDICES

- 10.1 Appendix 1 - Road, Bus and Active Travel Option Plans
- 10.2 Appendix 2 - External Transportation Links to Aberdeen South Harbour - Option Summary Tables
- 10.3 Appendix 3 - External Links to Aberdeen South Harbour - STAG Detailed Appraisal Report - Executive Summary
- 10.4 Appendix 4 - External Links to Aberdeen South Harbour - STAG Detailed Appraisal Report – Full Report

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Appendix 1 – Scheme Layouts for Road, Bus and Active Travel

Detailed Options Appraisal: Road Options

Option	Option Description
A2 a/b	New road connection from Greenwell Road or Greenbank Road via St Fitticks Community Park to Coast Road with a new underbridge under the railway line
A3 a/b	New road connection from Greenwell Road or Greenbank Road via the former Ness Landfill site and a new bridge over the railway
A4	Improve existing route via Hareness Road through provision of a new bridge over the railway on Coast Road and the widening of Coast Road
A5	New road connection between Coast Road and Souter Head Road, and a new bridge over the railway on Coast Road with widening of Coast Road



Detailed Options Appraisal: Public Transport Options

The public transport options were also revisited at this stage of the appraisal given the emergence of the proposed ETZ sites.



New Option B4
New bus route to city centre serving both ETZ sites and harbour



Option B2
New bus route to city centre serving cruise passengers



New Option B5
New bus route loop to city centre utilising road Option 2A/b

Option	Option Description
B1	Extend / enhance existing bus services between ASH / proposed ETZ sites (at both St. Fitticks and Doonies Farm) and Aberdeen City Centre
B2	New bus service between ASH and Aberdeen City Centre for cruise passengers
B4	New direct bus service linking Aberdeen City Centre with ASH and both proposed ETZ sites
B5	New bus service loop linking Aberdeen City Centre with ASH, proposed ETZ site (at St. Fitticks) and East Tullos Industrial Estate (dependent on new road link between proposed ETZ site at St. Fitticks and East Tullos)

Detailed Options Appraisal: Active Travel Options

The active travel options were also revisited at this stage of the appraisal given the emergence of the proposed ETZ sites.

Option	Option Description
C1	Enhanced active travel routes between ASH / proposed ETZ sites and Aberdeen City Centre / Deeside Way
C4	Enhanced active travel routes between ASH / proposed ETZ sites and Wellington Road (South)



Appendix 2 – Option Summary Tables

Option	Description	Key Advantages	Key Disadvantages
Road - A2a/b	New road link from either Greenwell Road (Option A2a) or Greenbank Road (Option A2b) across St Fitticks Park to new Coast Road junction (new underbridge at the railway line)	<p>Provide less circuitous routeing to the new ASH / proposed ETZ area for HGV traffic from the city centre / West (George VI bridge)</p> <p>Enhances transport resilience and improves perceptions through provision of additional route and crossing of the railway (underbridge)</p> <p>Provides connection between the new ASH / proposed ETZ and East Tullos Industrial estate helping to maximise and support the regeneration of East Tullos</p> <p>Minor accident benefits (vehicles on lower speed roads)</p> <p>Provides the greatest increase in overall workforce accessibility to the area</p>	<p>Route requires cutting into the Ness landfill site to south of the railway line, likely to be a costly exercise, with need to remove material and hazardous substances. High cost uncertainty associated with this.</p> <p>Underpass height clearance / alignment would limit route use by some abnormal loads</p> <p>Increased HGV traffic on Wellington Road (between Hareness Road and Greenbank / Greenwells Road)</p> <p>Benefit Cost Ratio (BCR) is estimated in range: A2a: -0.3 to +0.3 and A2b: +0.8 to +1.1. BCRs less than one indicate benefits less than scheme costs. Negative BCR indicates overall negative benefits – driven by the impact to existing traffic on Wellington Road – more pronounced in A2a due to new signals on Wellington Road at Greenwell Road</p> <p>Impact on commercial property at eastern extent of Greenwell / Greenbank Road</p> <p>Constrains potential for sustainable transport options on Wellington Road (developed as part of the Wellington Road Multi-modal Corridor study)</p> <p>Constrains land availability within the proposed ETZ site at St. Fitticks due to space</p>

Option	Description	Key Advantages	Key Disadvantages
			<p>required for new road and associated earthworks / flood treatment</p> <p>Would impact on St Fitticks Community Park and potentially the northern tip of Tullos Hill Conservation Site</p> <p>Strong public disagreement with both option proposals.</p>
Road – A3a/b	New road link Greenwell Road across the former Ness Landfill Site and a new bridge across the railway to Coast Road	<p>Provide less circuitous routeing to the new ASH / proposed ETZ area for HGV traffic from the city centre / West (George VI bridge)</p> <p>Enhances transport resilience and improve perceptions through provision of additional route and crossing of the railway (bridge)</p> <p>Provides connection between the new ASH / proposed ETZ and East Tullos Industrial estate helping to maximise and support the regeneration of East Tullos</p> <p>Does not constrain proposed ETZ activities as road does not route through the proposed site</p> <p>Minor accident benefits (vehicles on lower speed roads)</p>	<p>Road gradient required from Coast Road to new bridge across railway (around 18%) is far higher than that recommended for HGVs on a strategic route and would not be useable by abnormal loads. In addition, a new Scottish Water access road would be at a gradient of 20%</p> <p>Retaining wall required would encroach on Scottish Water land and require significant cutting into the landfill site south of the railway line, likely to be a costly exercise, with need to remove material and hazardous substances. Very high levels of engineering & cost risk & uncertainty associated with this scale of intrusion into Ness landfill site</p> <p>Benefit Cost Ratio is estimated in range: A3a: 0.0 to +0.1 and A3b: +0.3 to +0.8. BCRs less than one indicate benefits less than scheme costs – with low benefits driven by the impact on existing traffic on Wellington Road – more pronounced in A3a due to new signals on</p>

Option	Description	Key Advantages	Key Disadvantages
			<p>Wellington Road at Greenwell Road</p> <p>Increased HGV traffic on Wellington Road (between Hareness Road and Greenbank / Greenwells Road)</p> <p>Impact on commercial property at the eastern extent of Greenwell / Greenbank Road</p> <p>Constrains the potential for sustainable transport options on Wellington Road (developed as part of the Wellington Road Multi-modal Corridor study)</p> <p>Strong public disagreement with both proposals, although less than Option A2a/b</p>
Road – A4	New bridge on Coast Road combined with potential widening of Coast Road	<p>Enhances existing route to Aberdeen South Harbour via Hareness Road</p> <p>Enhances existing route to Aberdeen South Harbour via Hareness Road</p> <p>Provides consistently reduced journey times to the Harbour / proposed ETZ area across all time periods</p> <p>Potential to provide access for long abnormal loads currently constrained by the alignment of the bridge on Coast Road</p> <p>Positive impact in terms of perception although Coast Road and Hareness Road remain the primary route to the harbour</p>	<p>Hareness Road would remain the primary route and therefore traffic in Altens and at the Hareness Road roundabout would increase with ASH and proposed ETZ traffic</p> <p>Parking restriction may be required on Hareness Road, impacting on businesses within the industrial estate</p> <p>Would not provide a direct new connection between ASH / proposed ETZ and East Tullis</p> <p>Delivery of new bridge may require construction works through the Taylor's former landfill site and therefore feasibility is uncertain and there is potential for negative environmental impacts</p>

Option	Description	Key Advantages	Key Disadvantages
		<p>No additional traffic on Wellington Road north of Hareness Road</p> <p>Less constraint on the potential for sustainable transport options on Wellington Road (developed as part of the Wellington Road Multi-modal Corridor study)</p> <p>Provides improved link between the proposed ETZ site at Doonies Farm and ASH / proposed ETZ site at St. Fitticks</p> <p>One of the lowest cost road options</p> <p>Benefit Cost Ratio estimated in range: +1.4 to +2.0 A BCR figure greater than 1 indicates the benefits of the scheme are greater than the estimated scheme costs</p> <p>Most publicly acceptable road option due to minimal impact on the environment and no impact on St Fitticks Park</p>	
Road – A5	New road link between Coast Road and Souter Head Road and new bridge over the railway	<p>Provides additional route to Aberdeen South Harbour</p> <p>Provides a shorter route to the AWPR than all existing routes</p> <p>Provides consistently reduced journey times (from Charleston junction and King George VI bridge) to Harbour / proposed ETZ area across all time periods (particularly to/from Charleston junction)</p> <p>Potential to provide access for long abnormal</p>	<p>Despite the realignment of Coast Road, there would be noise, vibration, and severance impacts, to some residents in Burnbanks Village – although this could be partly mitigated against through use of a low noise road surface</p> <p>Would not provide a direct connection between ASH / proposed ETZ and East Tullis</p> <p>Delivery of new bridge may require construction works through the Taylor's former landfill</p>

Option	Description	Key Advantages	Key Disadvantages
		<p>loads currently constrained by the alignment of the bridge on Coast Road</p> <p>Positive impact in terms of perception of access to the harbour</p> <p>Positive impact in terms of transport resilience</p> <p>No additional traffic impact on Wellington Road north of Hareness Rd and reduced traffic between Souter Head roundabout and Hareness Road</p> <p>Benefit Cost Ratio estimated in range: +1.5 – +2.3 A BCR figure greater than 1 indicates the benefits of the scheme are greater than the estimated scheme costs</p> <p>Less constraint on the potential for sustainable transport options on Wellington Road (developed as part of the Wellington Road Multi-modal Corridor study)</p> <p>Improved link between the proposed ETZ site at Doonies Farm and ASH/proposed ETZ site at St. Fitticks</p> <p>Reduces traffic on Langdykes Road</p>	<p>site and therefore feasibility is uncertain and there is potential for negative environmental impacts</p> <p>Increased traffic levels on Souter Head Road impacting on commercial properties there</p> <p>Impact on commercial property at east end of Souter Head Road which would be required to relocate</p> <p>Parking restriction may be required on Souter Head Road, impacting on businesses within the industrial estate</p> <p>Mixed public acceptability for the option with strong disagreement from Burnbanks Village residents</p>
Bus – B1	Extend existing / reinstate bus services so that they serve Aberdeen South Harbour and the proposed ETZ sites	Would improve access between potential workers and the new harbour and both proposed ETZ sites, particularly for those without access to a car	The cost of service operation far outstrips the estimated achievable passenger revenue. The option would be loss making and require substantial financial support.

Option	Description	Key Advantages	Key Disadvantages
		<p>Would improve access between the sites and other energy related businesses across the region</p> <p>May encourage modal shift to public transport amongst those accessing the new harbour and proposed ETZ sites</p> <p>Services route via city centre enabling interchange to other bus services / rail</p> <p>Provides improved link between the proposed ETZ site at Doonies Farm and ASH / proposed ETZ site at St. Fitticks</p>	<p>Mixed public acceptance of the proposals</p>
Bus – B2	New bus service between Aberdeen South Harbour and Aberdeen City Centre primarily for cruise tourists	<p>Boosts the ability of the harbour to cater for cruise tourism</p> <p>Benefits the economy of the wider area by encouraging cruise passengers to explore the local tourism offering</p> <p>The cost of the service depends on hours of operation and whether the service is operated on a contract basis or as a registered local service but could be operated to be commercially viable if cruise passengers were encouraged to come ashore</p>	<p>Viability is dependent on cruise passengers wanting to come ashore and competing 'offers'. Careful planning and liaison with cruise operators is required.</p> <p>Mixed public acceptance of the proposals but with more people disagreeing than agreeing</p>
Bus B4	New bus service between the city centre and Aberdeen South Harbour / both proposed ETZ sites	<p>Would improve access between potential workers and the new harbour and both proposed ETZ sites, particularly for those without access to a car (although of all public transport options this option has the lowest improved access)</p>	<p>Only serves the city centre meaning likely interchange required for those accessing the new service from further afield</p> <p>The cost of service operation far outstrips the estimated achievable passenger revenue. The</p>

Option	Description	Key Advantages	Key Disadvantages
		<p>Would improve access between the proposed ETZ sites and other energy related businesses across the region (although of all public transport options this option has the lowest improved access)</p> <p>May encourage modal shift to public transport amongst those accessing the new harbour and proposed ETZ sites</p> <p>Sustainably connects both proposed ETZ sites</p> <p>Service routes via city centre enabling interchange to other bus services / rail</p>	<p>option would be loss making and require substantial financial support.</p> <p>There may be a transfer of passengers from existing services (those travelling between the city and Torry) to the new service which may erode the commercial viability of existing public transport provision</p> <p>Mixed public acceptance of the proposals</p>
Bus – B5	New circular bus service between the city centre and Aberdeen South Harbour / proposed ETZ site at St. Fillicks Park	<p>Would improve access between potential workers and the new harbour / proposed ETZ site at St. Fitticks, particularly for those without access to a car</p> <p>Would improve access between the proposed ETZ site at St. Fitticks and other energy related businesses across the region</p> <p>May encourage modal shift to public transport amongst those accessing the new harbour and proposed ETZ site at St. Fitticks</p> <p>Service routes via city centre enabling interchange to other bus services / rail</p>	<p>Is dependent on a new road being implemented between East Tullos and the proposed ETZ site at St. Fitticks</p> <p>Does not provide any improved public transport access to the proposed ETZ site at Doonies Farm</p> <p>The cost of service operation far outstrips the estimated achievable passenger revenue. The option would be loss making and require substantial financial support</p> <p>There may be a transfer of passengers from existing services (those travelling between the city and Torry) to the new service which may erode the commercial viability of existing public transport provision</p>

Option	Description	Key Advantages	Key Disadvantages
			Mixed public acceptance of the proposals but with more people disagreeing than agreeing
Active Travel – C1	Enhanced active travel routes between ASH / proposed ETZ sites and Aberdeen City Centre / Deeside Way	<p>Would provide a reasonably direct cycleway between Aberdeen city centre and new harbour / both proposed ETZ sites</p> <p>Connects the harbour / proposed ETZ area to the Deeside Way</p> <p>Partly off-road/segregated route which avoids heavily trafficked routes improves the safety of active travel access to the area</p> <p>Sustainable travel option strengthens the 'green transition' ethos of the proposed ETZ</p>	<p>There are several pinch points on the route where the footway is less than the required minimum standard for a shared use facility and there is limited potential for widening. This would need to be explored at the detailed design stage.</p> <p>Potential for providing improved active travel provision on Wellington Road may conflict with some of the proposals outlined in Wellington Road multi-modal corridor study</p>
Active Travel – C4	Enhanced active travel routes between ASH / proposed ETZ sites and Wellington Road (South)	<p>May encourage modal shift</p> <p>Aligns with policy aspirations to improve active travel access, including on Wellington Road</p> <p>Potential to build into the active travel proposal improvements on Wellington Road being considered in the Wellington Road multi-modal corridor study</p> <p>General public acceptance of the proposals with more people agreeing than disagreeing</p>	Interaction with HGV traffic on Hareness Road would need to be fully considered to avoid significant safety concerns. This would need to be explored at the detailed design stage Concerns may be raised from drivers / businesses should a reduction in carriageway space be required