TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

A96 DUALLING
EAST OF HUNTLY TO ABERDEEN

A96 Dualling

East of Huntly to Aberdeen scheme

Corridor Options Workshop Report

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A96 Dualling East of Huntly to Aberdeen

Corridor Options Workshop Report

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Glossary of Terms/Abbreviations

AWPR	Aberdeen Western Peripheral Route
BGS	British Geological Survey
DMRB	Design Manual for Roads and Bridges
GDL	Gardens and Designed Landscape
GIS	Geographical Information Systems
HES	Historic Environment Scotland
HIC	High Impact Constraints
HIA	High Impact Areas
IIP	Infrastructure Investment Plan
LDP	Local Development Plan
NMU	Non-Motorised User
PROW	Public Right of Way
SAC	Special Area of Conservation
SBC	Strategic Business Case
SEA	Strategic Environmental Assessment
SEPA	Scottish Environment Protection Agency
SGN	Scottish Gas Networks
SNH	Scottish Natural Heritage
SO	Scheme Objective
SSE	Scottish and Southern Energy
STAG	Scottish Transport Analysis Guide
TS	Transport Scotland

1 Introduction

1.1 Project Background

The Scottish Government's commitment to complete the dualling of the A96 between Inverness and Aberdeen by 2030, thus completing the dual carriageway network between all Scottish cities, is contained within the 2011 Infrastructure Investment Plan (IIP). This was followed up in May 2013 when the then Minister for Transport and Veterans set out how the A96 Dualling Programme would be taken forward over the coming years.

Transport Scotland commenced the preliminary engineering and strategic environmental assessment work in 2013 along the route between east of Nairn and Aberdeen. The outcome of this preliminary strategic environmental assessment work was presented at a series of public information exhibitions along the A96 corridor between Forres and Aberdeen in May 2015.

Based on the outcome of the preliminary work it was proposed to progress the next stage of design (i.e. Design Manual for Roads and Bridges (DMRB) Stage 2 assessment) in three geographic sections as shown below in red in Figure 1.1.

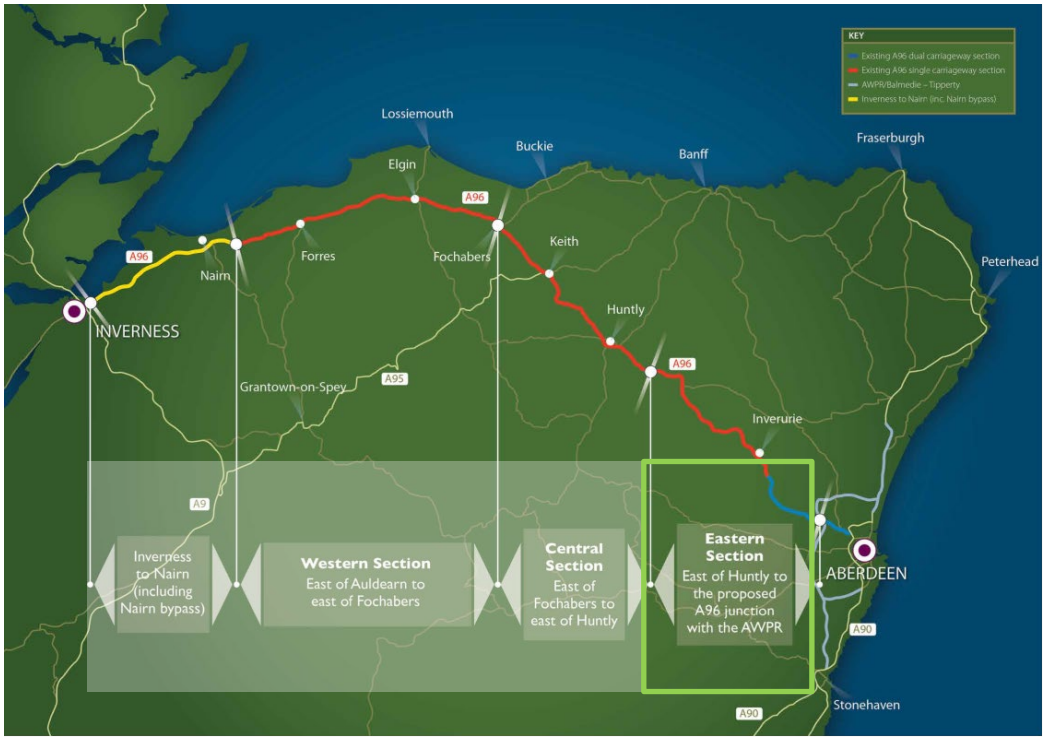


Figure 1.1 - A96 Dualling Extents

Amey OW Ltd and Ove Arup and Partners Ltd (AmeyArup) were appointed by Transport Scotland in July 2017 under a Joint Venture agreement for the purposes of delivering the A96 Dualling East of Huntly to Aberdeen Multi-Disciplinary Support Services Contract. The first task is to progress the DMRB Stage 2 assessment (i.e. identification of the preferred option) for the Eastern section (East of Huntly to Aberdeen), referred to as 'the Scheme'.

The approximate scheme extents are shown in Figure 1.2.

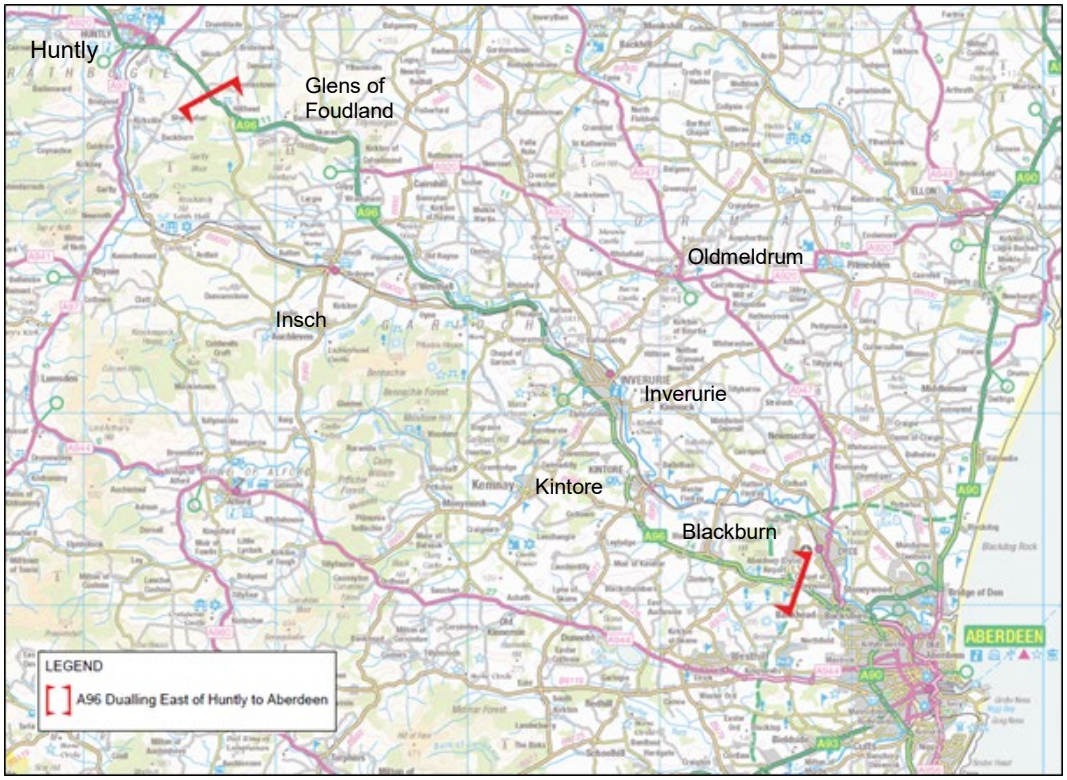


Figure 1.2 - Scheme Extents - A96 Dualling East of Huntly to Aberdeen

Transport Scotland has requested that the west end of the Scheme will tie in to the existing A96, at an appropriate location, to the east of Huntly with a dual carriageway to single carriageway transition that allows a future dualling scheme to be developed westwards towards Huntly and beyond. The east end of the Scheme will tie in to the existing A96 junction with the Aberdeen Western Peripheral Route (AWPR) at Craibstone. An assessment of the existing dual carriageway, including junction provision, will be required between Thainstone Roundabout, Inverurie and the proposed junction with the AWPR at Craibstone.

1.2 Summary of Previous and Ongoing Work by Others

The following roles or studies have been undertaken by others and, in some cases, are ongoing as indicated:

- Inverness to Aberdeen Corridor Study – A96 Dualling Inverness to Aberdeen Strategic Business Case (September 2014).
- A96 Dualling Inverness to Aberdeen Preliminary Engineering Services (PES) Commission - DMRB Stage 1 report - Jacobs UK Ltd (Appointed 2013 - May 2015).
- A96 Dualling Inverness to Aberdeen Strategic Environmental Assessment (SEA) Commission - CH2M Hill (Appointed September 2013 - June 2015).
- A96 Dualling Programme Outline Business Case (including Model Strategy Development and Implementation) and Lead Traffic and Economic Advisor - AECOM (Appointed November 2014 - Ongoing).

- A96 Dualling Inverness to Nairn (including Nairn Bypass) Multi-Disciplinary Support Services Contract - Jacobs UK Ltd (Appointed May 2015 - Ongoing).
- A96 Dualling BIM Manager – Jacobs UK Ltd (Appointed May 2015 - Ongoing).
- A96 Dualling Hardmuir to Fochabers (Western Section) Multi-Disciplinary Support Services Contract - Mott MacDonald Sweco (MMS) Joint Venture (Appointed June 2016 - Ongoing).

1.2.1 Preliminary Engineering Services – DMRB Stage 1 Assessment

Jacobs were commissioned by Transport Scotland in 2013 to undertake the preliminary engineering assessment work (equivalent to a DMRB Stage 1 Assessment) for the dualling of the A96 between Inverness and Aberdeen.

This commission was undertaken in parallel with the A96 Inverness to Aberdeen Dualling SEA to produce engineering constraints mapping, broadly defined improvement strategies and other design strategies such as a junction and access strategy, a lay-by and rest area strategy and a Non-Motorised User (NMU) strategy.

The outcome of the DMRB Stage 1 Assessment was presented to the public at a series of exhibitions held between 11 and 21 May 2015.

The Stage 1 Assessment involved:

- Identification of baseline (existing) conditions and constraints.
- Developing, sifting and assessing the advantages and disadvantages associated with broadly defined improvement strategies.
- Developing design strategies for key elements (such as treatment of junctions and accesses, non-motorised users, lay-bys and rest areas, and community engagement) as part of the overall dualling programme.

High level improvement strategies were identified comprising a range of approaches to providing a dual carriageway between Inverness and Aberdeen, for example a bypass north or south of towns along the existing A96.

The outcomes of the DMRB Stage 1 assessment for the East of Huntly to Aberdeen section of the A96 recommended further consideration of the following improvement strategies as part of the DMRB Stage 2 assessment process (see also Figure 1.3):

- Improvement Strategy Option B - Existing A96 Corridor with offline bypasses.
- Improvement Strategy Option C - Offline from Huntly to Blackburn.
- Improvement Strategy Option D - Offline from Glens of Foudland to north - west of Inverurie.

1.3 Purpose of this Report

The purpose of this report is to record the works undertaken as part of the Corridor Option Development and record the outcomes of the initial route Corridor Options sifting exercise undertaken by AmeyArup as part of the DMRB Stage 2 Assessment process between November 2017 and February 2018.

This work was undertaken drawing upon all available technical data and utilising the DMRB Stage 1 feedback from stakeholders, interest groups and members of the public, and the more recent feedback received following 'Meet the Team' events held specifically for the Scheme in October 2017.

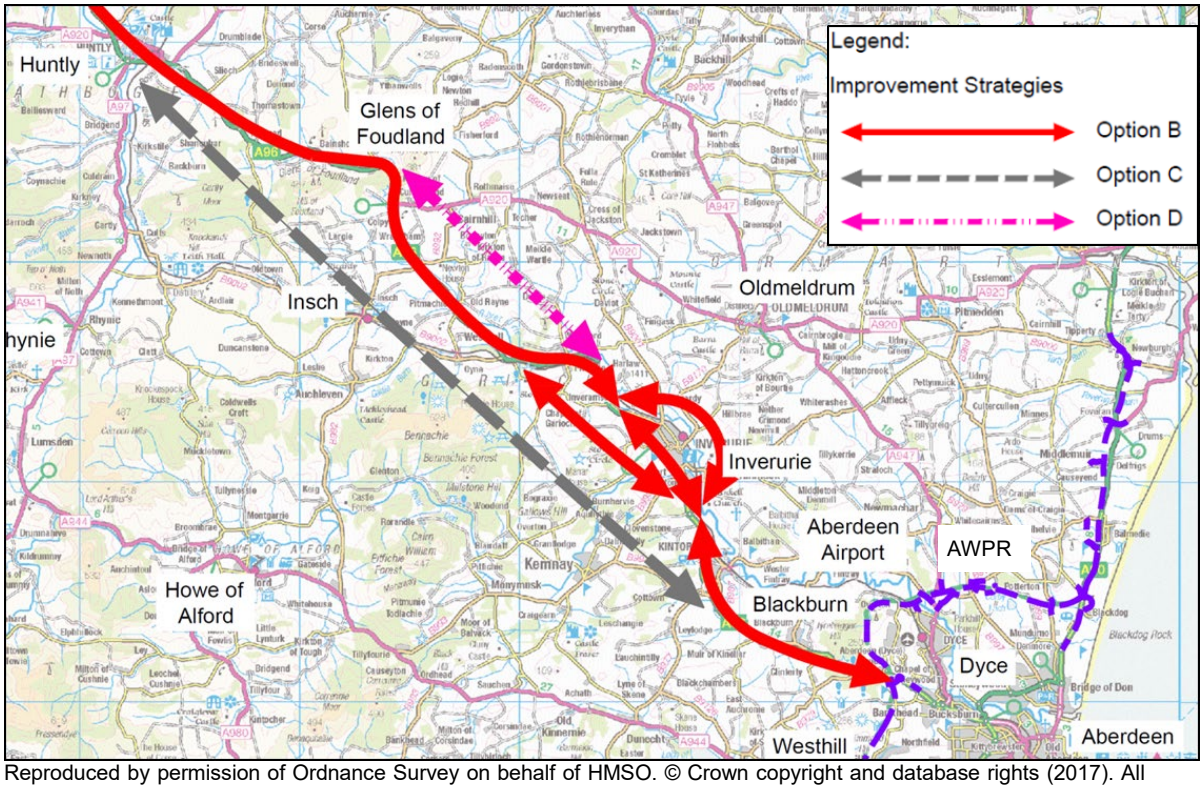


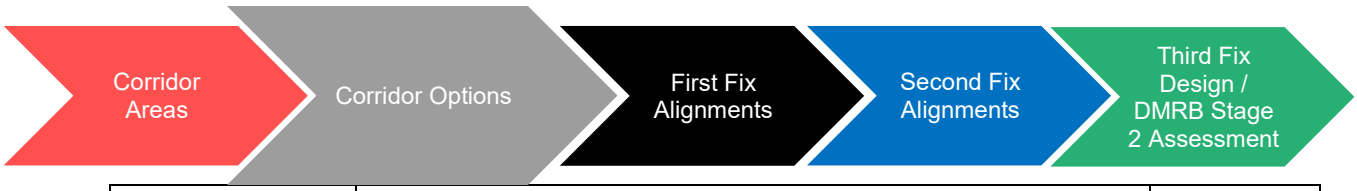
Figure 1.3 - DMRB Stage 1 Improvement Strategy Options

2 Pre-Workshop Option Development

2.1 Option Development Phases

As outlined in the introduction in Section 1, AmeyArup have been commissioned to develop Improvement Strategies Options B, C and D from DMRB Stage 1 into defined dualling options for assessment through DMRB Stage 2, using a progressive option development and appraisal process.

The option development and appraisal methodology adopted is shown in Figure 2.1 with text that outlines how this is used to realise a preferred option for further development and assessment at DMRB Stage 3.



Corridor Areas	The Improvement Strategies progressed from DMRB Stage 1 assessment were used to generate wide areas within which potential corridors were established.	✓
Corridor Options	**Each Corridor Area was reviewed and refined using available data and subdivided into smaller Corridor Options for initial appraisal with poorly performing Corridor Options sifted out.**	✓
First Fix Alignments	Development of alignments within all Corridor Options progressed from previous phase. First Fix Alignment Options will then be subject to appraisal and sifting out of poorer performing options within each Corridor Option.	
Second Fix Alignments	Generation of end to end route options from the better performing First Fix Alignments. An appraisal and sifting will then be undertaken to identify initial route options for presentation at Public Consultation.	
Third Fix Design/ DMRB Stage 2 Assessment	Processing of public feedback and the development of Third Fix Designs The remaining shortlisted options will then be assessed in line with DMRB Stage 2 (TD37/93).	

Figure 2.1 - Five Phase Option Development Process

2.2 Corridor Area Identification

AmeyArup developed Corridor Areas to define the extents of the study area where potential options associated with each of the DMRB Stage 1 Improvement Strategy Options B, C and D could be considered. The outer extent of the Corridor Areas was guided by the DMRB Stage 1 Strategic Environmental Assessment (SEA) boundary. The Corridor Areas are defined below and illustrated in Figure 2.2.

Corridor Area B Online - Existing A96 with 1km offset either side of the centreline between East of Huntly and Craibstone Roundabout in Aberdeen. Based on DMRB Stage 1 Improvement Strategy Option B.

Corridor Area B Inverurie South - Online with offline southern bypass of Inverurie, based in Improvement Strategy Option B.

Corridor Area B Inverurie North - Online with offline northern bypass of Inverurie based on Improvement Strategy Option B.

Corridor Area B+ - Offline area from the tie-in to the online A96 at Kintore to north-east of Inverurie. Additional Corridor Area identified to allow consideration of alternative connections to the existing A96 in proximity to Kintore.

Corridor Area C - Offline improvement to the south of existing A96 between Huntly and Kintore. Corridor Area bound by the southern boundary of Corridor Area B and the SEA boundary. Based on Improvement Strategy Option C.

Corridor Area D - Offline improvement to the north of existing A96 between Glens of Foudland and Inverurie. Corridor Area bound by the northern boundary of Corridor Area B and the SEA boundary. Based on Improvement Strategy Option D.

Corridor Area D+ - From tie-in to the online A96 at Huntly Offline to north-west of Corridor Area D at Glens of Foudland. Additional Corridor Area identified to address Public Feedback associated with the existing A96 route through the Glens of Foudland.

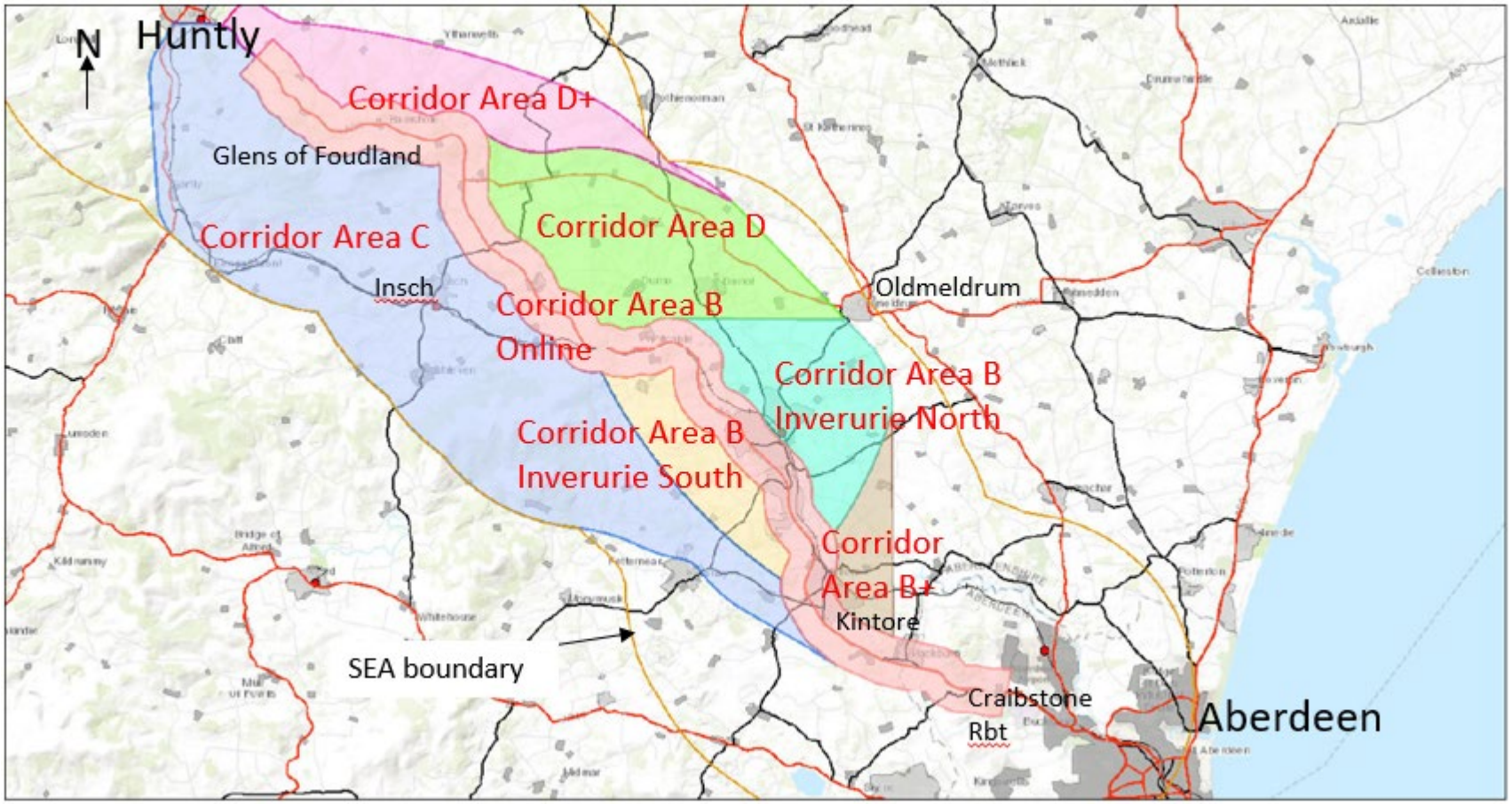


Figure 2.2 - Corridor Areas

2.3 Corridor Areas Appraisal

The Corridor Areas were appraised against Programme and Scheme Objectives (see Table 2.1) to ensure that all Corridor Areas, including the additional Corridor Areas B+ and D+, have potential to achieve these objectives subject to further design development work.

This appraisal followed a similar methodology to the DMRB Stage 1 Assessment Part 1 Sifting Process, identifying the high-level benefits and impacts of each Corridor Area.

The review found that with the provision of a Category 7A dual carriageway along the length of the A96 between Huntly and Craibstone Roundabout, in tandem with a reduced number of junctions and a higher standard of junction provision, all Corridor Areas have the potential to contribute to the Programme and Scheme Objectives and have therefore been developed further into Corridor Options.

Full details of the Corridor Areas Appraisal are contained within Appendix A.

Table 2.1 - A96 Dualling Programme and Scheme Objectives

Key Programme Objectives (A96 Dualling Inverness to Aberdeen)	**Key Scheme Objectives (A96 Dualling East of Huntly to Aberdeen)**
PO 1: To improve the operation of the A96 and inter-urban connectivity between the cities of Inverness and Aberdeen and their city regions through: - Reduced journey times; - Improved journey time reliability - Reduced conflicts between local and strategic journeys.	SO 1: To improve the operation of the A96 and inter-urban connectivity through: - Reduced journey times; - Improved journey time reliability; - Increased overtaking opportunities; - Improved efficiency of freight movements along the transport corridor; - Reduced conflicts between local traffic and strategic journeys, - Improved network resilience
PO 2: To improve safety for motorised and non-motorised users through: - Reduced accident rates and severity; - Reduced driver stress.	SO 2: To improve safety for motorised and non-motorised users through: - Reduced accident rates and severity; - Reduced driver stress - Reduced potential conflicts between Motorised and Non-Motorised Users
PO 3: To provide opportunities to grow the regional economies on the corridor through: - Improved access to the wider strategic transport network - Enhanced access to jobs and services.	SO 3: To provide opportunities to grow the regional economies on the corridor through: - Improved access to the wider strategic transport network; - Enhanced access to jobs and services.
PO 4: To facilitate active travel in the corridor	SO 4: To facilitate active travel in the corridor
PO 5: To facilitate integration with Public Transport Facilities	SO 5: To facilitate integration with Public Transport Facilities
PO 6: To reduce the environmental effect on the communities in the corridor	SO 6: To avoid significant environmental impacts and, where this is not possible, to minimise the environmental effect on: - The communities and people in the corridor, - Natural and cultural heritage assets.

2.4 High Impact Constraints and Areas

Following the Corridor Areas identification and appraisal, engineering and environmental constraints were identified within the Corridor Areas from existing information available to the project team. This constraints information is based on the 2015 Strategic Environmental Assessment (SEA) findings at DMRB Stage 1 and is being continuously supplemented by updated datasets from local authorities and various other stakeholders. It also consists of data gathered from desktop assessments, site visits, local knowledge and discussions with statutory consultees such as Scottish Natural Heritage (SNH), Historic Environment Scotland (HES) and the Scottish Environment Protection Agency (SEPA).

A review of the constraints mapping within the SEA boundary identified that there are no internationally designated environmental sites that would prohibit development in this area (e.g. Special Areas of Conservation (SAC)). However, several locations could be considered as areas containing major constraints and/or cumulative significant constraints where a new dual carriageway could potentially have 'High Impact'.

High Impact Constraints have been defined in two categories as follows: -

- **Significant** - Constraints of national importance environmentally or physical barriers such as extreme topography requiring disproportionate engineering works.
- **Serious** - Constraints of slightly lesser significance but which should be avoided if possible. 'Serious' areas will increase project cost and/or project risk.

Consideration may need to be given to options which affect significant/serious constraints, but these would initially be avoided where possible as doing so is likely to result in better performing options.

The types of constraints that sit within these categories are included in Appendix B.

For the purposes of guiding the development of Corridor Options, significant constraints (as shown on Figure 2.3 in red hatch) and groups of serious constraints were amalgamated into 'High Impact Areas' (HIAs), as illustrated in Figure 2.4. Individual significant constraints such as Scheduled Monuments are identified as constraints but are not included in the HIAs due to their generally more scattered and sometimes isolated nature, these are however included in the assessment

Areas surrounding the significant constraint boundary were reviewed. Impractical areas, where it would not be possible to locate the road from a geometric alignment perspective, were also included in the HIAs, as shown in Figure 2.4 below and detailed in Appendix B.

It is anticipated that the impacts of the serious constraints will be identified through the appraisal process and will be used to guide the design in later phases of the option development.

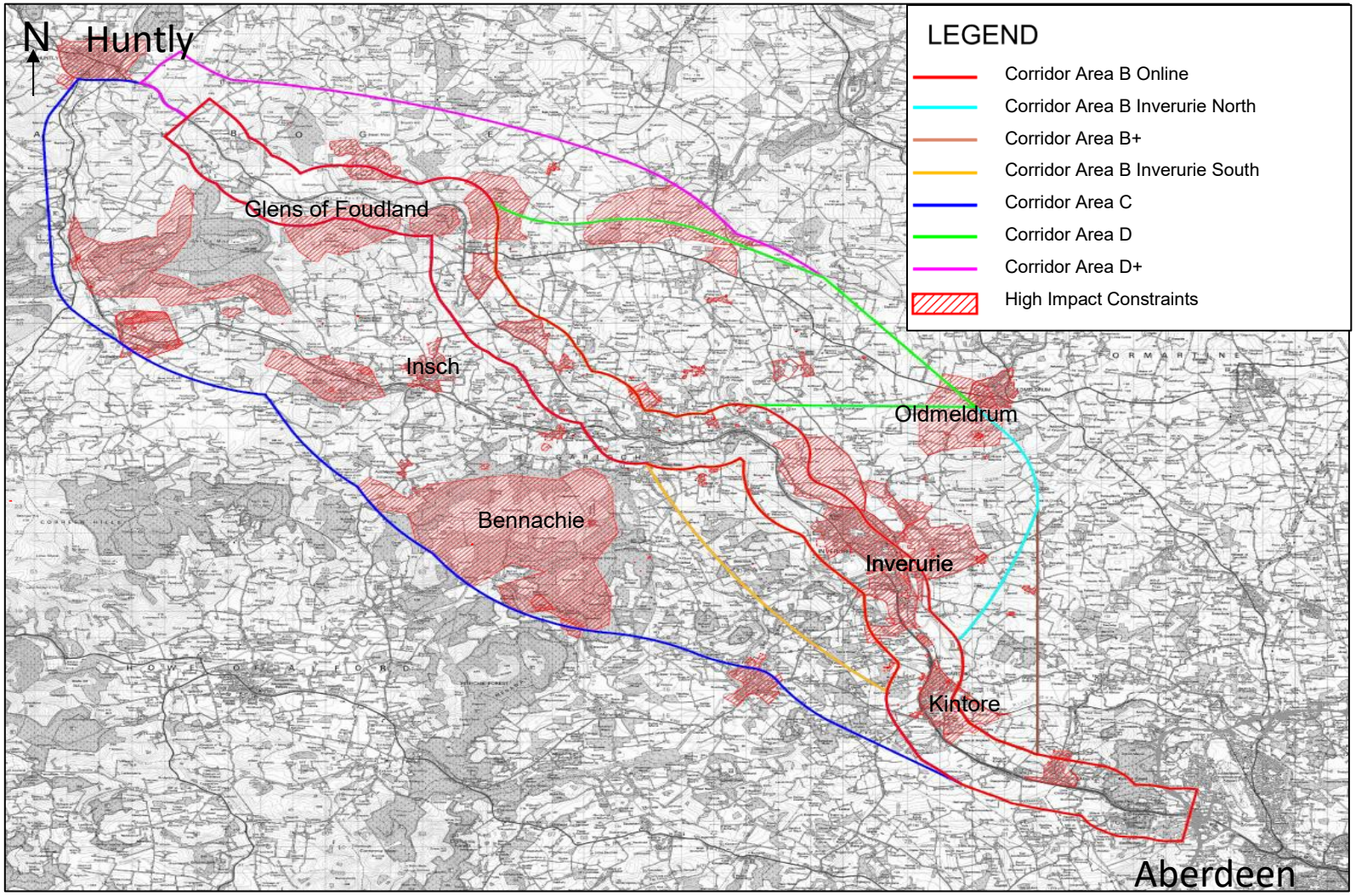


Figure 2.3 - High Impact Constraints

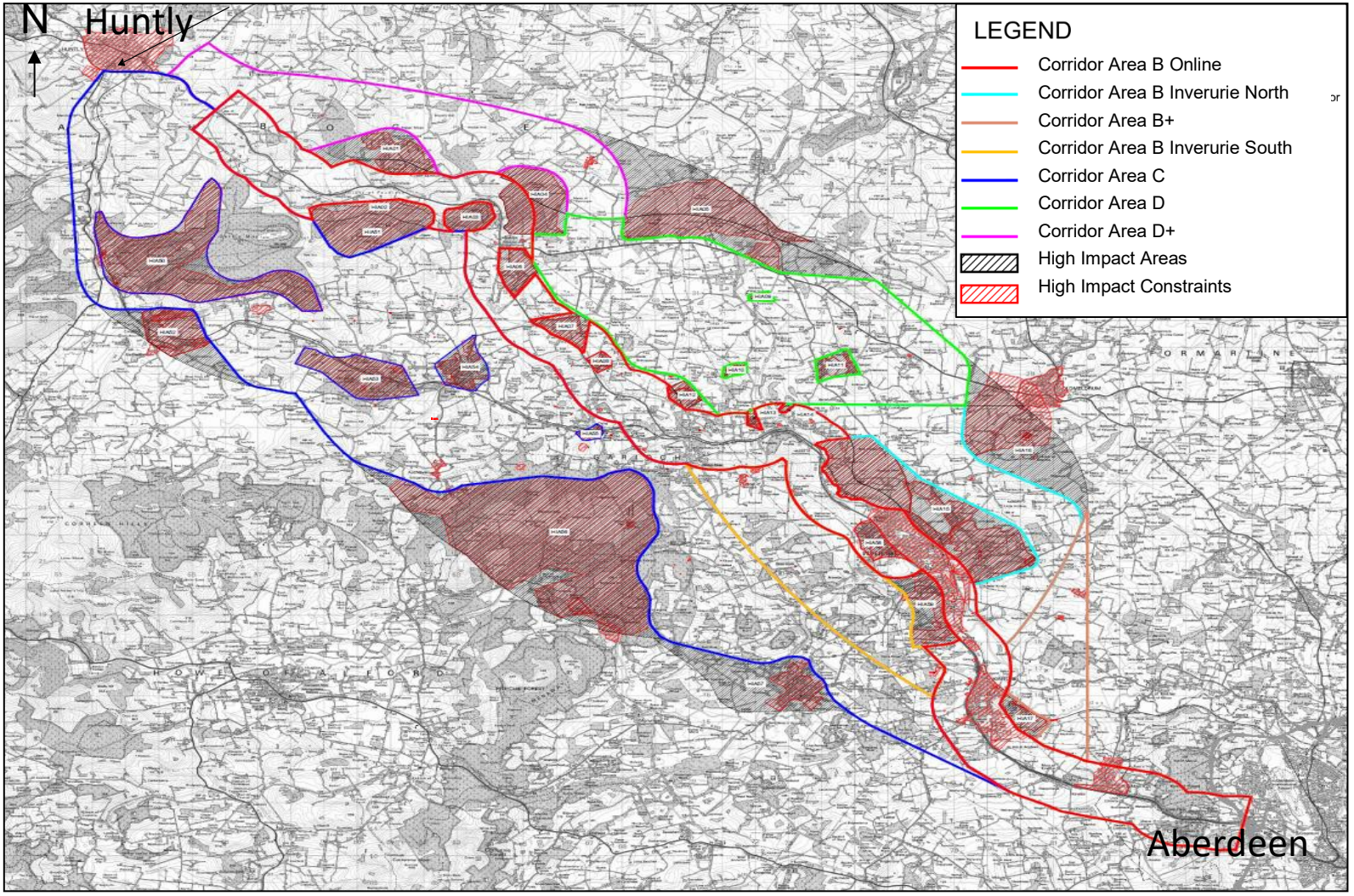


Figure 2.4 - Development of High Impact Areas encompassing High Impact Constraints and impractical areas

2.5 Corridor Options

To develop Corridor Options, the Corridor Areas were broadly sub-divided into 2km widths as indicated in Figure 2.5 and described in Table 2.2 and Table 2.3. At this stage the HIAs were used to identify zones to be avoided where possible as part of the Corridor Option development.

Table 2.2 - Corridor Options Locations

	Corridor Option	Description/Location of Corridor Option
	OLN, OLC, OLI, OLS	Online North (OLN) - East of Huntly to Colpy Online Central (OLC) - Colpy to Pitcaple Online through Inverurie (OLI) Online South of Inverurie (OLS) (based on DMRB Stage 1 Improvement Strategy Option B)
	BN01	Bypass north of Inverurie to west of Kintore (based on DMRB Stage 1 Improvement Strategy Option B)
	BS01	Bypass south of Inverurie (based on DMRB Stage 1 Improvement Strategy Option B)
	CN01, CN02, CN03 CS01, CS02	Offline - Huntly to west of Bennachie Offline - East of Bennachie to Kintore All 'C' corridors are located south of existing A96 and based on DMRB Stage 1 Improvement Strategy Option C.
	D01, D02, D03	Offline - Glens of Foudland to Inverurie (located north of existing A96 based on DMRB Stage 1 Improvement Strategy Option D)
	D+01, D+02	Offline - East of Huntly to Glens of Foudland (located north of existing A96). Additional Corridor Options included as a result of public feedback from the Meet the Team events in November 2017.
	BN+01	Bypass north of Inverurie to east of Kintore. An additional Corridor Option included to provide an alternative option between a northern bypass of Inverurie and the existing dual carriageway.

Table 2.3 - Corridor Options Descriptions

Corridor Areas	Corridor Option
Corridor Area B (Online) Corridor Options developed in this Corridor Area are within 1km of the existing A96 to the north or south. They will connect to other Corridor Options to the north and south including Corridor Options within Corridor Area D and D+ and Corridor Area C.	**OLN** 2km wide Corridor Option (1km around the existing A96 centre line) from East of Huntly at Leys of Drummuies eastwards to Colpy at a point just south of the junction with the A920. This Corridor Option includes a number of High Impact Constraints on both sides of the Corridor Option including the Glens of Foudland and the Hill of Skares that will be considered in the assessment.
	OLC 2km wide Corridor Option (1km around the existing A96 centre line) from a point just south of the settlement of Colpy at the A920 junction going south-eastward, passing near Settlements of Pitmachie, Old Rayne, Oyne, Pitcaple at terminating near Milton of Inveramsay located north of Inverurie. OLC Corridor Option includes a number of High Impact Constraints mainly on the eastern side of the Corridor Option that will be considered in the assessment.
	OLI 2km wide Corridor Option (1km around the existing A96 single carriageway centre line) between the at grade roundabout at Port Elphinstone (start/end of dual carriageway section) and terminating at Milton of Inveramsay located north of Inverurie. The key constraint within the Corridor Option is Inverurie and the River Don and Urie and associated flood plains.
	OLS 2km wide Corridor Option (1km around the existing A96 dual carriageway centre line) between the at grade roundabout at Port Elphinstone at the western end of the existing dual carriageway and the Craibstone Junction at the AWPR. This Corridor Option has a number of High Impact Constraints predominantly located to the north of the Corridor Option, including Tyrebagger hill at the eastern end and the main settlements of Blackburn and Kintore. The Corridor Option has numerous local and private accesses onto this section as well as a number of at grade roundabouts that will be considered in the assessment.
Corridor Area B (Inverurie North) Provides an online Corridor Option with localised bypasses to the north of Inverurie. This area could accommodate bypass options to the north of Inverurie. The area is bounded to the south by Corridor Areas C and B+ and to the north by Corridor Area D and D+.	**BN01** Commences at Pitcaple to the north west of Inverurie in the vicinity of the existing A96. This Corridor Option heads east crossing the B9001 towards the settlements of Lumphart, Cuttlecraigs and Auchencleith. From here, it heads south east across B9170 towards Bourtie House and Old Bourtie, towards the settlement of Kinmuck. BN01 then heads south west across the River Don to reconnect to the existing A96 corridor between the eastern extent of Inverurie and the western extent of Kintore.
Corridor Area B (Inverurie South) Identifies the broad study area where suitable corridor options shall be identified to provide an online corridor with bypasses to the south of Inverurie. This area would enable bypass options to the south of Inverurie and bounded to the south and west by Corridor Area C and to the north by Corridor Area B (online).	**BS01** Commences at corridor option OLC at Chapel of Garioch and runs for approximately 10km south east to Corridor option OLS at Kintore. The corridor varies in width, 1km at the southeast section and quickly widens out to approximately 2.5kms. There are potential cross corridor connections to Online Inverurie, OLI and to the south to CS02. The key constraint within the corridor is Inverurie and the River Don and associated flood plain.
Corridor Area C (Huntly to Bennachie) This has been split into two sections, north and south of Bennachie. The northern section commences at Huntly and runs south east to the southern section at Bennachie providing connectivity to the Corridor Options OLN and OLC. The section has been split into three Corridor Options, CN01, CN02 and CN03.	**CN01** The western most Corridor Option in the section north of Bennachie and is being considered due to it following the existing railway Corridor Option. The corridor is significant in length at 26km and commences at Huntly at the A96/A97 roundabout running south and then south east to the tie in point at Bennachie and CS02. The corridor varies in width throughout its length with the widest section at 3.4 km before narrowing significantly to 270 metres between the high impact areas of Leith Hall and Knockandy Hill/Hill of Corskie.
	CN02 Runs through the middle of the section north of Bennachie commencing at the A96/A97 roundabout at Huntly and running in a southeast direction for approximately 23km to the tie in point at Bennachie and CS02. The Corridor Option varies in width throughout with the widest section up to 3.5 km wide and 600 metres wide at the narrowest point between the high impact areas of Insch and the cluster of constraints to the west. Connections to CN01 are possible while there is potential to connect to and from CN03. Within the northwest section alternative connections may be possible to OLN.
	CN03

Corridor Areas	Corridor Option
	The eastern most Corridor Option in the section north of Bennachie commencing at the A96/A97 roundabout at Huntly and running in a southeast direction from Corridor Option OLN for approximately 11km to the tie in point at Bennachie and Corridor Option CS02. The Corridor Option is approximately 2.2 km at its widest point and 275 metres at its narrowest. However, this width is constrained by the notional boundary of OLC Corridor Option and therefore overlap between Corridor Options maybe possible. Potential connections to and from Corridor Options OLC, OLN and CN02 are possible.
Corridor Area C (Bennachie to Kintore) Southern section connects from Inverurie North at Corridor Option OLC and the Online dualling section at Kintore. The southern section has been split into two Corridor Options CS01 and CS02	**CS01** Constrained by high impact areas to the west and south and therefore can only be connected from and to Corridor Option CS02. The Corridor Option is approximately 8.5 km in length and is 1.7km at its widest before quickly narrowing to 400 metres at either end due to the high impacts areas.
	CS02 Commences at the foot of Bennachie and the tie in point to Option C northern options and runs for approximately 14kms south east to Corridor Option OLS south of Kintore. This is a wide Corridor Option over majority of its length, with a maximum width of 2.4 km and 600 metres at its narrowest point at Bennachie. Potential cross Corridor Option connections across most of its length to the BS01 Corridor Option, connections south to CS01 and north to OLC at Bennachie.
Corridor Area D Identifies the broad study area where suitable Corridor Options shall be identified to satisfy the objective of Improvement Strategy Option D and provide a more direct line between a section of the A96 from the Glens of Foudland to north-west of Inverurie. This area is bounded to the south and east by the Online Option B Corridor Area and by the limits of the study area to the north and east.	**D01** Commences to the south of Glens of Foudland at Colpy and continues in a south-easterly direction towards the settlement of Durno and ties into OLC in vicinity of Whiteford and Pitcaple. A connection to Corridor Option BN01 is also feasible. The Corridor Option is bounded on the west and south by OLC and historical and cultural constraints of the Roman Camp at Durno and on the north and east by D02.
	D02 Commences to the south of Tocher and the east of Meikle Wartle. The northern end of the corridor provides a connection to Online Corridor Option B at Colpy and to D+01 via the western end of Corridor Option D03. The Corridor Option continues in a south-easterly direction passing to the east of Durno and linking to BN01 in the vicinity of Daviot. The corridor is bounded on the west and south by D01 and BN01 and on the north and east by D03.
	D03 Commences to the south of Glens of Foudland at Colpy and broadly follows the existing A920 route in an easterly direction. At Tocher, the corridor turns south-east and continues to follow the A920 route towards Netherton of Mounie to the east of the settlement of Daviot where the corridor terminates. The Corridor Option facilitates a connection to BN01 at its southern end. The Corridor Option is bounded on the west and south by D02 and to the north and east by the topographical constraints of the Hill of Rothmaise, Hill of Blackford and their approach slopes, and historical and cultural constraints of the Hill of Barra.
Corridor Area D+ The area seeks to explore suitable offline Corridor Options that link the Online Improvement Strategy Option B with the Glens of Foudland to North-west of Inverurie Option D. Corridor Options developed in this Corridor Area would also provide a connection to any future northern bypass of Huntly. The Corridor Area is bounded to the south and east by the Online Option B Corridor Area and by the limits of the study area to the north and east.	**D+ 01** Commences to the east of Huntly and continues eastwards bypassing the topographical constraints of Hill of Bainshole and Glens of Foudland Windfarm to the south before turning southwards at Fisherford to pass through the gap between the Hill of Tillymorgan and the Hill of Rothmaise. The Corridor Option will facilitate a link to the Area D Corridor Options to the East of Colpy.
	D+02 Provides a link from Corridor Option D+ 01 to the Online B Corridor Option to the west of the Hill of Tillymorgan via the gap between the topographical constraints of the Hill of Bainshole and Glens of Foudland Windfarm and the Hill of Tillymorgan.
Corridor Area B+ Identified to allow consideration of alternative connections to the existing A96 in proximity to Kintore. The area seeks to explore suitable offline Corridor Option that link the online Corridor Options to localised bypass Corridor Options to the northeast of Inverurie (BN01), avoiding the constrained online section around Port Elphinstone/ Kintore East. The Corridor Area is bounded to the north, south and west by the Corridor Area B.	**BN+01** Extents from the vicinity of Kinmuck due south, across the River Don to the existing A96 corridor to the east of Kintore and to the west of Blackburn.

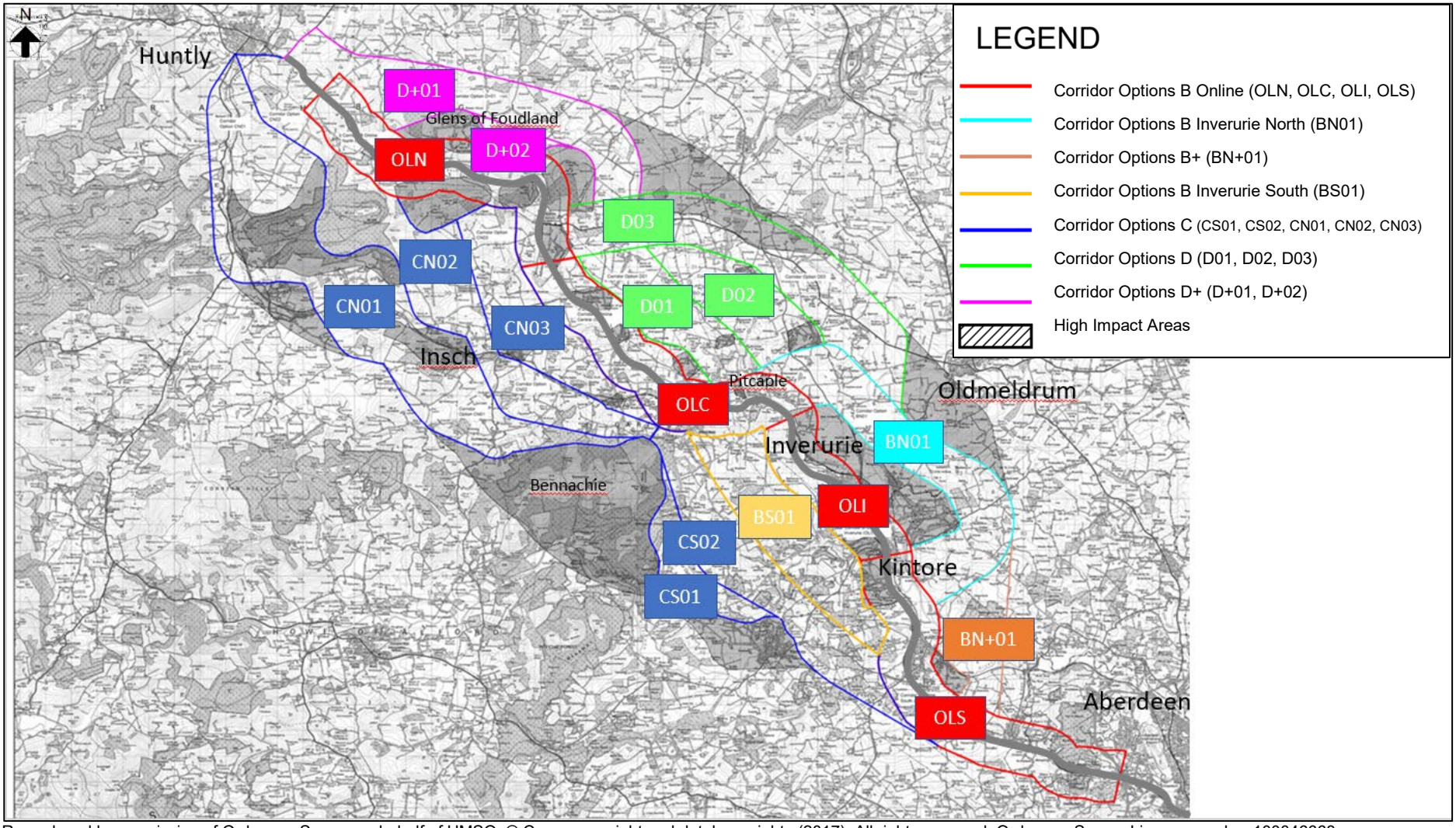


Figure 2.5 - Corridor Options within Improvement Strategy Corridor Areas

2.6 Corridor Options Appraisal

The Corridor Options were appraised against the Scheme Objectives and STAG criteria.

No traffic modelling was undertaken as part of the appraisal as there were no alignments at this stage to consider. The Corridor Options appraisal was a qualitative assessment, given the stage of the assessment and information available within these wide Corridor Options making a quantifiable assessment impracticable. Each Corridor Option was, however, assigned a rating using the 5-point scale as outlined in Table 2.4.

Environmental and engineering constraints maps were used to undertake the appraisal, and these are contained in Appendix C.

Table 2.4 - 5-point Scale

Colour Coding	Assessment
	Major Adverse Impact
	Adverse Impact
	Neutral Impact
	Beneficial Impact
	Major Beneficial Impact

The appraisal was carried out using criteria and associated metrics as detailed in Appendix D. An appraisal summary is contained in Section 4 of this report.

3 Corridor Options Workshop

3.1 Purpose of the Workshop

The Corridor Options Workshop was held on Friday 9 February 2018 in Arup's Glasgow Office.

The main purpose of the Workshop was to present the results of the Corridor Option Appraisal and validate these with the project team (including Transport Scotland). The Workshop objective was to discuss and ratify any decisions to sift out Corridor Options that are poorer performing against the assessment criteria.

3.2 Participants

This was an internal AmeyArup workshop but invitations were also extended to Transport Scotland. All key disciplines from the project team were represented including the Senior Management Team, Engineering, Environmental and Traffic and Economic.

3.3 Agenda Summary

The following were the main items discussed. The full agenda and presentation material is contained in Appendix E.

1. Purpose and Objectives of the Workshop

2. Sifting Process and Methodology

3. High Impact Constraints/Areas within the SEA

4. Corridor Option Development and Descriptions

5. Corridor Option Appraisal Criteria and Scoring

6. Sifting Metrics/Corridor Option Appraisal Discussion by Corridor Option (Sessions 1 & 2)

7. Conclusions and Reporting

3.4 Workshop Notes

Minutes were taken at the workshop and these are contained in Appendix F.

4 Corridor Options Workshop Appraisal Summary

The following section summarises the Corridor Option Appraisal. This is split into two parts:

- Scheme Objectives Appraisal
- STAG Appraisal

Table 4.1, Table 4.2, Table 4.3 and Table 4.4 outline the appraisal of the Corridor Options against the Scheme Objectives and STAG Criteria.

During the workshop, the participants were encouraged to review and challenge the appraisal to achieve a consensus from the team on any decisions reached. If there were any suggested changes to the appraisal these would be reviewed and post workshop summary tables produced (refer to Table 5.1, Table 5.2 and Table 5.3).

The final Post- Workshop Corridor Options Assessment table which contains the resulting appraisal and full commentary for each Corridor Option under each criterion is contained in Appendix G.

4.1 Scheme Objectives Appraisal

The Scheme Objectives are as outlined in Table 2.1. The Scheme Objectives appraisal is summarised in Table 4.1 which shows the rating assigned under each criterion. It should be noted that SO6, avoidance of environmental impacts is covered under the STAG environmental criteria.

Generally, Table 4.1 shows that each of the Corridor Options achieved beneficial or neutral impacts for each of the Scheme Objectives. However, the exception to this is SO 1 (vi) (Improved network resilience) where some of the options performed more poorly.

Table 4.1 - Corridor Option Pre-Workshop Appraisal against Scheme Objectives

	Corridor Areas	Corridor Option	Scheme Objectives														
			SO1.To improve the operation of A96 and inter-urban connectivity through:						SO2.To improve safety for motorised and Non-Motorised Users through:			SO3.To provide opportunities to grow the regional economies on the corridor through:		SO4.To facilitate active travel in corridor.	SO5.To facilitate integration with Public Transport Facilities	SO6.To avoid significant environmental impacts and, where this is not possible, to minimise the environmental effect on:	
	See notes below		i	ii	iii	iv	v	vi	i	ii	iii	i	ii			Covered under STAG	
	D+	D+ 01											N/A*				
		D+02															
	D	D01															
		D02															
		D03															
	B	BN01															
		BN+ 01															
	C	CN01															
		CN02															
		CN03															
	C	CS01															
		CS02															
	B	BS01															
		OLN															
		OLC															
		OLI															
	B	OLS															

SO1 i Reduced journey time; ii Improved journey time reliability; iii Increased overtaking opportunities; iv Improved efficiency of freight movements along the transport corridor; v Reduced conflicts between local traffic and strategic journeys; vi Improved network resilience

SO2 i Reduced accident rates and severity; ii Reduced driver stress; iii Reduced potential conflicts between Motorised and Non-Motorised Users

SO3 i Improved access to the wider strategic transport network; ii Enhanced access to jobs and services. (*Scoped out at this stage due to insufficient detail available - Catchment analysis not considered until CRAM modelling available at Second Fix.)

SO6 i The communities and people in the corridor; ii Natural and cultural heritage assets

4.2 STAG Appraisal

As described in Table 4.2, the STAG appraisal was undertaken under defined criteria and sub criteria.

The pre-workshop environmental appraisal is contained in Table 4.3 and the feasibility (engineering) appraisal in Table 4.4.

Table 4.3 shows that, of all the environmental sub criteria, landscape and visual will be most impacted upon. Corridor Option OLC is the poorest performing Corridor Option from an environmental perspective with the highest number of Major Adverse (red) Impacts identified. Table 4.4 shows that Corridor Option CS01 was poorer performing from an engineering perspective. Further analysis of these results is contained in Section 5.

Table 4.2 - STAG Criteria applied to the Corridor Option Appraisal

STAG Criteria	**STAG Sub-criteria**	**Duplication between Scheme Objectives and STAG Criteria**
1. ENVIRONMENT	- Air quality - Noise and vibration - People & communities - Policies and plans - Materials - Cultural heritage - Landscape and visual - Nature conservation - Geology, Soils & Contaminated Land and Groundwater - Road Drainage and the Water Environment	SO6 is to avoid significant environmental impacts and, where this is not possible, to minimise the environmental effect on the communities and people in the corridor and the natural and cultural heritage assets. This objective is duplicated in the STAG criteria. For avoidance of double counting, it will only be considered under the Environmental STAG criteria.
2. SAFETY	- Accidents - Security	The accidents STAG sub- criterion is duplicated under SO2 - to improve safety for motorised and Non- Motorised Users through reduced accident rates and severity. For avoidance of double counting, accidents will only be considered under SO2.
3. ECONOMY	- Transport Economic Efficiency (TEE) - Wider Impacts	Qualitative assessment of TEE will be considered under SO1. Wider impacts will not be considered until appraisal of Second Fix end-to-end alignment options.

STAG Criteria	STAG Sub-criteria	Duplication between Scheme Objectives and STAG Criteria
4. INTEGRATION	- Transport Integration - Transport and Land-use Integration - Policy Integration	Transport Integration will be considered under SO5.
5. ACCESSIBILITY & SOCIAL INCLUSION	- Community accessibility to services and public transport - Comparative accessibility by people group and location	None
6. FEASIBILITY	- Alignment & Buildability - Geotechnical - Flood Risk, Flood Plain, River Crossings, River Morphology and Catchment Drainage - Structures - Utilities	None
7. AFFORDABILITY	- Qualitative assessment of cost including commentary on abnormals	None
8. PUBLIC ACCEPTABILITY	- Likely response to option based on feedback from public and stakeholder consultation	None

Table 4.3 - Corridor Option Pre-Workshop Appraisal against STAG Environmental Criteria

	Corridor Areas	Corridor Option	STAG Environmental Sub Criteria									
			Air Quality	**Noise and Vibration**	**People & Communities**	**Materials**	**Policies & Plans**	**Cultural Heritage**	**Landscape & Visual**	**Nature Conservation**	**Geology, Soils, Contaminated Land and Groundwater**	**Road Drainage and the Water Environment**
						N/A*						
	D+	D+ 01										
		D+02										
	D	D01										
		D02										
		D03										
	B	BN01										
		BN+ 01										
	C	CN01										
		CN02										
		CN03										
	C	CS01										
		CS02										
	B	BS01										
	B	OLN										
		OLC										
		OLI										
		OLS										

* Materials sub criteria scoped out at this early stage of appraisal since there is insufficient detail to undertake a materials assessment.

Table 4.4 - Corridor Option Pre-Workshop Appraisal against remaining STAG Criteria including Feasibility (Engineering)

	Corridor Areas	Corridor Option	STAG Criteria										
			Safety	Economy	Integration	Accessibility & Social Inclusion	Feasibility (Engineering) Sub Criteria					Affordability	Public Acceptability
							Alignment & Buildability	Geotechnical	Flooding and Drainage	Structures	Utilities		
			N/A*										
	D+	D+ 01											
		D+02											
	D	D01											
		D02											
		D03											
	B	BN01											
		BN+ 01											
	C	CN01											
		CN02											
		CN03											
	C	CS01											
		CS02											
	B	BS01											
	B	OLN											
		OLC											
		OLI											
		OLS											

* Safety covered under S02

5 Workshop Outcomes

5.1 Appraisal Outcomes

It was generally accepted that the Corridor Options would achieve the Scheme Objectives, with the exception of SO6 which is the environmental objective which was appraised under the STAG sub criteria. It is too early to conclude the full extent of the environmental impacts but the following sections focus on the feasibility (engineering) and environmental appraisal discussions for each Corridor Option. No traffic modelling was carried out but qualitative comments relating to the traffic and economic assessment are noted. The Post-Workshop Appraisals are contained in Table 5.1,Table 5.2 and Table 5.3. The full commentary on each Corridor Options on which the appraisal is based is contained in Appendix G.

5.1.1 Corridor Options D+01 and D+02

Engineering

- **Alignment & Buildability** – compliant alignments possible within D+01 but extensive earthworks or tunnels required to achieve this. There is a ridge that runs across the extent of Corridor Area D+ that would create large cuttings or embankments. The earthworks associated with crossing the ridge results in D+01 scoring a Major Adverse (red) Impact in the engineering assessment.
- **Geotechnical**–Both D+ options have areas of peat, shallow rock and compressible material. There is also an area of sands and gravels which may allow material to be borrowed. There may be issues associated with slope stability due to the steep slopes within the Corridor Area D+.
- **Flooding and Drainage** – D+01 is generally slightly lower than the existing A96 and there are no major flooding issues on either D+ options.
- **Structures** – very large structures are not envisaged for alignments within D+01 and D+02 but structures may have to replace large earthworks.
- **Utilities** – No major issues.

Environment

- **Air Quality/Noise & Vibration/People & Communities** – There are a small number of receptors impacted by any D+ Corridor Options since this is a sparsely populated area.
- **Policies & Plans/Cultural Heritage** – No major issues. There is one Scheduled Monument and one B listed building within the Corridor Options.
- **Landscape & Visual**– Crossing the two ridges in the north of D+01 Corridor will potentially result in a large landscape and visual impact due to the potential for the option to dissect ridges and valleys and change view composition.
- **Nature Conservation/ Road Drainage & the Water Environment** – Areas of native woodland, ancient woodland and areas of Scotland's national forest along with two small water bodies are all located within the D+01 and D+02 Corridor Options.
- **Geology, Soils, Contaminated Land & Groundwater** – Localised areas of peat, compressible soils along with made ground in both D+ Corridor Options.

Traffic & Economic

- **Operation of the A96 and inter-urban connectivity/growth of regional economy** – Both D+ Corridor Options offer opportunity to address poor journey time reliability and improve journey times between Huntly and Colpy for both freight and non-freight journeys. There is also potential to improve access to settlements/employment areas and encourage economic growth. Low population and settlement density may allow for minimal junction provision with local access provided via collector roads which will reduce conflicts between local and strategic traffic. (The Junction Strategy is still to be developed).
- **Safety** – Potential to address the higher than national average accident rate with a high severity ratio on the existing section between Huntly and Colpy through the provision of new dual carriageway. There is one accident cluster site at Bainshole Bends.
- **Active travel/accessibility** – No core paths or cycle routes identified in these Corridor Options.
- **Integration with public transport /policy**- Broadly aligns with local, regional and national transport policy. No significant change in integration with public transport provision.
- **Public Acceptability** – The D+ Corridor Areas were not included in previous consultations. Some members of the public who attended the Meet the Team event suggested looking to the north of existing A96 to address concerns over winter resilience at Glens of Foudland, hence their inclusion.

5.1.2 Corridor Options D01, D02 and D03

Engineering

- **Alignment & Buildability** – All Corridors Options D01, D02 and D03 allow connections to Corridor Options D+01 and OLN at Colpy. Compliant alignments are possible. There is also the potential to use the existing A920 within D03 and all three Corridor Options can connect into a northern Inverurie bypass.
- **Geotechnical** – Corridor Option D03 has the most peat (based on the BGS geological map review) of any of the corridors within the study area. There is potential for more peat to be present across the site due to the areas identified as compressible alluvial deposits, and the desk based geotechnical review to-date is based on surface geology only.
- **Flooding and Drainage** – Notable areas of active flood plain are present within all three Corridor Options.
- **Structures** – There are a number of local roads and watercourse crossings which would require bridge structures but no major structures are anticipated at this time.
- **Utilities** – The Corridor Options are constrained by the existing electricity pylons. Corridor Option D03 contains National Grid gas pipelines. All of the D Corridor Options have been appraised as having an Adverse Impact from a utilities point of view.

Environment

- **Air Quality/Noise & Vibration/People & Communities** – Within Corridor Option D02 there are Major Adverse Impacts for air quality and noise due to the proximity of settlements (Daviot, Kirkton of Rayne and Meikle Wartle) with their associated community

facilities. There are extensive areas of prime agricultural land within all the D Corridor Options.

- **Policies & Plans** – No major issues.
- **Cultural Heritage** – Corridors D02 and D03 include a number of Scheduled Monuments and listed buildings which have settings that are vulnerable to change. There are eleven Scheduled Monuments, one A listed building, eleven B listed buildings, one property in care and one Garden and Designed Landscape within the three D Corridor Options.
- **Landscape & Visual** – There is high quality landscape within Corridor Options D02 and D03, particularly at Daviot, which has a high sensitivity due to its setting.
- **Nature Conservation/ Road Drainage & the Water Environment** – Corridor Option D03 has a Major Adverse Impact for ecology due to the biological SSSI at Wartle Moss.
- **Geology, Soils, Contaminated Land & Groundwater** – Some localised areas of peat.

Traffic & Economic

- **Operation of the A96 and inter-urban connectivity/growth of regional economy** – All D Corridor Options have the potential to reduce journey times and improve journey time reliability for both freight and non-freight journeys which will improve access to settlements/employment areas and encourage economic growth. Rationalisation of junctions and accesses will reduce conflict between strategic and local traffic.
- **Safety** – The Pitcaple to Colpy section of the A96 has higher than regional accident rate but lower than national accident rate. There is an opportunity to improve safety for road-users and address two accident cluster sites at 'Pitcaple bends' and 'A96/Chapel of Garioch junction'.
- **Active travel/accessibility** – Core path network and cycle route are present in all Corridor Options. It is assumed that local roads will be crossed using underbridge/overbridges to maintain connectivity and suitable provision will be made to accommodate safe use of core paths. Routes through D Corridor Options may be less attractive to settlements to the south of the existing A96 but would provide greater access for communities to the north.
- **Integration with public transport /policy** – Broadly aligns with local, regional and national transport policy. D03 has potential to make use of existing A920.
- **Public Acceptability** – There is likely to be some concern over loss of agricultural land and impact on cultural heritage sites. D03 may be considered more favourable because it follows the existing A920 corridor.

5.1.3 Corridor Option BN01 (Inverurie North)

Engineering

- **Alignment & Buildability** – The topography within Corridor Option BN01 is not as challenging as the more northern Corridor Options so compliant alignments are possible. Corridor Option BN01 would allow junctions to be located to the west and east of Inverurie with another junction at Oldmeldrum.
- **Geotechnical** – The main constraints include rock at shallow depths and soft alluvial deposits centred around the watercourses.

- **Flooding and Drainage** – There are three main areas of active floodplain in the Corridor Option. Crossing the floodplain areas associated with the Lochter Burn and the River Don in BN01 is unavoidable but it is considered that there are alignment options which could minimise this.
- **Structures** – Three major structures are required within Corridor Option BN01 to cross watercourses. A large viaduct structure would be required to cross the River Don, its associated floodplain and the railway.
- **Utilities** – There is a gas pipeline crossing the Corridor Option at the north end of the Corridor Option and two more in the south. There is likely to be a significant cost associated with replacing sections of pipeline should this be required.

Environment

- **Air Quality/Noise & Vibration/People & Communities** – This is a relatively extensive Corridor Option with mostly dispersed receptors and few communities.
- **Policies & Plans/Cultural Heritage** – The BN01 Corridor Option aligns well with the Aberdeenshire Local Development Plan (LDP). There are two Scheduled Monuments, two A listed buildings and two B listed buildings in the Corridor Option.
- **Landscape & Visual** – Major Adverse Impacts noted on high quality landscape in the north part of the Corridor Option near Whiteford.
- **Nature Conservation/ Road Drainage & the Water Environment** – Areas of native woodland, ancient woodland and areas of Scotland's national forest along with three small water bodies and one more major watercourse (River Don) are all recorded within BN01 Corridor Option.
- **Geology, Soils, Contaminated Land & Groundwater** – Some compressible soils and localised areas of made ground.

Traffic & Economic

- **Operation of the A96 and inter-urban connectivity/growth of regional economy** – Corridor Option BN01 has potential to relieve congestion in Inverurie and significantly improve journey times and journey time reliability for all road users. There is potential to provide a junction to the north of Inverurie which could improve access to the existing and proposed development areas to the north of the town. A northern bypass of Inverurie would be expected to reduce the need for strategic traffic to travel through the town and offers opportunity to avoid height restriction at Upperboat O/B (5.32m) on existing A96.
- **Safety** – The existing A96 has lower than regional and national accident rate. There is opportunity to improve safety for road-users and address two accident cluster sites at 'A96/C120C Drimmies junction' and Blackhall Roundabout.
- **Active travel/accessibility** – No core paths were identified but Oldmeldrum to Old Rayne cycle route passes through this Corridor Option using local road network.
- **Integration with public transport /policy** – BN01 Corridor Option broadly aligns with local, regional and national transport policy. There is potential to contribute to the Aberdeenshire Council aspiration to reduce congestion in Inverurie and provide an eastern bypass of the town.
- **Public Acceptability** – There is likely to be public and stakeholder support for a bypass between Inverurie and Oldmeldrum to reduce the need for traffic from the north to travel

through the town to access A96. There may be some concern over loss of agricultural land and impact on cultural heritage sites.

5.1.4 Corridor Option BN+01

Engineering

- **Alignment & Buildability** – BN+01 Corridor Option would enable an Inverurie North bypass but would remove the need for grade separating the existing junctions at Kintore and Port Elphinstone since a new dual carriageway would replace the existing section of dualling between Kintore to Port Elphinstone.
- **Geotechnical** – BN+01 contains a large area of shallow rock and extensive alluvial compressible deposits.
- **Flooding and Drainage** – There are two main areas of active floodplain in BN+01 Corridor Option. The main area at the River Don is 4.5km long and 1km wide in places.
- **Structures** – A large structure would be required to cross the River Don and its associated floodplain and a rail crossing would also be required.
- **Utilities** – SSE transmission lines and national grid gas pipelines are present in BN+01 Corridor Option.

Environment

- **Air Quality/Noise & Vibration/People & Communities** – There are a small number of receptors impacted by BN+01 Corridor Option.
- **Policies & Plans/Cultural Heritage** – There is a large Scheduled Monument within the middle of the Corridor Option, along with nine others scattered throughout and Balbithan House Garden and Designed Landscape (GDL).
- **Landscape & Visual** – A new River Don crossing would potentially have a large landscape and visual impact due to the scale of structure required.
- **Nature Conservation/ Road Drainage & the Water Environment** – The River Don crossing is unavoidable and the risk of impact to hydrological receptors is high. The density of the channel network is likely to mean that crossings of smaller tributaries is also required leading to cumulative impact on hydrological system. The level floodplain of the River Don which contrasts with the surrounding rising and undulating topography is sensitive to change.
- **Geology, Soils, Contaminated Land & Groundwater** – Some compressible soils and localised areas of made ground.

Traffic & Economic

- **Operation of the A96 and inter-urban connectivity/growth of regional economy** – Corridor Option BN+01 has potential to provide a link to a northern bypass of Inverurie, avoiding the need to interact with local traffic at Port Elphinstone which will improve journey times and journey time reliability. The existing A96 is dual carriageway therefore BN+01 offers no improvement in overtaking opportunity. There is potential to avoid existing high-load height restrictions on the existing A96 at Kemnay Road O/B , Dunecht Road , Forest Road O/B and allows avoidance of Upperboat O/B.

- **Safety** – There is an opportunity to improve safety for road-users and address an accident cluster site at Port Elphinstone roundabout.
- **Active travel/accessibility** – Two core paths were identified in this Corridor Option. The existing A96 has partial footway/cycleway alongside the dual carriageway to serve bus stops. Lower traffic flows on the de-trunked A96 may encourage increased use of existing facilities.
- **Integration with public transport /policy** – Broadly aligns with local, regional and national transport policy. There is a potential to contribute to the Aberdeenshire Council aspiration to reduce congestion in Inverurie and provide an eastern bypass of the town.
- **Public Acceptability** – This Corridor Option was not included in previous consultation. There is a potential for public and stakeholder support for link to BN01 Corridor Option, but there may be some concern over loss of agricultural land and impact on cultural heritage sites.

5.1.5 Corridor Options CN01, CN02 and CN03

Engineering

- **Alignment & Buildability** – The route of Corridor Option CN01 generally follows the Aberdeen to Inverness railway line. CN01 is generally around the same elevation as the existing A96.There are numerous topographical constraints. The main constraints in Corridor Options CN02 and CN03 are topography and existing settlements. The level of CN02 is generally higher than the existing A96. Corridor Option CN02 could tie into the existing A96 at the scheme extent rather than Corridor Option CN01 which would need to tie in closer to Huntly. It should be noted that the southern boundary of CN01 Corridor Option is not dictated by the Special Landscape Area (SLA) but by topography at Bennachie.
- **Geotechnical** – Shallow rock and potentially compressible material is present in all of the CN Corridor Options.
- **Flooding and Drainage** – There is a large area of floodplain approximately 100m wide near Insch golf club which would need to be crossed with the CN02 Corridor Option. Both the CN02 and CN03 Corridor Options impact on the floodplain and have a number of watercourse crossings.
- **Structures** – Structures would potentially be required for crossings of the River Bogie and the railway for Corridor Option CN01. The CN01 Corridor Option would have the largest crossing at the River Don. Corridor Option CN02 would require a high number of structures and CN03 Corridor Option was neutral in terms of the number of structures required.
- **Utilities** – All C North Corridor Options have an Adverse Impact with regards to utilities as there is an SSE substation and SSE transmission lines at the northern end. However, it is possible that impacts can be mitigated through more detailed road alignment design. A small diameter SGN gas pipe is identified to be within the CN03 Corridor Option.

Environment

- **Air Quality/Noise & Vibration/People & Communities** – Air quality and noise Major Adverse Impacts were identified in Corridor Option CN03 due to the settlements of Insch and Oyne with associated schools and community facilities.

- **Policies & Plans/Cultural Heritage** – There are seven Scheduled Monuments within Corridor Option CN01 some of which have settings that are vulnerable to change. Leith Hall GDL is also a major constraint since it is also a listed building. There are six Scheduled Monuments, one B listed building and one property in care in Corridor Option CN02, whilst in Corridor Option CN03 there are seven Scheduled Monuments and five B listed buildings.
- **Landscape & Visual** – Corridor Option CN01 goes through Strathbogie where there would potentially be a large landscape and visual impact. Corridor Option CN01 is considered to have a Major Adverse Impact due to the pinch point at Leith Hall which will restrict alignment options to an area with topographical constraints.
- **Nature Conservation/ Road Drainage & the Water Environment** – There is ancient woodland, woodland and SSSI to the south of the CN01 boundary at Leith Hall. Crossing several water bodies and impacting their associated floodplains is unavoidable for Corridor Options CN02 and CN03. There is a moderate risk of impact to hydrological receptors given the size and density of channel network.
- **Geology, Soils, Contaminated Land & Groundwater** – Some shallow rock and compressible soils present.

Traffic & Economic

- **Operation of the A96 and inter-urban connectivity/growth of regional economy** – CN Corridor Options offer opportunity to address poor journey time reliability and improve journey times between Huntly and Oyne for both freight and non-freight journeys. There is potential to improve access to settlements/employment areas to the south of the existing A96 (e.g. Insch and Oyne) and encourage economic growth. Rationalisation of junctions and accesses will reduce conflict between strategic and local traffic.
- **Safety** – There is potential to address the higher than national average accident rate with a high severity ratio on the existing section of A96 between Huntly and Colpy and an accident cluster site at Bainshole Bends. Corridor Option CN01 offers potential for passing through lower ground which may improve safety during winter months.
- **Active travel/accessibility** – There are core paths present in all Corridor Options. Potential for more direct access to trunk road network from Insch and Oyne.
- **Integration with public transport /policy** – Broadly aligns with local, regional and national transport policy. All Corridor Options align well with the Inverness to Aberdeen Rail Improvement proposals since they are closer to Insch Railway Station.
- **Public Acceptability** – The proximity of Corridor Options CN01 and CN02 to Bennachie makes it likely that the southern end of these options may be unacceptable to large numbers of people. There are potential impacts on properties and agricultural land in all Corridor Options.

5.1.6 Corridor Options CS01 and CS02

Engineering

- **Alignment & Buildability** – There are potential alignments through Corridor Option CS02 where compliant geometry can be achieved. Corridor Option CS01 is bounded by identified HIAs but provides another option for an alternative route to Corridor CS02.

- **Geotechnical** – There are significant areas of shallow rock within both Corridors. Corridor Option CS02 has more areas of potential made ground, than some other corridors (as identified from a review of the BGS geological mapping). There are two large quarries noted within Corridor Option CS02.
- **Flooding and Drainage** – within Corridor Option CS02 there are large areas of active flood plain associated with the River Don, which runs the full width of the Corridor Option and would be unavoidable. However, given a bridge would be necessary to cross the river the impact is likely to be minimal. No major flooding has been identified within the Corridor Option. There are other areas of floodplain identified with various burns, however, it is likely that these can be avoided. There have been no major issues associated with flooding in Corridor Option CS01.
- **Structures** – In Corridor Option CS02 structures would be required for crossings of the River Don and Utilities. There are likely to be fewer structures within Corridor Option CS01.
- **Utilities** – Both Corridor Options CS01 and CS02 have a number of utility constraints including Kintore substation and electricity transmission lines. There is also a National Grid high pressure pipeline and smaller SGN gas pipelines within the Corridor Options.

Environment

- **Air Quality/Noise & Vibration/People & Communities** – Both CS01 and CS02 Corridor Options are sparsely populated. Due to the corridor extent CS01 has a bigger impact.
- **Policies & Plans/Cultural Heritage** – There are three Scheduled Monuments within both CS01 and CS02 Corridor Options. Neither Corridor Option has any Category A Listed Buildings, GDLs or Historic Battlefields. There are no LDP land allocations within either the CS01 or CS02 Corridor Options.
- **Landscape & Visual** – Both CS01 and CS02 Corridor Options lie within the Bennachie Special Landscape Area (SLA) which is very sensitive to change.
- **Nature Conservation/ Road Drainage & the Water Environment** – Both CS01 and CS02 Corridor Options have extensive areas of native, anthropogenic and ancient woodland and areas of Scotland's national forest. Crossing of the River Don and Burnhervie Burn is unavoidable in both corridors. Risk of impact to hydrological receptors is low to moderate.
- **Geology, Soils, Contaminated Land & Groundwater** – Some shallow rock and areas of peat (more so in Corridor Option CS01) are present. The Pittodrie SSSI is present within Corridor Option CS02.

Traffic & Economic

- **Operation of the A96 and inter-urban connectivity/growth of regional economy** – Corridor Option CS02 offers a more direct route between Kintore and Oyne than the existing A96 and has potential to significantly improve journey times and journey time reliability for strategic journeys. However, both Corridor Options are remote from main population centres and are unlikely to attract traffic from Inverurie or further north and therefore interaction between local and strategic traffic in the town is likely to remain.
- **Safety – T**he existing A96 section has a lower than national average accident rate. There are opportunities to improve safety for road-users and address six accident cluster sites.

- **Active travel/accessibility** – Core paths and Great Inverurie Cycle Route are present in both Corridor Options.
- **Integration with public transport /policy** – Broadly aligns with local, regional and national transport policy. Does not improve access to existing public transport facilities in Kintore or Inverurie.
- **Public Acceptability** – The proximity to Bennachie and potential impact on the setting of the hill makes it likely that these Corridor Options may be highly unacceptable to large numbers of people. There is a potential for a perception that these Corridor Options will not relieve traffic congestion in Inverurie town centre and on the B9170 between Inverurie and Oldmeldrum.

5.1.7 Corridor Option BS01 (Inverurie South)

Engineering

- **Alignment & Buildability** –The Corridor Option is constrained by some hilly topography, the River Don and LDP land. There are significant constraints at the Port Elphinstone/Thainstone areas within the online Corridor Option which limit potential connections to a southern bypass of Inverurie (BS01). However, there are numerous options to tie into the existing A96 west of Inverurie.
- **Geotechnical** – There are significant areas of shallow rock and localised areas of peat and potentially compressible soils within the Corridor Option.
- **Flooding and Drainage** – The River Don crosses the Corridor Option in its entirety and consequently the water course and its associated flood plain are unavoidable. Whilst a bridge structure would be necessary to cross the River Don, the associated impact from flooding would be difficult to minimise due to the shape of the watercourse and floodplain, resulting in a potentially large structure.
- **Structures** – A structure across the River Don is required. The watercourses associated floodplains are likely to increase the overall structure length. There are likely to be an additional 4-5 minor road crossings.
- **Utilities** – SSE overhead transmission lines, National Gird high pressure gas pipeline, above ground gas installation, and SGN infrastructure all present within the Corridor Option.

Environment

- **Air Quality/Noise & Vibration/People & Communities** – Corridor Option BS01 has a small number of dispersed receptors.
- **Policies & Plans/Cultural Heritage** – There are two LDP housing land allocations and three small areas of LDP protection green space within BS01 Corridor Option. There are four Scheduled Monuments and the views towards them are considered to be particularly vulnerable. There is one Category A Listed Building and six Category B Listed buildings within the Corridor Option.
- **Landscape & Visual** – The majority of the Corridor Option lies within the Bennachie SLA. The corridor comprises undulating farmland and wooded hills with very limited capacity to absorb a dual carriageway.

- **Nature Conservation/ Road Drainage & the Water Environment** –BS01 Corridor Option has extensive areas of native, anthropogenic, and ancient woodland and areas of Scotland's National Forest. The River Don bisects the Corridor Option (west-east), with a crossing required. Risk of impact to hydrological receptors is low to moderate.
- **Geology, Soils, Contaminated Land & Groundwater** – Extensive areas of shallow rock are present. There is a large quarry within the BS01 Corridor Option which would need to be avoided with any alignment options.

Traffic & Economic

- **Operation of the A96 and inter-urban connectivity/growth of regional economy** –A southern bypass is unlikely to attract traffic from Inverurie or further north and therefore interaction between local and strategic traffic in the town is likely to remain. This Corridor Option offers opportunity to avoid high-load height restriction at Upperboat O/B on existing A96.
- **Safety** – The existing A96 has lower than national average accident rate in this area. There is an opportunity to improve safety for road-users and address three accident cluster sites at 'A96/C120C Drimmies junction', 'Blackhall Roundabout' and 'Port Elphinstone Roundabout'.
- **Active travel/accessibility** – Four core paths and the 'Great Inverurie Cycle' route pass through the Corridor Option. Offline options will reduce the level of traffic on the existing A96 through Inverurie, potentially making this more attractive to cyclists and walkers within the town.
- **Integration with public transport /policy** – Broadly aligns with local, regional and national transport policy. It was noted that BS01 is highly constrained at Thainstone, due to existing development, allocated LDP land and steep topography and, although Aberdeenshire Council have planning requirements to grade separate this junction as part of future development proposals, no detailed design options have been developed to date. There is no significant change in integration with public transport provision anticipated.
- **Public Acceptability** – There is a potential impact on the setting of Bennachie which could make this option unacceptable to some.

5.1.8 Corridor Option OLN (Online North)

Engineering

- **Alignment & Buildability** – Compliant alignments are possible within this Corridor Option. The corridor is extremely constrained by the existing topography including Cairn Hill, Hill of Dummuies, Broom Hill, Saddle Hill, the Glens of Foudland, the Hill of Skares and Hill of Tillymorgan, classified as High Impact Constraints. The eastern end of the Corridor Option is constrained by the Williamston House GDL. Significant quantities of earthworks are expected especially at the eastern end of the Corridor Option.
- **Geotechnical** – Extensive areas of steep sided slopes and high ground identified which have potential for substantial cuttings and embankments**.** Localised areas of shallow rock and compressible alluvial deposits identified.

- **Flooding and Drainage** – Small areas of active flood plain associated with the River Urie and its tributaries and confluences all along this Corridor Option. There are no major flooding issues recorded.
- **Structures** – A structure required to cross the River Urie. No other major structures are anticipated.
- **Utilities** – There are windfarms to the north and the south of the existing A96 within this Corridor Option. There is a SSE overhead transmission line and an SGN pipeline.

Environmental

- **Air Quality/Noise & Vibration/People & Communities** – This is a relatively extensive Corridor Option with mostly dispersed residential receptors with only one small community near Colpy. The population density is relatively low and therefore this Corridor Option is considered to have low potential impacts.
- **Policies & Plans/Cultural Heritage** – There are no LDP land allocations in this Corridor Option. There are two Scheduled Monuments and one Category A Listed Building. The Corridor Option intersects with Williamston House GDL.
- **Landscape & Visual** – There are a number of areas identified as high sensitivity landscape. The steep valley sides are sensitive to visual change with the introduction of a dual carriageway.
- **Nature Conservation/ Road Drainage & the Water Environment** – The Corridor Option is located within a Wildcat Priority Area. Crossing of the River Urie is unavoidable with multiple crossings likely.
- **Geology, Soils, Contaminated Land & Groundwater** – Localised areas of shallow rock and compressible alluvial deposits identified.

Traffic & Economic

- **Operation of the A96 and inter-urban connectivity/growth of regional economy** – Corridor Option OLN offers opportunity to address poor journey time reliability and improve journey times between Huntly and Colpy for both freight and non-freight journeys. There is potential to improve access to settlements/employment areas and encourage economic growth.
- **Safety** – There is potential to address the higher than national average accident rate with a high severity ratio on the existing section between Huntly and Colpy through the provision of new dual carriageway. There is one accident cluster site at Bainshole Bends.
- **Active travel/accessibility** – No core paths or cycle routes have been identified in the corridor area.
- Integration with public transport /policy – Broadly aligns with local, regional and national transport policy. No significant change in integration with public transport provision is anticipated. There is potential to make use of existing A96 carriageway.
- Public Acceptability – There is perceived poor reliability on this section during winter months which may/may not be addressed by an online option. There is potential support for an online option because of the perception it will be less environmentally intrusive and less costly is anticipated.

5.1.9 Corridor Option OLC (Online Central)

Engineering

- **Alignment & Buildability** – Compliant alignments are possible within this Corridor Option. The current geometry of the existing A96 is not compliant to allow online dualling so offline options will be explored within the existing corridor, with potential for online widening where geometry and topography permits. Alignments within this Corridor Option will be influenced by Williamston House and Newton House GDLs, existing steep topography at Fallow Hill and Pitmachie and the Aberdeen to Inverness Railway which is parallel to the existing road from Oyne Cross to Milton of Inveramsay. Alignments will also be influenced by settlements of Pitmachie, Old Rayne, Whiteford and Pitcaple.
- **Geotechnical** – Moderate areas of shallow rock and compressible alluvial deposit identified.
- **Flooding and Drainage** – Large areas of active flood plain associated with the Rive Urie and its tributaries along this Corridor Option including Burn of Durno, Gadie Burn, Bonnyton Burn, the Shevock and the Kellock.
- **Structures** – Structures will be required to cross the railway line, two B-class roads, the River Urie and several other minor watercourses. These structures are unlikely to be complex or particularly large.
- **Utilities** – There are SSE overhead lines and two high pressure SGN pipelines in the Corridor Option.

Environmental

- **Air Quality/Noise & Vibration/People & Communities** – OLC Corridor Option has a relatively high population density including the communities of Pitcaple, Old Rayne and Colpy along the existing A96 and several other settlements. Potential impacts on the communities are considered to be significant.
- **Policies & Plans/Cultural Heritage** – LDP land allocations at Old Rayne and two areas of LDP protected open space. There is a small amount of LDP land allocated as protected amenity space at Pitcaple. There are seven Scheduled Monuments, four Category A Listed Buildings, ten Category B Listed Buildings and one Property in Care within the Corridor Option. The Corridor Option intersects one Inventory Historic Battlefield and two Inventory Garden and Designed Landscapes.
- **Landscape & Visual** – There are a number of areas identified as high sensitivity landscape and one SLA present within the Corridor Option.
- **Nature Conservation/ Road Drainage & the Water Environment** – An extensive network of watercourses including the River Urie, the Kellock, Shevock Burn, Bonnyton Burn, Gadie Burn and Burn of Durno with potential impacts on those hydrological receptors. There is a large total area at risk of fluvial flooding within the Corridor Option.
- **Geology, Soils, Contaminated Land & Groundwater** – Two SSSI sites (Pitcaple and Legatesden Quarries) located in the Corridor Option.

Traffic & Economic

- **Operation of the A96 and inter-urban connectivity/growth of regional economy** – Corridor Option OLC has the potential to reduce journey times and improve journey time reliability for both freight and non-freight journeys which will improve access to

settlements/employment areas and encourage economic growth. Rationalisation of junctions and accesses will reduce conflict between strategic and local traffic.

- **Safety** – This section of A96 has higher than regional accident rate but lower than national accident rate. There is opportunity to improve safety for road-users and address two accident cluster sites at 'Pitcaple bends' and 'A96/Chapel of Garioch junction'.
- **Active travel/accessibility** – The core path network and cycle routes are present in Corridor Option. There is potential to improve connections between existing path networks along and across the trunk road.
- **Integration with public transport /policy** – Broadly aligns with local, regional and national transport policy. There is potential to make use of existing A96 carriageway.
- **Public Acceptability** – There is potential support for online option because of the perception it will be less environmentally intrusive and less costly.

5.1.10 Corridor Option OLI (Online through Inverurie)

Engineering

- **Alignment & Buildability** – This section is extremely constrained. The main constraint is associated with the settlement boundary of Inverurie and Port Elphinstone and therefore the Corridor Option considers online widening of the existing road only. The provision of a new grade separated junction at Blackhall is deemed to be very challenging.
- **Geotechnical** – Moderate areas of shallow rock and localised areas of compressible deposit identified.
- **Flooding and Drainage** – Two areas of active flood plain identified within the Corridor Option associated with the River Don and the River Urie. The flood plain covers the full width of the Corridor Option so it would not be possible to avoid.
- **Structures** – A new crossing of the River Don would be required and provisions made to accommodate a dual carriageway at Upperboat overbridge. It is expected that the other structures could be adopted and readily extended**.**
- **Utilities** – There are SSE transmission lines, National Grid pipeline and SGN infrastructure within the OLI Corridor Option.

Environmental

- **Air Quality/Noise & Vibration/People & Communities** – The Corridor Option contains the most residential receptors and the highest population density of all Corridor Options. There are also multiple non-residential receptors throughout the Corridor Option. Potential impacts on the receptors in the Corridor Option are considered to be significant.
- **Policies & Plans/Cultural Heritage** – Significant LDP allocations exist at Inverurie/Port Elphinstone. There are a number of Aberdeenshire LDP allocations along the western edge of Inverurie/Port Elphinstone. There are eight Scheduled Monuments, 21 Category B Listed Buildings and one Property in Care within the Corridor Option. The Corridor Option intersects one Inventory Historic Battlefield and one Inventory Garden and Designed Landscape-Keith Hall.

- **Landscape & Visual** – Bennachie SLA present within the Corridor Option.
- **Nature Conservation/ Road Drainage & the Water Environment** – The risk of impact to hydrological receptors is likely to range from Adverse to Major Adverse depending on route alignment. Watercourse crossings are unavoidable but there is sufficient room within the Corridor Option to limit crossings and associated impact on the floodplain.
- **Geology, Soils, Contaminated Land & Groundwater –** Moderate areas of shallow rock and localised areas of compressible alluvial deposit identified.

Traffic & Economic

- **Operation of the A96 and inter-urban connectivity/growth of regional economy** – OLI requires the upgrading of existing junctions at Port Elphinstone and Blackhall Roundabout to achieve a Category 7A dual carriageway, which has potential to relieve congestion in Inverurie and improve journey times and journey time reliability for all road users. However, it does not address strategic traffic from north routing through Inverurie to access A96. Existing height restriction at Upperboat O/B on existing A96 would prevent use as high load road without intervention.
- **Safety** – The existing A96 has a lower than regional and national accident rate. There are opportunities to improve safety for road-users and address two accident cluster sites at 'A96/C120C Drimmies junction' and 'Blackhall Roundabout'.
- **Active travel/accessibility** – There are 13 core paths in the Corridor Option. There is opportunity to improve facilities along and across the trunk road.
- **Integration with public transport /policy** – Broadly aligns with local, regional and national transport policy. Potential to make use of existing A96 carriageway.
- **Public Acceptability** – There may be a perception it will be less environmentally intrusive by following the existing road and less costly although the Corridor Option contains the most residential receptors.

5.1.11 Corridor Option OLS (Online South)

Engineering

- **Alignment & Buildability** – The geometry of the existing dual carriageway has been assessed to identify sub-standard sections for a Category 7A dual carriageway. Compliant alignments are possible to address those sections. Online realignments and localised offline alignments have been considered when developing this Corridor Option but due to settlement constraints at Kintore and Blackburn, any requirements for offline sections are likely to be south of the existing A96.
- **Geotechnical** – Localised areas of shallow rock and moderate areas of compressible alluvial deposit identified.
- **Flooding and Drainage** – Six areas of active flood plain associated with the River Don, Burgh Muir, Torry Burn, Tuach Burn, Sheriff Burn and Black Burn. There has been extensive flooding within this Corridor Option.
- **Structures** – A crossing of the River Don, associated flood plain and a railway North of Kintore may be required resulting in a large structure. There are three low bridges at Kintore which may require structural intervention if the geometry cannot be lowered to

generate the required headroom. The intervention would be a bridge replacement. There are also numerous at grade junctions which require grade separation.

- **Utilities** – There are SSE overhead transmission lines, four National Grid high pressure gas pipelines, SGN high pressure gas pipeline and other strategic utilities crossing the Corridor Option.

Environmental

- **Air Quality/Noise & Vibration/People & Communities** – This Corridor Option has the second highest number of residential receptors of all Corridor Options. There are many sensitive receptors within the Corridor Option including Kintore, Kinellar and Blackburn. The potential impacts are considered to be significant.
- **Policies & Plans/Cultural Heritage** – The section of the existing A96 between Blackburn and the junction with the AWPR is located within LDP designated Green Belt with portions also located within or adjacent to LDP designated Green Space Network and Local Nature Conservation Sites. Further constraints consist of two pipelines, and Pipeline Notification Areas and an area in the very south of the Corridor Option which is subject to Compulsory Purchase associated with the AWPR. Aberdeenshire LDP allocations lie to the north of the existing A96. There are 13Scheduled Monuments, one Category A Listed Building, 13 Category B Listed Buildings and one Property in Care within the Corridor Option.
- **Landscape & Visual** – There is a large landscape and visual impact associated with the Corridor Option due to the hills at Thainstone and the structure required at the River Don crossing where the area has limited capacity to absorb a dual carriageway without substantial change to its character.
- **Nature Conservation/ Road Drainage & the Water Environment** – Crossing of water bodies is unavoidable but impact on hydrological receptors is assessed as low. Large total area at risk of fluvial flooding.
- **Geology, Soils, Contaminated Land & Groundwater** – Localised areas of shallow rock and moderate areas of compressible alluvial deposit identified.

Traffic & Economic

- **Operation of the A96 and inter-urban connectivity/growth of regional economy** – The existing A96 is dual carriageway through this Corridor Option and therefore there is likely to be minimal change in journey times. Existing height restrictions at Kemnay Road O/B, Dunecht Road O/B, Forest Road O/B on existing A96 remain unsuitable for High Load Route without intervention.
- **Safety** – The accident rate on this section is lower than the national average with most accidents associated with junctions. There is opportunity to address five accident cluster sites through junction improvements and closure of gaps in central reservation.
- **Active travel/accessibility** – Core paths are present in this Corridor Option and there are links between Port Elphinstone, Kintore and Blackburn. There is currently no onward connection to Aberdeen. There is an opportunity to improve facilities along and across the trunk road.
- **Integration with public transport /policy** – Broadly aligns with local, regional and national transport policy. There is a potential to utilise existing infrastructure.

- **Public Acceptability** – There is potential support for online option because of the perception it will be less environmentally intrusive, less costly and will make use of existing infrastructure.

5.2 Key Assessment Outcomes

The actions arising from the workshop are outlined in the Workshop minutes in Appendix F.. Some of the key outcomes of the assessment presented at the workshop are discussed below and the overall decisions relating to these outcomes are included in Section 6. Following decisions made at the workshop with respect to Corridor Option sifting, there are some post workshop changes to the Scheme Objectives Appraisal and the STAG Feasibility (Engineering) Appraisal which are reflected in Table 5.1, Table 5.2 and Table 5.3.

5.2.1 Outside SEA boundary

The SEA boundary was established at DMRB Stage 1 and was used as the limit of the Strategic Environmental Assessment at this stage. Constraints outside of this boundary are unlikely to have been considered in any detail by any previous consultant up to this point. The boundary is also a distance of approximately 7.5 km from the existing A96 and so consideration of options outside this study area should be done on a case by case basis and only for reasons that would enable benefits over options inside this study area.

During the workshop, an area west of Leith Hall GDL in Corridor Option CN03, was identified as requiring further investigation.

5.2.2 Connections between Corridor Options

It was highlighted at the workshop that the appraisal had been undertaken within the limits of Corridor Option and did not explicitly consider any potential overlaps or connections between Corridor Options.

5.2.3 Corridor Option CN01 connection at Huntly

It was stated at the workshop that Corridor Option CN01 connection back to the A96 may only be possible if it is to the west of Huntly.

5.2.4 Corridor Options OLI (Online through Inverurie) and OLN (Online North) Buildability

Due to the constraint of the settlement boundary of Inverurie and Port Elphinstone, Corridor Option OLI was considered as an online widening of the existing A96 only. It was noted that the grade separation of the Blackhall Junction roundabout would be extremely challenging and have potentially significant impacts. The decision of the team resulting from discussions in the workshop was that the alignment and buildability assessment for the OLI should be increased to Major Adverse Impact (red) to reflect the challenging nature of online widening through this section (refer to Table 5.3).

The decision of the team resulting from discussions in the workshop was that the alignment and buildability assessment for the online section from east of Huntly to west of Colpy (OLN) should be increased to Major Adverse Impact (red) (refer to Table 5.3) to represent the issues resulting from online construction and the lack of diversion routes over this section from east of Huntly to the A920.

5.2.5 Corridor Options CN01, CN02, CN03 and OLN

Discussion in the workshop regarding the SO1.6 Improved Network Resilience criteria related to the elevation of the proposed Corridor Options and the susceptibility to snow closures of any potential route within these Corridor Options. The appraisal initially assigned a neutral (blue) impact to all of the options excluding Corridor Options D+01 and D+02 because they were deemed to be no worse than the existing A96. It was concluded that, since a number of the Corridor Options route through high exposed ground equivalent to or higher than existing areas 'requiring special attention' such as Glens of Foudland, these Corridor Options should be adjusted to Adverse (amber). Therefore, Corridor Options CN01, and OLN should be increased to Adverse (amber) (refer to Table 5.1) for the Improved Network Resilience Appraisal.

For Corridor Options CN02, CN03, the appraisal should be amended to Major Adverse (red) because the levels are higher for longer (Refer to Table 5.1).

Table 5.1 - Corridor Option Post-Workshop Appraisal against Scheme Objectives

	Corridor Areas	Corridor Option	Scheme Objectives													
			SO1.To improve the operation of A96 and inter-urban connectivity through:						SO2.To improve safety for motorised and Non-Motorised Users through:			SO3.To provide opportunities to grow the regional economies on the corridor through:		SO4.To facilitate active travel in corridor.	SO5.To facilitate integration with Public Transport Facilities	SO6.To avoid significant environmental impacts and, where this is not possible, to minimise the environmental effect on:
	See notes below		i	ii	iii	iv	v	vi	i	ii	iii	i	ii			Covered under STAG
	D+	D+ 01											N/A*			
		D+02														
	D	D01														
		D02														
		D03														
	B	BN01														
		BN+ 01														
	C	CN01														
		CN02														
		CN03														
	C	CS01														
		CS02														
	B	BS01														
	B	OLN														
		OLC														
		OLI														
		OLS														

Resilience appraisal amended as a result of workshop discussions and outcomes (Section 5.2.5)

SO1 i Reduced journey time; ii Improved journey time reliability; iii Increased overtaking opportunities; iv Improved efficiency of freight movements along the transport corridor; v Reduced conflicts between local traffic and strategic journeys; vi Improved network resilience

SO2 i Reduced accident rates and severity; ii Reduced driver stress; iii Reduced potential conflicts between Motorised and Non-Motorised Users

SO3 i Improved access to the wider strategic transport network; ii Enhanced access to jobs and services. (*Scoped out at this stage due to insufficient detail available - Catchment analysis not considered until CRAM modelling available at Second Fix.)

Table 5.2 - Corridor Option Post-Workshop Appraisal against STAG Environmental Criteria

	Corridor Areas	Corridor Option	STAG Environmental Sub Criteria									
			Air Quality	**Noise and Vibration**	**People & Communities**	**Materials**	**Policies & Plans**	**Cultural Heritage**	**Landscape & Visual**	**Nature Conservation**	**Geology, Soils, Contaminated Land and Groundwater**	**Road Drainage and the Water Environment**
						N/A*						
	D+	D+ 01										
		D+02										
	D	D01										
		D02										
		D03										
	B	BN01										
		BN+ 01										
	C	CN01										
		CN02										
		CN03										
	C	CS01										
		CS02										
	B	BS01										
	B	OLN										
		OLC										
		OLI										
		OLS										

* Materials sub criteria scoped out at this early stage of appraisal since there is insufficient detail to undertake a materials assessment.

Table 5.3 - Corridor Option Post-Workshop Appraisal against remaining STAG Criteria including Feasibility (Engineering)

	Corridor Areas	Corridor Option	STAG Criteria										
			Safety	Economy	Integration	Accessibility & Social Inclusion	Feasibility (Engineering) Sub Criteria					Affordability	Public Acceptability
							Alignment & Buildability	Geotechnical	Flooding and Drainage	Structures	Utilities		
			N/A*										
	D+	D+ 01											
		D+02											
	D	D01											
		D02											
		D03											
	B	BN01											
		BN+ 01											
	C	CN01											
		CN02											
		CN03											
	C	CS01											
		CS02											
	B	BS01											
	B	OLN											
		OLC											
		OLI											
		OLS											

Amended appraisal as a result of workshop discussions and outcomes (Section 5.2.4)

* Safety covered under S02

6 Overall Outcomes

Based on the outcomes of the assessment work undertaken, the following decisions were ratified at the Corridor Options Workshop:

- Corridor Option CS01 should be sifted out. Corridor Option CS01 contained Major Adverse Impacts against a number of criteria across disciplines. Furthermore, Corridor Option CS01 is more remote than Corridor Option CS02 and does not provide any additional benefits over the other Corridor Options. The boundary of Corridor Option CS02 could be amended to include a portion of Corridor Option CS01 during the alignment development stage if required.
- All other Corridor Options remain and will be taken forward to the First Fix Alignment development.

Appendix A

Corridor Areas Appraisal

Appendix B

High Impact Constraints and Areas

Appendix C

Constraints Maps

Appendix D

Corridor Options Appraisal - Criteria & Metrics

Appendix E

Workshop Agenda and Presentation Material

Appendix F

Workshop Minutes

Appendix G

Post Workshop Corridor Option Assessment Matrix with Commentary

TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

A96 DUALLING

EAST OF HUNTLY TO ABERDEEN

transport.gov.scot/projects/a96-dualling-inverness-to-aberdeen/a96-east-of-huntly-to-aberdeen