



# External Transportation Links to Aberdeen South Harbour

Aberdeen City Council

STAG Part 1 Report: Executive Summary



## ABERDEEN CITY REGION DEAL:

Powering Tomorrow's World



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# 1 Executive Summary

## 1.1 Introduction

1.1.1 Aberdeen City Council (ACC) commissioned Peter Brett Associates (PBA) to undertake an appraisal of transport connections to and from the new Aberdeen South Harbour (ASH) located at the Bay of Nigg in Aberdeen. The aim of this study is to examine transport connectivity to / from the site and identify appropriate transport infrastructure improvements which would then be taken forward for detailed appraisal. This is an Aberdeen City Region Deal project, fully funded by the Scottish and United Kingdom Governments.

1.1.2 The study is being undertaken in line with Scottish Transport Appraisal Guidance (STAG) and covers the Pre- and Part 1 Appraisal stages as follows:

Pre- Appraisal:

- Problems, opportunities, issues and constraints;
- Objective setting; and
- Option generation, sifting and development

Part 1 Appraisal:

- An appraisal of the options generated against the:
  - Transport Planning Objectives (TPOs);
  - STAG criteria (Environment, Economy, Safety, Accessibility & Social Inclusion, and Integration);
  - Implementability criteria (Feasibility, Affordability, and Public Acceptability);
- Selection / rejection of options to develop a refined list in accordance with appraisal outcomes and those options that best meet the objectives; and
- A final set of options recommended for further appraisal at STAG Part 2.

1.1.3 The following sections provide:

- A brief background to ASH and an overview of the work completed as part of both the Transport Assessment (TA) for the site and the subsequent Bay of Nigg Development Framework.
- A summary of each of the Pre-Appraisal and Part 1 Appraisal tasks as outlined above.

## 1.2 Aberdeen South Harbour

1.2.1 ASH is located at the Bay of Nigg, approximately 0.8km to the south east of Aberdeen City Centre and the existing Aberdeen harbour. The development of ASH is being taken forward in response to constraints at the existing harbour and is an expansion of activities aimed at capitalising on new and emerging markets. Once complete, the new harbour will provide:

- 1,400m of quay at water depths of up to 10.5m;

- a turning circle of 300 metres;
  - a channel width of 165m;
  - a laydown area of 125,000 m<sup>2</sup>; and
  - heavy lift capacity.
- 1.2.2 The main access to ASH will be located close to the existing Coast Road / St Fittick's Road / Greyhope Road junction. The site will include two single storey welfare / administration buildings, a car park, and a bus turning circle and it is anticipated that 20-25 harbour staff will be based at the site.
- 1.2.3 The TA for ASH was produced in 2015. This concluded that the traffic generated by the harbour could be accommodated by the existing transport infrastructure and therefore no junction improvements or significant additional road infrastructure were required upon opening.
- 1.2.4 In 2016, Aberdeen City Council approved the Bay of Nigg Development Framework. This covers the ASH development site and the surrounding hinterland area, including Altens and East Tullos, and was developed with the aim of maximising the opportunities presented by the new harbour. The Development Framework identifies a series of infrastructure interventions or gateways where significant investment in external road infrastructure is required in order to realise the potential of the area. These include upgrading the road network in and around Altens and providing a direct link from the Bay of Nigg to East Tullos.
- 1.2.5 The TA and the Bay of Nigg Development Framework formed an important starting point for this study and the analysis and outputs were used to inform both the baselining and subsequent option generation process.

### **1.3 Problems, Opportunities, Issues and Constraints**

- 1.3.1 The identification of problems, opportunities, issues and constraints forms the starting point of any STAG study. To inform this, a detailed baselining exercise was undertaken which included:
- A review of economic, planning and transport policy with relevance to the study;
  - An analysis of activities at the existing Aberdeen Harbour;
  - A review of the employment structure within the wider hinterland area, including Altens and East Tullos;
  - An analysis of the existing road, public transport and active travel network within the vicinity of the ASH development;
  - A review of road traffic accident data within the study area to identify any existing accident hot spots;
  - A review of 2011 Census travel to work data to understand how people are currently travelling within the study area;
  - A review of key environmental designations within the study area;
  - An analysis of the modelled outputs from the Access from the South Paramics Model for 2020 and 2035 to develop an understanding of future travel patterns in the area; and
  - A high-level review of current and potential future trends in each of the potential market sectors for ASH.

- 1.3.2 These reviews were supplemented by an extensive engagement programme which included several stakeholder workshops and a series of face-to-face and telephone consultations with harbour users and other relevant industry sectors.
- 1.3.3 Drawing on the outputs of these activities, a set of problems, opportunities, issues and constraints for the study was identified. These are summarised below.

**Problems:**

- Risk of congestion on Hareness Road;
- Risk of Inappropriate routing and amenity impacts on Langdykes Road;
- Risk of congestion at the railway bridge on Coast Road;
- Risk of accidents at the railway bridge on Coast Road;
- Safety and amenity concerns due to a potential increase in general (non-HGV/coach) traffic travelling through Torry;
- Circuitous route between East Tullos and ASH;
- Circuitous route between Aberdeen City Centre and ASH for larger vehicles (HGVs and Coaches);
- A lack of public transport routes between Aberdeen City Centre and ASH;
- No designated active travel routes between Aberdeen City Centre and ASH;
- A perception of poor quality access; and
- Poor access resilience.

**Opportunities:**

- Opportunity to encourage the growth of key sectors, including cruise tourism, decommissioning, renewables, subsea through improved transport connectivity;
- Opportunity to aid the redevelopment of East Tullos;
- Opportunity to provide an area of well-connected developable land in close proximity to the harbour;
- Opportunity to capitalise on any outcomes emerging from the Sustainable Urban Mobility Plan (SUMP) refresh and enhance walking and cycling routes between the new harbour and Aberdeen City Centre;
- Opportunity to capitalise on any outcomes from the Civitas PORTIS projects which is examining the potential for cycle hire schemes within Aberdeen;
- Opportunity to capitalise on the AWPR, City Centre Masterplan and Aberdeen Roads Hierarchy by encouraging traffic to route around the city centre;
- Opportunity to enhance access to Aberdeen Airport; and
- Opportunity to safeguard the potential for rail freight.

#### Issues:

- The impact of the AWPR on the local road network is uncertain at the time of report writing, but will become clearer in the next 6 months;
- The impact of the City Centre Masterplan and Aberdeen Roads Hierarchy is uncertain;
- The options proposed within the Wellington Road STAG Appraisal may lead to changes in the operation of junctions on Wellington Road; and
- The potential implementation of a prohibition of driving order along the northern section of Redmoss Road could have an impact the operation of Hareness Road Roundabout.

#### Constraints:

- Coast Road is contained by the Edinburgh – Aberdeen Railway Line to the east which may restrict the potential for widening;
- Any alterations to the road network or any options involving the provision of new rail crossings would need to be undertaken in line with the requirements of Network Rail;
- There are a number of environmental designations in the study area including a Site of Special Scientific Interest; Local Nature Conservation Sites and a community park;
- There are several listed building and scheduled monuments within the study area;
- The site of the former Ness Landfill site is located to the south-west of Nigg Bay adjacent to Coast Road;
- The northern section of Wellington Road is an AQMA;
- National Cycle Route 1 routes along Coast Road and a link at this location would need to be maintained and incorporated into all options; and
- Given the timeframes involved, any new roads would have to be constructed following the opening of the new harbour and it would be necessary to maintain full levels of access to the harbour during the construction period.

## 1.4 Objective Setting

1.4.1 Taking cognisance of the transport problems identified and the wider policy context, nine Transport Planning Objectives (TPOs) were set for the study as follows:

- TPO 1: Provide a designated HGV route to and from ASH which is more efficient than alternative routes to help minimise inappropriate routing, environmental and nuisance impacts
- TPO 2: Contribute to the wider development of Altens through minimising the impacts of harbour traffic on Hareness Road
- TPO 3: Maximise the landside opportunities for harbour related economic activity
- TPO 4: Minimise travel times by road between ASH and the AWPR / Charleston junction and King George VI Bridge
- TPO 5: Provide an access route to / from ASH for all abnormal loads which avoids residential areas

- TPO 6: Provide connections to / from ASH which help to tackle any perceptions of poor quality access to and from the harbour
  - TPO 7: Provide appropriate public transport connections to / from ASH reflecting the type of activity at the harbour
  - TPO 8: Provide appropriate active travel connections to / from ASH reflecting the type of activity at the harbour
  - TPO 9: Improve the resilience of transport connections to and from ASH
- 1.4.2 The TPOs form the basis for appraisal of the options at STAG Part 1 Appraisal (and subsequently, with refinement, during the more detailed STAG Part 2 Appraisal).

## **1.5 Option Generation, Sifting and Development**

- 1.5.1 The purpose of option generation, sifting and development is to derive a range of options designed to meet the TPOs and alleviate the problems / address the opportunities identified.
- 1.5.2 At the Pre-Appraisal Stage, in line with STAG, an initial long-list of options was developed covering all modes of transport. A high-level assessment of the benefits, dis-benefits, and potential deliverability of each option was then undertaken. Based upon the outcomes of this, it was determined that several of the options should not be progressed to the next appraisal stage as they were unlikely to provide sufficient benefits. This included some options which while they were rejected in isolation were, following a process of option packaging, taken forward as part of a package of measures. Based upon the high-level appraisal and option packaging exercise, at the end of the Pre-Appraisal Stage, it was recommended that 18 options be taken forward to STAG Part 1.
- 1.5.3 Following the completion of the Pre-Appraisal study, a further process of option sifting and development was undertaken. This was chiefly aimed at clarifying the details of each option and identifying where areas of complementarity between options enabled the number of options to be reduced further. Following this high-level deliverability review, a final list of eleven options was produced which were taken forward for assessment at Part 1 Appraisal stage. The eleven options are summarised in the table below. Maps showing the potential indicative routes (where relevant) are included in the subsequent figures.

Table 1:1: Option List

Option Ref	Option Title
<b>Road Options</b>	
A1	Provide a new road connection from Greenwell / Greenbank Road across the former Ness Landfill site to the existing railway bridge on Coast Road
A2	Provide a new road connection from Greenwell Road / Greenbank Road via St Fitticks Community Park to Coast Road with a new underbridge under the railway line
A3	Provide a new road connection from Greenwell Road / Greenbank Road via the former Ness Landfill site and a new bridge over the railway
A4	Improve the existing route via Hareness Road through the provision of a new bridge over the railway on Coast Road and capacity improvements
A5	Provide a new road connection between Coast Road and Souter Head Road and a new bridge over the railway on Coast Road.
A6	Provide a new road connection to the south of Souter Head Road, a new bridge over the railway on Coast Road and capacity improvements.
<b>Public Transport Options</b>	
B1	Extend / enhance existing bus services between ASH and Aberdeen City Centre
B2	Provide a new bus service between ASH and Aberdeen City Centre for cruise tourists
<b>Active Travel Options</b>	
C1	Enhance active travel routes between ASH and Aberdeen City Centre
C2	Provide a cycle hub at ASH for use by cruise tourists
C3	Provide a dedicated cycle route from Coast Road through Tullos Hill to the A956 and onward to the Deeside Way



**Option A1: Provide a new road connection from Greenwell / Greenbank Road across the former Ness Landfill site to the existing railway bridge on Coast Road**

This option involves providing a new road link from either Greenwell Road (route a) or Greenbank Road (route b) across the former Ness Landfill site to the existing railway bridge on Coast Road. Complementary measures may include:

- Upgrading the bridge parapets and installation of vehicle restraint barriers at the existing railway bridge on Coast Road to improve safety
- Signalising the Greenwell Road / Wellington Road junction (route a only)
- Surface upgrades, drainage works and footway improvements on Greenwell Road / Greenbank Road
- Potential parking restrictions / enforcement on Greenwell Road / Greenbank Road
- Potential widening of the northern section of Coast Road between the existing railway bridge and the main ASH access
- Capacity improvements on Wellington Road



Figure 1:1: Option A1 Summary

**Option A2: Provide a new road connection from Greenwell Road / Greenbank Road via St Fitticks Community Park to Coast Road with a new underbridge under the railway line**

This option involves providing a new road link from either Greenwell Road (route a) or Greenbank Road (route b) across St Fitticks Community Park to the new Coast Road / St Fitticks Road junction incorporating a new underbridge beneath the railway.

- Complementary measures may include:
- Signalising the Greenwell Road / Wellington Road junction (route a only)
  - Surface upgrades, drainage works and footway improvements on Greenwell Road / Greenbank Road
  - Potential parking restrictions / enforcement on Greenwell Road / Greenbank Road
  - Potential widening of the northern section of Coast Road between the existing railway bridge and the main ASH access
  - Capacity improvements on Wellington Road



Figure 1:2: Option A2 Summary

**Option A3: Provide a new road connection from Greenwell Road / Greenbank Road via the former Ness Landfill site and a new bridge over the railway**

This option involves providing a new road link from either Greenwell Road (route a) or Greenbank Road (route b) across the former Ness Landfill site and a new bridge across the railway to Coast Road. Complementary measures may include:

- Signalling the Greenwell Road / Wellington Road junction (route a only)
- Surface upgrades, drainage works and footway improvements on Greenwell Road / Greenbank Road
- Potential introduction / enforcement of parking restrictions on Greenwell Road / Greenbank Road
- Potential widening of the northern section of Coast Road between the new bridge and the main ASH access
- Capacity improvements on Wellington Road



Figure 1:3: Option A3 Summary

**Option A4: Improve the existing route via Hareness Road through the provision of a new bridge over the railway on Coast Road and capacity improvements.**

This option aims to improve the route between ASH and the AWPR via Hareness Road and would involve the delivery of a new railway bridge on Coast Road, widening of Coast Road, and a set of measures designed to improve capacity on the southern section of Wellington Road. The measures to improve capacity may include full signalisation of both Hareness Road and Souter Head Road Roundabouts and increasing the flare length on various approaches. Potential widening of the northern section of Coast Road between the new bridge and the main ASH access could also be explored as a complimentary measure.

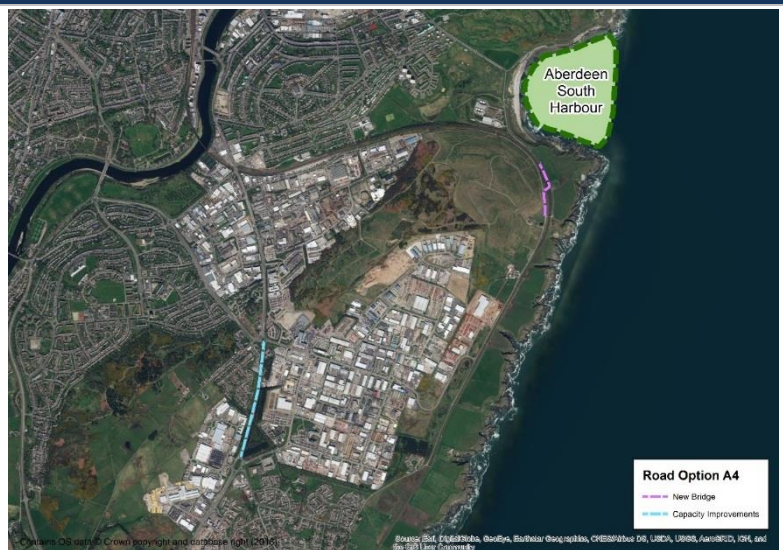


Figure 1:4: Option A4 Summary



**Option A5: Provide a new road connection between Coast Road and Souter Head Road and a new bridge over the railway on Coast Road.**

This option would provide a new road connection between Coast Road and Souter Head Road, a new bridge over the railway on Coast Road, and capacity improvements. Complementary measures may include:

- Re-aligning Coast Road and providing a priority T-junction between Coast Road and Souter Head Road so that Souter Head Road becomes the primary route
- Widening Coast Road between Hareness Road and Souter Head Road
- Works to improve the road surface and drainage on Souter Head Road
- Potential introduction of parking restrictions on the eastern extent of Souter Head Road
- Improvements at Souter Head Roundabout



Figure 1:5: Option A5 Summary

**Option A6: Provide a new road connection to the south of Souter Head Road, a new bridge over the railway on Coast Road and capacity improvements.**

This option involves providing a new road link along the existing Core Path to the south of Souter Head Road. The option could involve: a new road link, a priority junction at the eastern extent, a roundabout at the western extent, and widening of Coast Road.

Complementary measures may include:

- Re-aligning Coast Road and providing a priority T-junction between Coast Road and the new road connection so the new road becomes the primary route
- Potential widening of Coast Road
- Improvements at Souter Head Roundabout

The route would include a dedicated active travel corridor.



Figure 1:6: Option A6 Summary

**Option B1: Extend / enhance existing bus services between ASH and Aberdeen City Centre**

This option involves extending the following services so that they serve the ASH site:

- First Aberdeen Bus Service 12 between Torry and Heathryfold via Union Square
- First Aberdeen Service 20 between Balnagask and Dubford
- Stagecoach Service 59 between Balnagask and Northfield (Aberdeen Royal Infirmary) via Union Street

For the purpose of the appraisal it is assumed that:

- Extended services will operate at the same frequency as the current service
- The route would utilise existing bus stops / corridors and the new turning circle at ASH and therefore, in terms of additional infrastructure, would only require an additional bus stop at ASH.



Figure 1:7: Option B1 Summary

**Option B2: Provide a new bus service between ASH and Aberdeen City Centre for cruise tourists**

This option involves providing a new bus service between ASH and Aberdeen City Centre primarily for cruise tourists. For the purpose of the appraisal it is assumed that:

- the service will route between the turning circle at ASH and Aberdeen City Centre via St Fitticks Road, Victoria Road, Market Street and Guild Street.
- the service will run hourly between 0700 and 1900 and would operate only during the cruise season (assumed to be an approximate 7-month period between March / April – September / October)
- The route would utilise existing bus stops / corridors and the new turning circle at ASH and therefore, in terms of additional infrastructure, would only require an additional bus stop at ASH.



Figure 1:8: Option B2 Summary



**Option C1: Enhance active travel routes between ASH and Aberdeen City Centre**

This option involves providing an active travel route between ASH and Aberdeen City Centre which uses a combination of off-road infrastructure, segregated infrastructure and quiet streets. The off-road section would route through St Fitticks Community Park to Kirkhill Place. The route would then follow Kirkhill Road, Fennie Brae, Girdleness Road, Old Church Road, Balnagask Road, Wellington Road, South College Street, Wellington Brae, Prospect Terrace / Devanha Terrace, South Crown Street, Milburn Street and South College Street. South College Street is approximately 200m from Aberdeen Rail Station. However, the section from South College Street to Aberdeen Rail Station is relatively constrained as Guild Street is one way and the footways are relatively narrow with barriers on either side. Further work would therefore be required to determine the feasibility of providing appropriate cycle facilities on this section. The infrastructure improvements required for the route as a whole would include:



- An approximate 1km section of off road cycleway through St Fitticks Community Park
- The upgrade of several pedestrian crossings to Toucan crossings
- Upgrades to the footway on Wellington Road
- Signage to indicate shared use paths at various locations, including Wellington Road and South College Street
- Directional signage

Figure 1:9: Option C1 Summary

**Option C2: Provide a cycle hub at ASH for use by Cruise Tourists**

This option involves providing a dedicated cycle hub at the ASH. The facility would be primarily aimed at cruise tourists but could also be used by employees at the site. Information on local routes and wider tourist information would also be provided at the site.



Figure 1:10: Option C2 Summary

**Option C3: Provide a dedicated active travel route from Coast Road through Tullos Hill to the A956 with onward connections to the Deeside Way**

This option involves providing a new off-road shared use path from Coast Road through Tullos Hill. The route would then follow Wellington Road and Craigshaw Drive before linking to the existing cycle route on King George VI Bridge and onward to Duthie Park / Deeside Way. The infrastructure improvements required would include:

- 2.5km of new off road cycle path
- Upgrading existing crossing to a Toucan Crossing on Wellington Road
- Widen section of footway on Wellington Road
- The route would utilise the proposed new cycleway on Craigshaw Drive.



Figure 1:11: Option C3 Summary

## 1.6 STAG Part 1 Options Appraisal

1.6.1 At the Part 1 Appraisal stage the above options were appraised against the:

- Study TPOs (as defined above);
- STAG criteria (Environment, Economy, Safety, Accessibility & Social Inclusion, and Integration); and
- Implementability criteria (Feasibility, Affordability, and Public Acceptability);

1.6.2 The appraisal was informed by:

- A high-level assessment of the economic benefits provided by each option to inform the appraisal of the options against the economy criterion. In line with Aberdeen City Council's plans to minimise through traffic in Aberdeen City Centre, this assumed the majority of harbour traffic (90% of HGVs and 80% of LGVs) would route via the AWPR Charleston junction, with smaller proportions routing via King George VI Bridge for onward travel to Anderson Drive and the outskirts of Aberdeen City.
- A high-level assessment of the cost of delivering each option to inform the appraisal of the options against the affordability criterion;
- A further stage of stakeholder and public engagement which included:
  - A series of telephone consultations with representatives from the transport industry and the Aberdeen Chamber of Commerce;
  - An online public survey;
  - A meeting with Cove and Altens, Kincorth and Leggart, Nigg, and Torry Community Councils; and
  - Two public drop-in events.

1.6.3 Table 2 provides an overall summary of the appraisal scores for all options against all criteria.

Table 1.2: Appraisal Summary

Op.	TPO1: Provide a designated HGV route	TPO2: Minimise harbour traffic impacts on Hareness Road / Altens	TPO3: Maximise the landside opportunities	TPO4a: Minimise road travel times to AWPR	TPO4b: Minimise road travel times to KGV1 Bridge	TPO5: Provide abnormal load access avoiding residential areas	TPO6: Tackle perceptions of poor quality access	TPO7: Provide appropriate public transport connection	TPO8: Provide appropriate active travel connections	TPO9: Improve resilience of transport connections	Environment	Safety	Economy <sup>1</sup>	Integration	Accessibility and Social Inclusion	Feasibility	Affordability <sup>2</sup>	Public Acceptability
A1	x	0	✓✓	xxx	✓✓	0	✓	✓	✓	0	xxx	✓✓	✓	x	x	xx	M	x
A2	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓	✓✓✓	✓	✓	✓✓✓	xxx	✓✓	✓✓✓	xx	x	xx	H	x
A3	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓	✓	✓✓✓	xxx	✓✓	✓✓✓	✓✓	✓	xx	M	✓✓
A4	✓	0	0	✓	✓	✓✓✓	✓✓	0	✓	✓✓	xx	✓✓	✓✓	✓✓	✓	✓	M	0
A5	✓✓	0	0	✓✓✓	xxx	✓✓✓	✓✓✓	0	✓	✓✓	xx	✓✓	✓✓✓	✓✓✓	x	xx	M	xxx
A6	✓✓	0	0	✓✓✓	xxx	✓✓✓	✓✓✓	0	✓	✓✓	xxx	✓✓	✓✓✓	✓✓✓	x	xx	H	xxx
B1	0	✓	0	0	0	0	0	✓✓	0	0	✓	0	✓	✓✓	x	x	L	✓
B2	0	✓	0	0	0	0	0	✓✓	0	0	✓	0	✓	✓✓	✓	0	L	✓
C1	0	0	0	0	0	0	0	0	✓✓	0	✓	✓	✓	✓✓	0	✓	L	✓
C2	0	0	0	0	0	0	0	0	✓	0	✓	x	✓	✓✓	0	✓	L	✓
C3	0	0	0	0	0	0	0	0	✓	0	✓	✓	✓	✓✓	0	✓	L	✓

<sup>1</sup> For the economy criterion, a high-level assessment of the economic benefits provided by each option was completed and impacts were grouped into minor, moderate and major benefits using the following scale: minor benefits: £0 to £5 million; moderate benefits: £5 to £10 million; and major benefits: £10 to £15 million

<sup>2</sup> For the affordability appraisal, high-level cost estimates were developed for all options and the options were grouped into high, medium and low cost using the following scale: low cost: £0 to £5 million; medium cost: £5 to £10 million; and high cost: £10 to £15 million. It is noted that the cost estimates do not include a range of factors, including: costs associated with land / property acquisition; improvements to downstream drainage infrastructure; statutory approvals / consents; adjustments to public utilities; additional costs associated with restricted working hours; surveys and investigations; design fees; works supervision fees; VAT and allowances for inflation. At this stage in the process, the cost estimates are necessarily high-level and have been developed to provide a broad indication of the potential relative costs between options.



1.6.4 Key points to note from the appraisal include:

- Option A1 is circuitous in connecting ASH to the strategic road network and does not minimise travel times to the AWPR, with the route to the latter longer via Option A1 than the existing HGV route via Hareness Road. As such, there is a risk that HGV traffic travelling between ASH and the AWPR would continue to route via Hareness Road.
- Options A2 and A3 consistently score well against the TPOs. Both options provide a new road link between ASH and the strategic road network as well as opening-up opportunities to maximise landside economic activity in East Tullos.
- Option A4 scores relatively well but would not provide a connection between the harbour and East Tullos. Further assessment would also be required as to the extent to which journey times on the route could be improved and congestion minimised vis-à-vis other routes and therefore the extent to which inappropriate routing could be avoided.
- Options A5 and A6 score highly against the majority of TPOs but do not provide a connection to East Tullos and journey times to King George VI Bridge (as a proxy for travel to the outskirts of Aberdeen) via these routes are longer with the result that there is a risk that some traffic continues to use Hareness Road.
- The options to the north of the study area (Options A1, A2 and A3) would all involve going through the landfill site and further work is required to examine the deliverability of this and potential environmental impacts. In comparison to Options A1 and A3, Option A2 covers a shorter section of the landfill site and it may be possible to avoid the landfill altogether. However, delivery of Option A2 is dependent on there being sufficient clearance beneath the railway to enable the construction of an underbridge which is uncertain. In addition, the option routes around St Fitticks Community Park and would therefore have a potentially greater impact on the local community than Options A1 and A3.
- Options A3, A4, A5 and A6 all involve the delivery of a new bridge over the railway and further investigation is required regarding the deliverability of this given the constraints around the landfill site. Options A5 would result in an increase in traffic on the southern section of Coast Road and necessitate the removal of a number of existing trees. The option may therefore lead to visual amenity, noise and vibration impacts for residents of Burnbanks Village. It is noted that there are several listed buildings in Burnbanks Village and several houses which are located in close proximity to Coast Road. There are also potential severance issues for residents of Burnbanks Village as a consequence of reduced access to key services and amenities in Cove. Option A6 could similarly impact Burnbanks Village and could also impact residents in the north of Cove as a result of the removal of the existing tree line between Cove and the industrial estate and the delivery of a new road at this location. Option A6 would also route near to the existing recreational football ground and a number of allotments both of which are key community facilities. Both Options A5 and A6, could also impact local wildlife and would require the re-alignment of existing Core Paths / informal paths.
- The option which involves a new underbridge beneath the railway (A2) and the option which combines a new link in the south of the study area with a new bridge over Coast Road (A6) are the highest cost options. However, these costs provide only broad indications at this stage in the appraisal process.
- The bus options (Option B1 and B2) achieve similar scores, with Option B1 scoring slightly lower on accessibility and social inclusion and feasibility. This is because extending existing services could result in longer journey times for existing passengers and the feasibility of doing so would depend on the level of patronage achievable and/or the availability of suitable funding. The active travel options (Options C1, C2 and C3) achieve similar scores, with Option C1 scoring slightly higher as it provides a connection to the city centre which is a key destination.

- Amongst the road options, based on the responses to the public survey, Option A3 received the highest approval rating with 64% (n=228) of respondents stating that they agreed with this option compared to just 15% (n=55) who disagreed. The most common reasons given for agreeing with Option A3 were: option would have minimal impacts on residential areas, green space and recreational areas; option focuses traffic on existing industrial area and utilises existing infrastructure; and option would create minimal disruption. During the consultation, it was also commented that Option A3 could be extended to include an additional link from the western side of the new bridge around the perimeter of the landfill site to the existing bridge on Coast Road.
- Options A6 and A5 received the lowest approval rating, with 84% (n=297) of respondents to the public survey disagreeing with Option A6 and 73% (n=258) disagreeing with Option A5. The most common reasons for disagreeing with Option A5 were: option passes in close proximity to residential area and would lead to visual amenity, noise, vibration and pollution impacts, particularly for Burnbanks Village; option would result in loss of recreational space / woodland area; option would impact local wildlife due to higher traffic volumes and the removal of the tree line; safety concerns as a result of higher traffic levels on Coast Road; Coast Road is a scenic route and should be avoided; and option would add traffic to the already congested Souter Head Roundabout and Wellington Road. The most common reasons for disagreeing with Option A6 were: option passes in close proximity to residential area and would lead to visual amenity, noise, vibration, and pollution impacts; option would result in a loss of recreational space / woodland area, including the football ground and allotments; safety concerns as a result of higher traffic levels on Coast Road and the new link; Coast Road is a scenic route and should be avoided; and option would add traffic to the already congested Souter Head Roundabout and Wellington Road.
- A slightly higher proportion of respondents to the public survey agreed with Option A4 (39%, n=137) than disagreed (35%, n=125), although the difference was marginal. Reasons for agreeing with Option A4 included: option focuses traffic on existing industrial area and infrastructure; option would have a minimal impact on residential areas, green space, and recreational areas, and option would create minimal disruption. Reasons for disagreeing with Option A4 included: existing traffic levels are already high; option would not be an ideal route for cruise tourists; option is less direct than alternative options; option would lead to additional traffic in Torry; and option utilises Coast Road which is unsuitable.
- Opinions on Options A1 and A2 were similar with just over 40% of respondents in each case (n=153 and 149) disagreeing and 33% agreeing with the option (n=117 and 116). Reasons for agreeing with the Option A1 included: option would have a minimal impact on residential areas and green space; option focuses traffic on existing industrial areas; and option would create minimal disruption. Reasons for disagreeing with Option A1 included: option utilises the existing railway bridge on Coast Road which is unsuitable and will not accommodate additional traffic; option is circuitous as it involves travelling south and then north; option would have a negative impact on Tullos Hill / lead to the loss of recreational space; option uses Coast Road which is unsuitable; option would result in additional traffic on Wellington Road which is already congested; and other options (i.e. Options A2 and A3) would provide more benefits. Reasons for agreeing with Option A2 included: option is most direct route; option focuses traffic on existing industrial areas; and option avoids Coast Road and residential areas. Reasons for disagreeing with Option A2 included: option would have a negative impact on St Fitticks Community Park / lead the loss of recreational space; option would lead to additional traffic in Torry; and option is high cost compared to alternative options which provide more benefits.
- The majority of respondents to the public survey agreed with the bus options (Option B1 and B2), with a slightly higher proportion (54%, n=192) agreeing with Option B2 (provide a new bus service for cruise tourists) compared to B1 (enhance existing services). Amongst the active travel options, Option C1 was the most popular with 57% (n=204) agreeing with this option. This was followed by Option C3 (51%, N=182) and Option C2 (41%, n=145).

## Option Selection / Rejection

- 1.6.5 Following the Part 1 Appraisal, an option selection / rejection process was completed and it was determined that several options should not be taken forward to Part 2 Appraisal. Table 3 and Table 4 below provides an overview of which options it is recommended should be rejected and which it is recommended should be progressed respectively and the rationale for the decision in each case.

Table 1:3: Rejected Options

ID	Option Description	Select or Reject	Rationale
Road Options			
A1	Provide a new road connection from Greenwell / Greenbank Road across the former Ness Landfill site to the existing railway bridge on Coast Road	Reject	The route between ASH and the AWPR Charleston junction via this route would be longer than all existing routes. While the option provides a route between ASH and George VI Bridge which is shorter than the existing HGV route via Hareness Road, the option route is relatively circuitous and is significantly longer than the other options assessed. There is therefore a risk that the option route would not be utilised, particularly by traffic travelling between ASH and the AWPR, which would likely continue to use Hareness Road and therefore add to congestion in this area. The option also relies on the existing railway bridge and therefore would not improve access for abnormal loads; would have a limited impact on the perception of poor access; and would not enhance transport resilience. In terms of public acceptability, 40% of respondents to the public survey disagreed with the option compared to 33% who agreed. Amongst those who disagreed with the route, several raised the issues outlined above, including the circuitous nature of the route and the reliance on the existing railway bridge.
A6	Provide a new road connection to the south of Souter Head Road, a new bridge over the railway on Coast Road and capacity improvements.	Reject	This option would provide similar benefits and have similar impacts to Option A5. In addition to the wider impacts noted under Option A5, the option would also affect residential properties towards the north of Cove; would result in the removal of the existing tree line between Altens and the residential area of Cove; would route near several community assets, including a recreational sports ground and nearby allotments; and may result in severance issues if the implementation of the option results in the removal of the north-south walking routes between Cove and the industrial estate. The option would also result in an increase in traffic on both the southern section of Coast Road and the new link between Cove and the industrial estate and could therefore result in visual amenity, noise and vibration, and severance impacts for residential properties across several locations. In terms of public acceptability, the route received the lowest overall approval rating, with 84% (n=297) of respondents to the public survey disagreeing with the option.

ID	Option Description	Select or Reject	Rationale
Active Travel Options			
C2	Provide a cycle hub at ASH for use by cruise tourists	Reject	While delivering a cycle hub would enhance opportunities for leisure cycling, including amongst cruise tourists, it would likely have a more limited impact on improving access to the harbour given the relatively low number of employees based at the site. The potential for the delivery of a city-wide cycle hire scheme is being explored as part of a separate work stream. It is therefore recommended that this option not be progressed within the context of this study and its progress and outcomes monitored.

Table 1:4: Options Recommended to be taken forward to Part 2 Appraisal Stage

ID	Option Description	Select or Reject	Rationale
Road Options			
A2	Provide a new road connection from Greenwell Road / Greenbank Road via St Fitticks Community Park to Coast Road with a new underbridge under the railway line	Select	This option contributes positively to all of the TPOs. It provides a route to both the AWPR Charleston Junction and King George VI Bridge which is shorter than Hareness Road and which HGV traffic is therefore likely to use. The option also provides a connection between ASH and East Tullos, helping to maximise the landside opportunities associated with the harbour, and provides positive impacts in terms of perception and resilience through the provision of a new means of crossing the railway. However, the option is high cost and there are several potential issues in terms of deliverability, including whether there is sufficient clearance under the railway line to deliver the route and the extent to which the route can avoid the landfill site and any associated environmental impacts. The option also passes around St Fitticks Community Park which is a key facility, particularly for the local Torry community. In terms of public acceptability, 40% of respondents to the public survey disagreed and 33% agreed with the option, with a large proportion of those disagreeing noting the potential negative impact on St Fitticks Community Park / recreational space. Other comments also included the potential for higher traffic in Torry and the high cost of the option compared to the other options. Overall, while it is recognised that there is potential for negative impacts, further more detailed work is required to understand possible alignments and potential mitigation strategies, and therefore the potential extent of these impacts. This work would also need to examine the potential deliverability of the new underbridge given the constraints around the landfill site and whether there is sufficient clearance beneath the railway.
A3	Provide a new road connection from Greenwell	Select	This option contributes positively to all of the TPOs and provides much of the same benefits as Option A2 as noted above. In contrast to Option A2, the route does not have



ID	Option Description	Select or Reject	Rationale
	Road / Greenbank Road via the former Ness Landfill site and a new bridge over the railway		the same constraints with regard to clearance above the railway and therefore may have more potential of providing a route for abnormal loads. In addition, unlike Option A2, A3 does not pass around St Fitticks Community Park and would therefore have less impact on the local community. However, Option A3 passes through a larger section of the former Ness Landfill Site which may impact the deliverability of the route and could potentially lead to additional costs due to the risks associated with building on the landfill. In terms of public acceptability, the option received the highest approval rating with 64% (n=228) of respondents stating that they agreed with this option compared to 15% (n=55) who disagreed. During the consultation, it was also commented that Option A3 could be extended to include an additional link from the western side of the new bridge around the perimeter of the landfill site to the existing bridge on Coast Road. However, this would involve passing through a larger section of the landfill site. Overall, further more detailed assessment of the potential to deliver Option A3 given the constraints around the landfill site is required. The potential of including the extension to the existing bridge and the benefits this would provide will also be explored as a variant of Option A3 (Option A3 - Variant 1) at the next appraisal stage.
A4	Improve the existing route via Hareness Road through the provision of a new bridge over the railway on Coast Road and capacity improvements.	Select	This option contributes positively to the majority of the TPOs. The provision of a new bridge crossing on Coast Road combined with capacity improvements on Wellington Road would assist in improving journey times via Hareness Road. In addition, the new bridge crossing would enhance the perception of access to the harbour, improve transport resilience, and potentially enable the transport of abnormal loads. The option would not, however, improve access to East Tullos or minimise the impact of traffic in Altens and, as with Options A2 and A3, there are potential deliverability issues with regards to providing a new bridge on Coast Road. In terms of public acceptability, the proportion agreeing with the option (39%) was marginally higher than those who disagreed (35%), with those disagreeing raising concerns around traffic levels, the relative indirectness of the option, and the suitability of the route for cruise tourists. It is recommended that further more detailed assessment be undertaken to assess the potential benefits and dis-benefits of the option, particularly regard to potential traffic impacts. As with Options A2 and A3, further more detailed assessment of the potential to deliver the route given the constraints around the landfill site is also required.
A5	Provide a new road connection between Coast Road and Souter Head Road and a new bridge over	Select	This option contributes positively to the majority of the TPOs. The option would provide a shorter route to the AWPR Charleston junction (to which the majority of harbour traffic is assumed to be travelling) than the existing route via Hareness Road. In addition, through the provision of a new bridge over the railway there would be

ID	Option Description	Select or Reject	Rationale
	the railway on Coast Road.		improvements in transport resilience and the perception of access. The option could also potentially provide a route for abnormal loads although this would be subject to achieving the required alignment. However, the route to King George VI Bridge via this route would be slower than Hareness Road. There is therefore a risk that traffic travelling between the harbour and King George VI Bridge would continue to use the existing route via Hareness Road. In addition, in contrast to Options A1, A2 and A3, Option A5 does not enhance access to East Tullos and therefore the option would not help maximise the landside opportunities associated with the harbour. The option would also result in a range of environmental impacts, including: potential visual amenity, noise and vibration, and severance impacts for local residents and impacts on local wildlife. The option did not score well in terms of public acceptability, with a high proportion (75%) of those responding to the public survey stating that they disagreed with the option and high numbers noting the potential impact on Burnbanks Village, recreational space / local wildlife and safety concerns. As with Option A4, the route would also require the delivery of a new bridge on Coast Road, the deliverability and environmental impact of which are uncertain given the constraints around the landfill site. Overall, while it is recognised that there is potential for negative impacts, further more detailed work is required to understand possible alignments and potential mitigation strategies which could be employed and therefore the potential extent of these impacts. This work would also need to examine the potential deliverability of the new bridge on Coast Road given the constraints around the landfill site.
Public Transport Options			
B1	Extend / enhance existing bus services between ASH and Aberdeen City Centre	Select	This option would enhance public transport access between Aberdeen City Centre and ASH through the extension of existing services. This option is broadly feasible. However, any extension would incur additional costs and would therefore depend on the level of patronage achievable and/or the level of funding available. Given the low number of employees based at the site, extending the services at the same level of frequency as the current services is unlikely to be financially sustainable. It is recommended that the principal of this option be saved and the feasibility of providing the option further explored during the next appraisal stage.
B2	Provide a new bus service between ASH and Aberdeen City Centre for cruise tourists	Select	This option would enhance public transport access between Aberdeen City Centre and ASH through the provision of a dedicated service which would run during the cruise season. As with Option B1, this option is broadly feasible but will depend on the level of patronage achievable and/or the level of funding available. ACC will be undertaking further work examining access to the

ID	Option Description	Select or Reject	Rationale
			harbour for cruise tourists as part of the ASH Transport Action Plan. It is therefore recommended that this option be saved and the feasibility of providing the option further explored alongside the Transport Action Plan work during the next appraisal stage.
Active Travel Options			
C1	Enhance active travel routes between ASH and Aberdeen City Centre	Select	This option provides an active travel route between ASH and Aberdeen City Centre which uses a combination of off-road infrastructure, segregated infrastructure, and quiet streets. The option avoids some of the heavier trafficked routes between the harbour and the city centre. However, it is relatively indirect and may be unlikely to be well used, particularly by experienced cyclists. ACC will be undertaking further work to examine active travel connections to and from ASH as part of Civitas Portis. It is therefore recommended that the principal of enhancing active travel routes between ASH and Aberdeen City Centre be taken forward to the next appraisal stage and this option and other potential routes be explored alongside the Civitas Portis work during the next appraisal stage.
C3	Provide a dedicated active travel route from Coast Road through Tullos Hill to the A956 with onward connections to the Deeside Way	Select	This option would enhance active travel connections between ASH and the west and south of the city. The route could also be used as a leisure route, including, potentially, by cruise tourist who are not taking formal trips. It is recommended that this option be saved and further explored during the next appraisal stage.

## 1.7 Options Recommended for Further Assessment

- 1.7.1 Table 5 summarises the final list of road, public transport, and active travel options which it is recommended should be taken forward to Part 2 Appraisal Stage. For ease of reference the options are shown diagrammatically in the figures below. It is noted that the routes shown are **indicative only**.

Table 5: Options Recommended to be taken forward to Part 2 Appraisal Stage

Category	Option ID	Option Description
Road	A2	Provide a new road connection from Greenwell Road / Greenbank Road via St Fitticks Community Park to Coast Road with a new underbridge under the railway line
	A3	Provide a new road connection from Greenwell Road / Greenbank Road via the former Ness Landfill site and a new bridge over the railway. A variant of Option A3 (Option A3 – Variant 1) which includes an additional link from the western side of the new bridge

		around the perimeter of the landfill site to the existing bridge on Coast Road will also be explored at the next appraisal stage.
	A4	Improve the existing route via Hareness Road through the provision of a new bridge over the railway on Coast Road and capacity improvements
	A5	Provide a new road connection between Coast Road and Souter Head Road and a new bridge over the railway on Coast Road.
Public Transport	Option B1	Extend / enhance existing bus services between ASH and Aberdeen City Centre
	Option B2	Provide a new bus service between ASH and Aberdeen City Centre for cruise passengers
Active Travel	Option C1	Enhance active travel routes between Nigg Bay and Aberdeen City Centre
	Option C3	Provide a dedicated active travel route from Coast Road through Tullos Hill to the A956 with onward connections to the Deeside Way

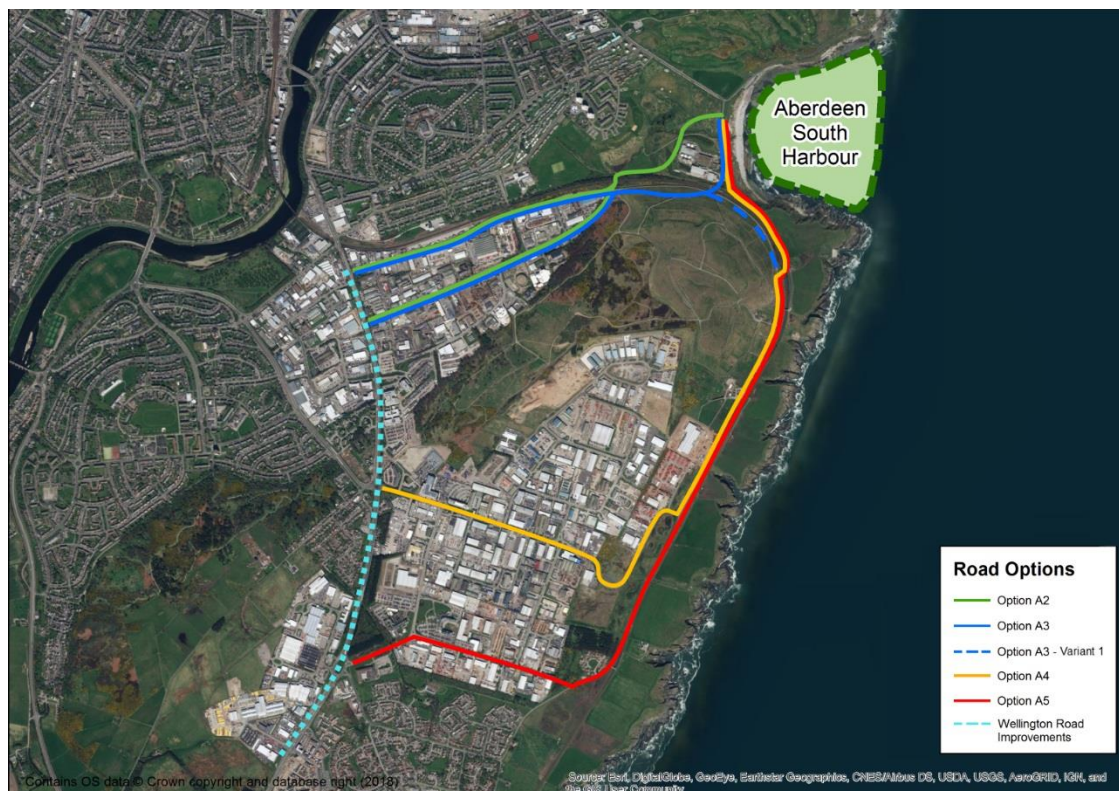


Figure 1:12: Road Options Recommended to be taken forward to Part 2 Appraisal Stage





Figure 1:13: Bus Options Recommended to be taken forward to Part 2 Appraisal Stage



Figure 1:14: Active Travel Options Recommended to be taken forward to Part 2 Appraisal Stage

## Next Steps

- 1.7.2 This report presents a summary of the Pre- and Part 1 STAG Appraisal of options for improving external transportation connections to the ASH at Nigg Bay, Aberdeen. Eleven options have been appraised against the STAG Part 1 Criteria with seven options being recommended to be progressed to STAG Part 2 Appraisal. The STAG Part 2 Appraisal is a more detailed appraisal of the options emerging from the Part 1 and includes a detailed assessment of each option's performance against the:
- TPOs;
  - STAG criteria;
  - Cost to Government; and
  - Risk and Uncertainty.
- 1.7.3 As with the Part 1 Appraisal Stage, engagement with both the public and key stakeholders will form a key part of the STAG Part 2 Appraisal.
- 1.7.4 The STAG Part 2 Appraisal will also recognise (and take account of where appropriate) the on-going relevant work:
- AWPR (anticipated to be fully opened by autumn 2018);
  - Wellington Road Multi Modal Corridor Study (STAG Pre-Appraisal and Part 1 completed and Part 2 Appraisal underway);
  - Aberdeen City Region Deal Strategic Transport Appraisal Pre-Appraisal Report (2018);
  - Aberdeen Roads Hierarchy (currently in development);
  - Aberdeen Sustainable Urban Mobility Plan (SUMP) (currently in development);
  - City Centre Masterplan (phased programme);
  - CIVITAS Portis EU-funded transport projects (2016-2020);
  - A90(S) Park and Ride, Portlethen (no programmed date);
  - South College Street improvements (design review underway);
  - Craigshaw Drive cycle route (detailed design underway);
  - Aberdeen South Harbour – Transport Action Plan (management of future travel demands including the impact of cruise ship arrivals) (2018);
  - Future residential and industrial development to the south of the city and associated road improvements;
  - Any future changes to public transport provision; and
  - Any future rail improvement works.

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