The Scottish Executive, Transport Scotland, Hitrans and Nestrans

Aberdeen to Inverness Transport Corridor Study
STAG Pre-Appraisal
Final Report

April 2007

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Approved RJ Bissland

Date 24 April 2007

Project S100744

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1. INTRODUCTION

1.1 Introduction

The Aberdeen to Inverness transport corridor is of national strategic importance and links the major city of Aberdeen to the strategically significant transport node at the city of Inverness. This corridor is vital in supporting the future growth of the two cities and the various communities within and connected to the transport corridor.

The corridor comprises the A96 trunk road and the Aberdeen to Inverness railway line.

The purpose of this study is to undertake a Pre-Appraisal in accordance with the Scottish Transport Appraisal Guidance (STAG) to identify the problems and opportunities along the corridor, to establish local transport planning objectives that address these problems, and to generate and sift a range of transport improvement options that meet the established transport planning objectives. These options will be considered subsequently as part of the Strategic Transport Projects Review (STPR).

The Scottish Executive, Transport Scotland, Hitrans and Nestrans have established a working group for the study. In May 2006, Scott Wilson was appointed to carry out the study, which is being undertaken under the direction of a Steering Group and in close consultation with key stakeholders.

The general location of the Aberdeen to Inverness transport corridor is shown in Figure 1.1.1.

1.2 Study Limits

The limits of the study are generally from the A90/A96 Haudagain Roundabout in Aberdeen to the A9/A96 Raigmore Interchange in Inverness for the trunk road, and between Aberdeen and Inverness railway stations.

The transport corridor passes through four council areas, namely Highland Council, Moray Council, Aberdeenshire Council and Aberdeen City Council. The boundaries of the four councils are shown in Figure 1.2.1.

The limits of the study area and the routes of the A96 trunk road and the Aberdeen to Inverness railway are shown in Figure 1.2.2. The main built-up areas along the corridor and the populations based on the 2001 census data are shown in Figure 1.2.3.

1.3 Project Aims and Requirements

The **specific aims** of the project are as follows:

- to ensure that all information gathered is both relevant and proportional to providing sufficient and reliable data for use in establishing an adequate understanding of existing transport conditions on all modes using the corridor as a whole or sections thereof;
- that recommendations on taking forward transport proposals shall meet the transport planning objectives established as part of the study and shall be realistically implementable and shall provide value for money;
- as an outcome of option development and consultations, ensure that all aspects of any recommended options are capable of being developed to meet statutory requirements; and
- throughout the duration of the study, achieve successful completion of the various work packages and deliverables identified within this brief within agreed timescales and within agreed budgets.

Although a specific aim of the project is that recommendations for taking forward transport proposals shall provide value for money and that all aspects of recommended options can satisfy statutory requirements, as the work is limited to the STAG pre-appraisal stage, an economic assessment of the options will not be undertaken and it is unlikely that the improvement options will be developed in sufficient detail to confirm that all aspects satisfy statutory requirements at this stage.

The project brief specifies that the study is to be undertaken in accordance with the STAG pre-appraisal methodology and the following **general requirements** of:

- analysing the existing transport conditions and needs of the corridor as a whole by bringing together the disparate work which has been undertaken so far on specific modes and discrete locations;
- assessing and identifying current and future transport problems and opportunities;
- establishing a set of transport planning objectives clearly linked to the identified transport problems and transport policies for this corridor; and
- generating and sifting from a wide range of options across all transport modes that have the propensity to deliver some or all of the transport planning objectives and complement the Scottish Executive's core objectives of the environment, safety, economy, integration, and accessibility and social inclusion.

1.4 Structure of the Report

This report has been prepared in accordance with the requirements of STAG, the study brief and our understanding of conditions within the Aberdeen to Inverness transport corridor.

The report is structured to cover the main elements of the STAG pre-appraisal process including details of the continuous consultation with key stakeholders, identifying problems and opportunities, developing SMART transport planning objectives and the development of transport improvement options that address the established transport planning objectives.

Section 2 describes the details of the consultation process and the associated workshops. Section 3 describes the analysis of the existing and future conditions within the transport corridor, and Section 4 identifies the problems and opportunities within the corridor.

Section 5 outlines the process of defining study specific transport planning objectives and Section 6 describes the option generation, sifting and development. Section 7 outlines the conclusions and recommendations for those options that should be taken forward for further consideration as part of the Strategic Transport Projects Review.

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Notes

Aberdeen to Inverness
Transport Corridor Study

Figure 1.1.1
General Location Plan

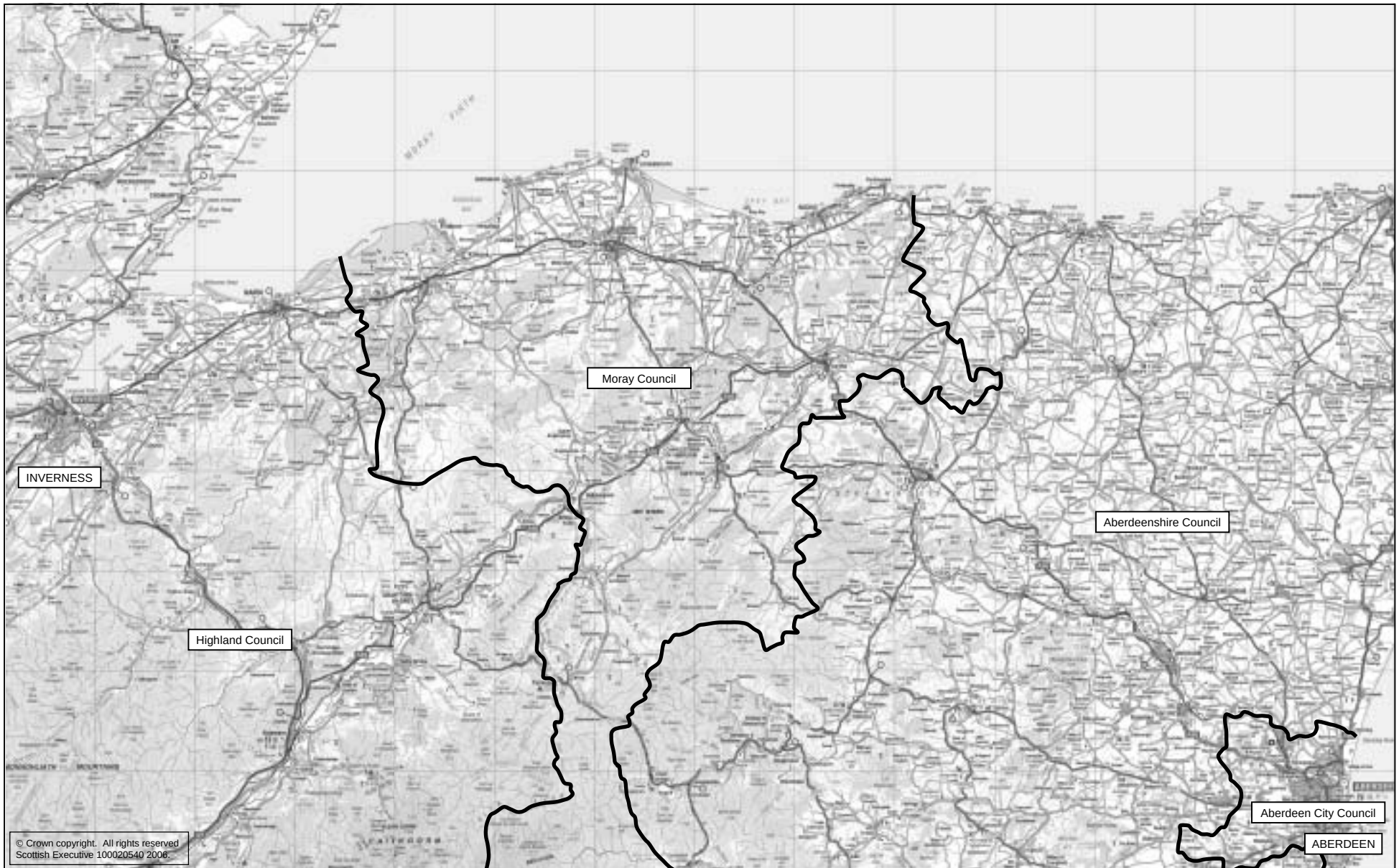

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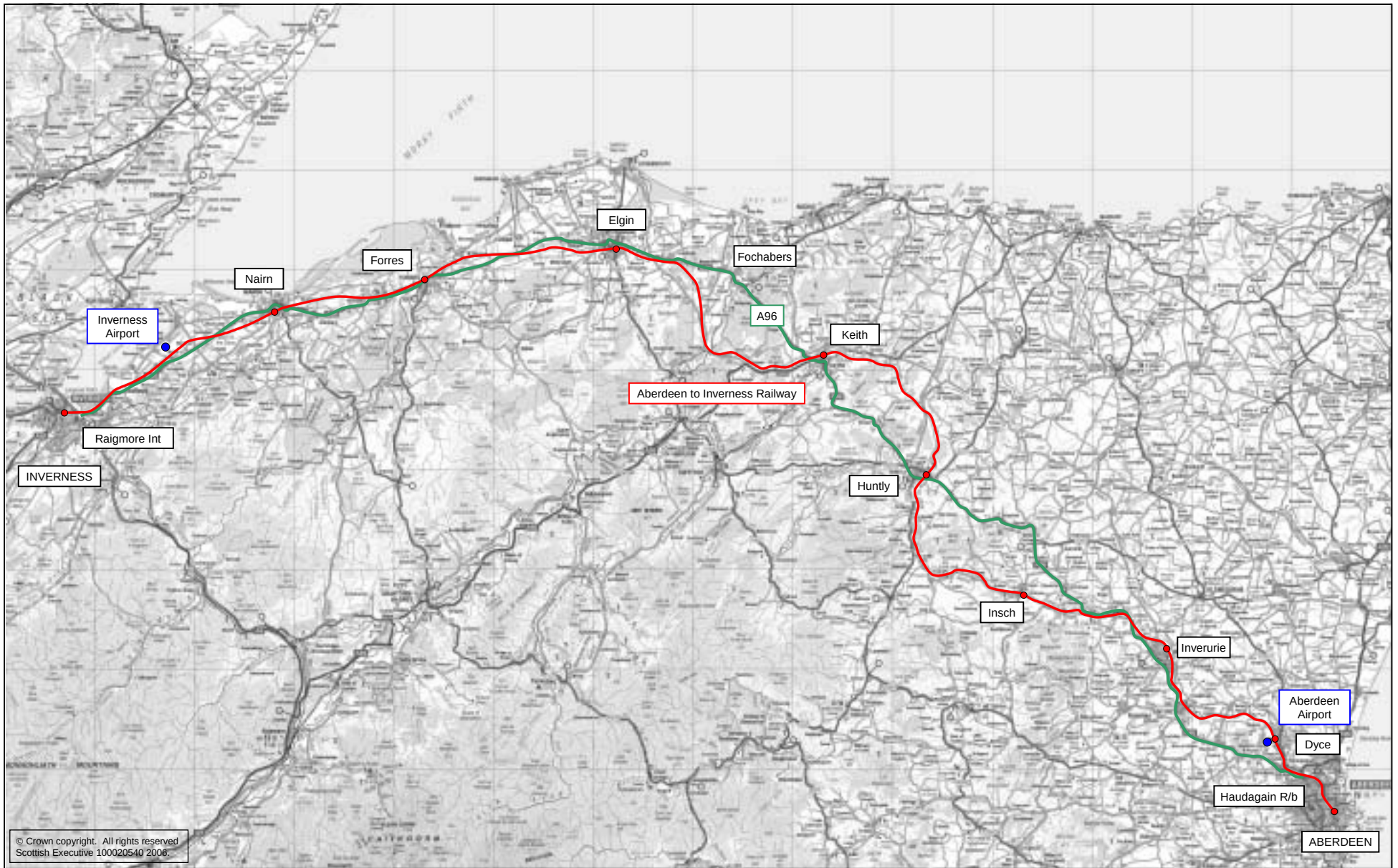
Figure 1.2.1
Council Boundaries



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A96 trunk road

Aberdeen to Inverness railway (and stations)

Aberdeen to Inverness Transport Corridor Study

Figure 1.2.2
A96 Trunk Road and
Aberdeen to Inverness Railway

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Built-up areas
Populations are based on census of 2001

Aberdeen to Inverness Transport Corridor Study

Figure 1.2.3
Location of Built-up Areas and Populations (2001)

2. CONSULTATION

2.1 The Consultation Process

Participation and consultation are central to any transport planning exercise undertaken in accordance with STAG to assist in identifying problems, setting the transport planning objectives and developing options. Early and continued consultation was undertaken with the steering group and with key stakeholders throughout the duration of the project. Adopting this practice assisted in cultivating a transparent planning process, which should in turn lead to the development of generally acceptable transport improvement proposals.

The consultation process for the project has included a series of meetings with the steering group, a study specific questionnaire and workshops with key stakeholders and requests to various organisations for any information considered relevant in meeting the objectives of the project.

2.2 Project Steering Group

A steering group comprising key organisations was defined for the project. The group included representatives from the following organisations:

- HITRANS (Project Co-ordinator)
- Transport Scotland - Strategy & Investment Directorate (Project Manager)
- Scottish Executive - Transport Group: Transport Strategy, Local Authorities and Partnerships
- Scottish Executive - Transport Group: Analytical Services
- Scottish Executive - Transport Group: Bus Freight and Roads Policy
- Transport Scotland - Strategy & Investment Directorate (Rail Strategy)
- Transport Scotland - Trunk Road Infrastructure & Professional Services
- NESTRANS
- Highland Council
- Moray Council
- Aberdeenshire Council - Transportation and Infrastructure
- Aberdeen City Council - Planning and Infrastructure
- Highlands and Islands Enterprise
- Scottish Enterprise Grampian

2.3 Project Stakeholders

Throughout the project, consultations have been undertaken, within the defined project programme, with a range of key stakeholders including the local authorities, local communities, local business interests and public transport service providers.

A list of key stakeholders identified for the project is shown below.

- Aberdeen and Grampian Chamber of Commerce
- Aberdeen Cycle Forum
- BAA Aberdeen Airport
- Confederation of Passenger Transport
- First Aberdeen
- First ScotRail
- Freight Transport Association
- Grampian Fire and Rescue Services
- Grampian Police
- Highland Area Tourism Partnership
- Highland Council
- Highland Cycle Forum
- Highland Rail Partnership
- Highlands and Islands Airports Ltd
- Highlands and Islands Fire Brigade
- Historic Scotland North East Team
- Historic Scotland North West Team
- Inverness Chamber of Commerce
- Moray Chamber of Commerce
- National Farmers Union
- National Trust for Scotland
- Network Rail (Scotland)
- North East Scotland Rail Freight Development Group
- Northern Constabulary Police
- Paths for all Partnership
- RAC Foundation - Scottish Office
- RAF Kinloss
- RAF Lossiemouth
- Rapsons Group
- Road Haulage Association
- Scottish Ambulance Service
- Scottish Environmental Protection Agency (Aberdeen)
- Scottish Natural Heritage (HQ)
- Stagecoach (Inverness)
- Stagecoach Bluebird (Aberdeenshire)
- Sustrans Scotland
- The AA Motoring Trust
- Transport Scotland (Network Management)

2.4 Questionnaires and Workshops

A series of consultations has taken place with the key stakeholders during the course of the project including:

- A project questionnaire, issued on 29 August 2006;
- 1St Stakeholder Workshop on 26 October 2006 in Elgin; and
- 2nd Stakeholder Workshop on 12 December 2006 in Elgin

A study specific questionnaire was developed to assist in establishing existing conditions along the transport corridor, identifying any problem areas and opportunities for improvement that may exist, and identifying the key transport objectives for the corridor. All identified stakeholders were invited to complete a questionnaire prior to the workshop considering all modes of transport to ensure that all key issues were identified for consideration as part of the study.

The main objectives of the stakeholder workshops were to involve various interested bodies, i.e. stakeholders and other organisations, in the initial stages of the transport corridor study process, to listen, discuss and take into consideration other views on how the transport corridor is perceived to operate and how it might develop in the future.
The specific objectives of the first stakeholder workshop were to:

- inform all stakeholders of the purpose, extent and details of the Aberdeen to Inverness Transport Corridor Study;
- involve stakeholders in reviewing existing/future conditions, identifying problems and opportunities, and setting objectives;
- establish the views of stakeholders on the problems along the corridor, identifying what they consider to be the most serious; and
- enable stakeholders to understand the position of others and that priorities and solutions can conflict with each other.

The specific objectives of the second stakeholder workshop were to:

- agree the SMART objectives developed for the Transport Corridor;
- review and update the Do-Minimum / Reference Case for the corridor;
- generate improvement options; and
- sift the improvement options.

However, to date, there has been no public, open consultation on this study.

3. EXISTING AND FUTURE CONDITIONS

3.1 Introduction

One of the key aims of the project specified in the brief is to ensure that all information gathered is both relevant and proportional to providing sufficient and reliable data for use in establishing an adequate understanding of existing transport conditions on all modes using the corridor as a whole or sections thereof.

Based on a review of the available information and the responses to the consultation process, it was concluded that additional information was required to quantify current journey time reliability along the A96 trunk road.

A detailed programme of journey time surveys was therefore undertaken during June 2006 to assist in establishing current conditions. The surveys were carried out over a number of days, and at different times of the day, on urban and rural sections between Aberdeen and Inverness.

Through the analysis of this information, a reasonable estimate of current journey times along the A96 trunk road have been established.

3.2 The A96 Trunk Road

The A96 trunk road between Raigmore Interchange and Haudagain Roundabout is approximately 159 kilometres long and passes through various towns and villages along the route including Nairn, Forres, Elgin, Fochabers, Keith, Huntly and Inverurie.

The general route of the A96 trunk road is shown in Figure 3.2.1. The relative locations of some of the towns and villages along the route are summarised below in Table 3.1.

Table 3.1 – Towns and Villages along the Route

Chainage	Distance	Towns and Villages
0.0 km		Raigmore Int. Inverness
1.0 km	1.0 km	Inverness Retail and Business Park
23.0 km	22.0 km	Nairn
39.0 km	16.0 km	Forres
58.5 km	19.5 km	Elgin
71.8 km	13.3 km	Fochabers and Mosstodloch
73.3 km	1.5 km	A96 / A98 Roundabout
85.5 km	12.2 km	Keith
102.2 km	16.7 km	Huntly
136.7 km	34.5 km	Inverurie.
159.0 km	22.3 km	Haudagain Roundabout, Aberdeen
	159.0 km	

The western and eastern limits of the trunk road have already been upgraded to dual carriageway standard to improve the efficiency of the trunk road network. At Inverness, the dualling extends for some 1 kilometre from Raigmore Interchange to the roundabout at Inverness Retail and Business Park. At Aberdeen, the dualling extends for some 20 kilometres from Haudagain Roundabout to Inverurie. The problems associated with congestion during peak times at Haudagain Roundabout are presently being considered as part of a separate STAG appraisal .

The remainder of the route is generally rural single carriageway and incorporates bypasses and climbing lanes at key locations to assist in addressing operational stress points along the route by separating local and strategic traffic and by providing opportunities to overtake slow moving vehicles.

Data Collection Surveys

Traffic on the A96 comprises both strategic long distance trips between Inverness and Aberdeen, and shorter, local trips between the various communities along the corridor. A detailed programme of data collection surveys was undertaken to assist in establishing current journey times along the route. The surveys were undertaken in June 2006. In addition to the surveys, traffic information was obtained from Transport Scotland to assist in establishing variations in traffic volumes along the route.

Annual Traffic Flows

Transport Scotland maintains a database of traffic flow information for the trunk road network through a series of Automatic Traffic Counters (ATCs). Information from the Scottish Road Traffic Database has been examined to identify variations in annual traffic flows along the route. The general location of the automatic traffic counters and the associated 2005 annual average daily traffic (AADT) flows are shown in Figure 3.2.2.

The information extracted from Transport Scotland's traffic database indicates the following traffic flows in vehicles per day (vpd) along the route:

- 36,000 vpd between Raigmore Interchange and the Inverness Retail and Business Park;
- 16,000 vpd to the west of Smithton and Culloden;
- 11,500 vpd between Culloden and Nairn;
- 10,200 to 11,600 vpd between Nairn and Elgin;
- 14,200 to 17,000 vpd between Elgin and Fochabers where the A98 joins the A96;
- 6,800 to 7,700 vpd between Fochabers and Inverurie;
- 16,100 and 27,200 vpd to the east of Inverurie; and
- 39,300 vpd on the approach to Haudagain Roundabout.

The variations in 2005 AADT flow along the A96 are illustrated in the colour coded bandwidth diagram in Figure 3.2.3.

TA 46/97 - Traffic Flow Ranges For Use In The Assessment Of New Rural Roads sets out carriageway standard options related to opening year flow ranges for use as starting points in the design and economic assessment of new rural trunk road links. It should be noted that these ranges do not provide any indication of the ultimate flow that a road can carry and that the flow ranges are for new rural road links only and should therefore not be used for the choice and assessment of carriageway standards for improved (widened) trunk road links. In these cases, each increase in standard should be considered incrementally. However, the following opening year flows provide an indication of the range of flows for the relevant carriageway standards.

- Single carriageway opening year AADT flow of up to 13,000 vehicles
- Wide single carriageway opening year AADT flow of 6,000 to 21,000 vehicles
- Dual 2-lane all purpose carriageway opening year AADT flow of 11,000 to 39,000 vehicles

Seasonal Traffic Flows

To provide an indication of the level of variation in traffic flows throughout the year, the monthly average daily traffic flows were examined for key sections along the A96 trunk road for 2005. Table 3.2 summarises the average daily traffic flows by month at each ATC location.

Examination of the chart indicates the normal variations in seasonal traffic flows that occur on strategic routes with the peak monthly flows occurring in August.

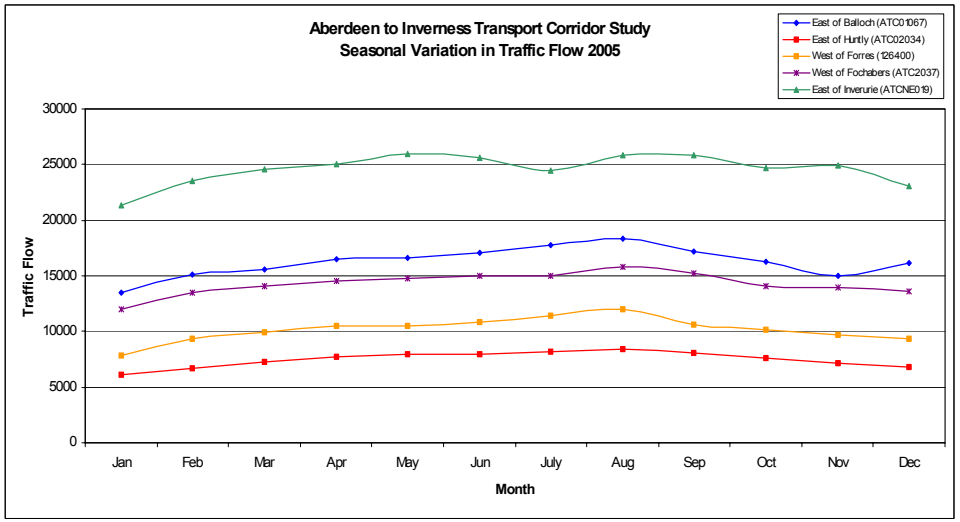


Table 3.2 – Average Daily Traffic Flows by Month

ATC Reference	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
East of Balloch (ATC01067)	13515	15090	15626	16468	16570	17032	17784	18380	17179	16280	15057	*16196*
East of Huntly (ATC02034)	6162	6669	7254	7687	7927	8013	8143	8431	8067	7604	7143	6850
West of Forres (126400)	7870	9338	9871	10483	10539	10876	11411	11952	10625	10158	9735	9350
West of Fochabers (ATC2037)	12039	13456	14057	*14586*	*14746*	14968	15057	15836	15228	14130	13968	13639
East of Inverurie (ATCNE019)	21355	23547	24625	24991	25917	25662	24507	25856	25808	24646	24890	23063

Note – Figures in italics are based on partial data

Traffic Composition

Data collected during the 12-hour manual classified traffic count on the A96 at Threapland, east of Lhanbryde, has been examined to estimate the 24-Hour AADT vehicle proportions on the A96 trunk road. Using the adjustment factors defined in Volume 13 of the Design Manual for Roads and Bridges for a non built-up trunk road network, the estimated 24-Hour traffic composition is as follows:

- Cars 80%
- LGV 12%
- OGV1 5%
- OGV2 2%
- PSV 1%

Traffic Growth

The automatic traffic counters ATC01067, which is located between the C class junction to Balloch and the B9039 access to the airport, ATC02034, which is located to the east of Huntly, and ATC02032, which is located to the west of Inverurie, provide reasonably continuous traffic flow information from which annual trends in traffic growth can be estimated. The growth recorded at these locations between 2002 and 2005 indicates that traffic growth along the A96 trunk road is between 1.5% and 4.5% per annum. Table 3.3 summarises the traffic growth between 2002 and 2005 at these locations.

Table 3.3 – Annual Average Daily Traffic Flows and Growth

ATC Ref.	Location	2002	2003	Growth 2002/03	2004	Growth 2003/04	2005	Growth 2004/05	Average Annual Growth 2002/05
ATC01067	Near Balloch	14656	15485	5.7%	16000	3.3%	16274	1.7%	3.6%
ATC02034	Near Huntly	7167	7169	0.0%	7353	2.6%	7500	2.0%	1.5%
ATC02032	Near Inverurie	14074	14429	2.5%	15069	4.4%	16063	6.6%	4.5%

Given the variability of annual growth rates along the route, the rates shown in Table 3.3 may not provide an accurate representation of actual traffic growth due to the inclusion of partial or fragmented data. It would therefore be reasonable to consider a range of forecasts when considering future conditions, noting in particular the significant development aspirations to the east of Inverness.

For comparison, the National Road Traffic Forecasts (1997) indicate that, based on the local traffic composition and the central growth projection, the annual average national growth rate over the three-year period would be 1.7%.

Journey Time Surveys

The National Transport Strategy (NTS) was published in December 2006 and is discussed in more detail in Chapter 5. However, one of the key strategic outcomes of the NTS includes improvements to journey time reliability, particularly on the trunk road network. Therefore it was considered necessary to establish the extent of the current journey time reliability along this corridor in order to identify to what extent this corridor could contribute towards the National Transport Strategy.

Journey time surveys were undertaken between Inverness and Aberdeen on Wednesday 7 and Thursday 8 June 2006 and between Monday 26 and Thursday 29 June 2006 to assist in defining changes in operating conditions along the length of the A96 and under varying traffic demand.

The surveys were undertaken in two main sections, namely, Inverness to Fochabers and Fochabers to Aberdeen, using two survey vehicles during each survey day. The surveys were undertaken over a number of days to avoid routine maintenance works that were being carried out at various locations along the A96.

Some 23 runs were carried out in the eastbound direction with another 23 runs being undertaken in the westbound direction. The surveys were undertaken continuously between 0700 and 1900 hours on each day of survey and were carried out using the principles of the moving observer technique to record journey times at various measurement points along the A96 route.

The speed profile derived from the analysis of the journey time surveys is shown in Figure 3.2.4.

Major Road Improvement Proposals

Aberdeen Western Peripheral Route (AWPR)

The Aberdeen Western Peripheral Route is a key component of the planned Modern Transport System and Regional Transport Strategy to provide improved and integrated transport in the North East of Scotland. Of strategic importance for the immediate area and Scotland as a whole, the project will help tackle congestion and increase accessibility.

The current cost estimate is £295m - £395m and the earliest estimated date for the start of construction is summer 2009, with an opening date of 2011. The preferred line for the 46 km dual 2-lane carriageway AWPR passes to the west of the city and crosses the A96 near Aberdeen Airport with a fast link section to Stonehaven.

The AWPR is one of a number of transport projects planned to help improve road safety and accessibility, reduce congestion and grow the local economy, ensuring the North East remains a competitive business location. The key benefits are:

- To reduce the impact of traffic, including heavy goods vehicles, on Aberdeen and the surrounding area, and contribute to reducing air pollution problems particularly in the city centre;
- To provide a consistent, high quality and efficient route that is attractive to traffic, maximises user safety and provides a good benefit to cost ratio;
- To reduce traffic levels on the existing road network, thereby reducing the risk of accidents;
- To provide access between the proposed rail transfer depots, current and future industrial estates and businesses, park-and-ride car parks, and road and air links, ensuring journey times and costs are minimised; and
- To provide improved accessibility for current businesses and to the land required for the sustainable development of the North East.

3.3 Aberdeen to Inverness Bus Services

Examination of the available information indicates that there is a regular bus service serving the various communities along the route. With regard to strategic bus services, there are a total of 14 services between Inverness and Aberdeen between 0600 hrs and 2025 hrs, with an average journey time of 3 hours 47 minutes.

These services stop at Inverness Retail and Business Park, Balloch, Tornagrain, Nairn, Auldearn School, Brodie, Forres, Alves, Elgin, Lhanbryde, Fochabers, Keith, Huntly, Colpy, Pitcaple, Inverurie, Blackburn, Aberdeen Airport, Foresterhill Hospital and Aberdeen Bus Station.

There is a similar service between Aberdeen and Inverness with a total of 13 services between 0600 hrs and 2000 hrs, with an average journey time of 3 hours 50 minutes.

Future improvements to the trunk road are also proposed along the A96 trunk road including the Fochabers and Mosstodloch Bypass, carriageway improvements at Delnies and Threapland and the proposed Aberdeen Western Peripheral Route.

Bus Provision

Along the A96 corridor, Stagecoach, Rapson's, First Bus, Deveron Coaches and a number of private companies provide bus services to various destinations. In summary, the services and origins and destinations of these services are as follows:

Stagecoach
- 1, 1A, 3 – Balloch to Craig Dunain via Inverness Retail Park
- 2, 2A – Inverness City Centre to Craig Dunain via Inverness Retail Park
- 10 – Inverness to Aberdeen via Elgin
- 305, 325 – Inverness to Aberdeen via Elgin & Macduff
- 306 – Huntly to Inverurie via Insch
- 307 – Aberdeen to Inverurie
- 315 – Inverness to Buckie via Elgin
- 318 – Forres Circular via Brodie
- 323 – Elgin to Kingston via Lhanbryde

Rapson's
- 1C, 12 – Inverness City Centre to Croy via Inverness Retail Park
- 11, 11A, 11C, 11D – Inverness to Fort George via Inverness Airport
- 20, 20A, 20B – Nairn

First Bus
- 17 – Dyce to Aberdeen City Centre
- X18 – Dyce to Aberdeen City Centre
- 27 – Aberdeen City Centre to Aberdeen Airport

Deveron Coaches
- 309 – Cullen to Keith via Buckie

- 328-329 – Elgin Circular via Lossiemouth
- 331 – Elgin Circular via Burghead
- 336 – Forres to Dufftown via Elgin
- 337 – Elgin to Aberlour
- 737 – Inverurie to Aberdeen via Aberdeen Airport
- 344 – Buckie to Keith via Fochabers
- 401 – Keith to Inverness via Inverness Retail Park
- 402 – Elgin to Aberdeen via Rothes
- 410 – Forres to Elgin via Dyke
- 443 – Elgin to Buckie via Lhanbryde

Other Services

- Roberts of 353 – Dufftown to Keith via Mulben
- WW Smith 360 – Keith to Aberlour

Source: Individual Council and Operator websites

Many of the services can be subject to alterations to their routes throughout the day and may be limited to certain days of the week. Alterations to the timetabling can also be implemented during holiday periods.

It is worthy of note that Stagecoach is the only operator to provide a service, (No. 10) from Aberdeen to Inverness that uses the entire A96 corridor, however this does not stop at Inverness Airport. Another service operated by Stagecoach, (No. 305) runs between Inverness and Aberdeen but this deviates from the A96 to the east of Fochabers, using the A98 and passing through Macduff to reach Aberdeen.

The Stagecoach service No. 10 provides 27 services (2-way) daily between Inverness and Aberdeen from Monday to Friday, 27 on a Saturday and 18 on a Sunday.

A number of other services operate over part of the A96 corridor serving the rural communities along its length and also providing local services within the towns. Elgin provides the origin for many services to towns such as Forres, Fochabers and Lossiemouth with services stopping at a number of rural destinations in some cases. These services can follow long diversion routes from the quickest available route, therefore increasing the journey time taken on these services.

Rapson's and Stagecoach provide services from Culloden, Smithton and other outlying areas to the east of Inverness to the city providing a means of travel for commuters and residents in rural areas to Inverness. Inverness Airport is also served by Rapson's however, not all services stop at the airport but at the access road to the airport. Stagecoach and FirstBus provide services from Inverurie, Dyce and Aberdeen Airport to the city of Aberdeen.

The locations of the bus routes served by the various operators along the A96 corridor are shown in Figure 3.3.1.

3.4 Aberdeen to Inverness Railway

The Aberdeen to Inverness railway is approximately 174 km long between Aberdeen and Inverness Stations. The railway is almost completely single track and generally follows the same corridor as the trunk road over the western section of the route from Inverness to Lhanbryde, but follows an alternative alignment from Lhanbryde to Aberdeen, with the exception of a 5.5 kilometre section to the north of Inverurie where the railway is adjacent to the trunk road.

There are 10 stations located along the railway. These are located at Inverness, Nairn, Forres, Elgin, Keith, Huntly, Insch, Inverurie, Dyce and Aberdeen. The locations of the stations along the route are shown in Figure 3.4.1. The points of interface where the railway crosses over or under the A96 trunk road are shown in Figure 3.4.2.

The railway crosses the A96 trunk road at the following six locations:

- Chainage 15.5 km, near Gollanfield
- Chainage 23.7 km, in Nairn
- Chainage 49.0 km, near Alves
- Chainage 83.7 km, north of Keith
- Chainage 103.1km, south of Huntly
- Chainage 131.8 km, north of Inverurie at Inveramsay

There are 10 services from Aberdeen to Inverness on Mondays to Saturdays departing from 0625 hrs to 2155 hrs, and 5 services on Sundays departing between 1000 hrs and 2100 hrs. The average journey time is 2 hours 15 minutes.

There are 10 services from Inverness to Aberdeen on Mondays to Saturdays departing from 0500 hrs to 2122 hrs, and 6 services on Sundays departing between 0955 hrs and 2052 hrs. The average journey time is 2 hours 14 minutes.

A summary of the current rail services between Aberdeen and Inverness is shown in Table 3.4.

There are 9 additional services between Aberdeen and Inverurie via Dyce on Monday to Friday, and 11 services on Saturday. There are 17 services between Aberdeen and Dyce on Monday to Friday and 15 services on Saturday.

There are also single additional weekday services between Aberdeen and Keith, and between Inverness and Elgin.

Table 3.4 – Rail Services

Aberdeen to Inverness Railway Timetable, Mondays to Saturdays (hh:mm)										
Aberdeen	06:25	07:28	09:25	11:40	13:12	15:23	17:14	18:19	20:06	21:55
Inverness	08:39	09:45	11:46	13:48	15:23	17:48	19:34	20:31	22:25	00:05
Journey Time	02:14	02:17	02:21	02:08	02:11	02:25	02:20	02:12	02:19	02:10
									Ave	02:15
Inverness to Aberdeen Railway Timetable, Mondays to Saturdays (hh:mm)										
Inverness	05:00	05:57	08:42	10:44	12:19	13:57	15:25	17:12	18:08	21:22
Aberdeen	07:14	08:14	10:53	12:59	14:32	16:11	17:36	19:28	20:29	23:38
Journey Time	02:14	02:17	02:11	02:15	02:13	02:14	02:11	02:16	02:21	02:16
									Ave	02:14

Growth in Rail Passengers

Analysis of passenger numbers at the 10 railways stations between Inverness and Aberdeen indicates that between 2002/03 and 2004/05, passenger numbers increased by between 6% and 26%.

The increases in passenger numbers are shown graphically in Figure 3.4.3.

Major Rail Improvement Proposals

Aberdeen to Inverness IOS study

The Aberdeen to Inverness IOS (Incremental Output Statement) study undertaken in 2005 on behalf of the Scottish Executive, Nestrans and the SRA, considered possible improvement schemes for the railway between Aberdeen and Inverness. These improvements considered options with the primary objectives of improving journey times along the route and introducing an hourly service between Aberdeen and Inverness, such as:

- Localised realignment of Forres Station;
- Line speed improvements between Elgin and Aberdeen; and
- The provision of the Orton Loop between Elgin and Keith.

Amongst the schemes considered was a proposal to accelerate trains between Inverness and Aberdeen to achieve an end-to-end running time of under 2 hours, and a revised timetable, with an additional passing loop, to allow a regular hourly frequency with a clock face pattern. However, an examination of the schemes identified three main problems.

Firstly, the 2 hours end-to-end running time did not prove to be possible assuming the performance of existing train units, the current route alignment and incorporating all existing station stops. Secondly, the increase in frequency to provide an hourly headway imposed more crossings for each train during its trip from Aberdeen to Inverness. The additional time absorbed by these additional crossings offset virtually all of the gains from faster running times. And thirdly, the costs of the particular solution considered were higher than initially expected and the benefits were less since the 2 hours end-to-end time had proven to be unattainable.

Although the findings of the study indicated that the proposed schemes were unlikely to achieve the stated objectives, there were some potential features that could be taken forward to reduce travel times, add new services at times when they are most attractive, and help to reduce costs.

These features could include developing an alternative timetable that could integrate an hourly headway between Aberdeen and Inverness. The location of the loops between Aberdeen and Inverness could be reconsidered, together with the loop-to-loop line speed improvements that may be required to facilitate that pattern of operation. Additional services could be added during the a.m. and p.m. peak periods rather than introducing new services throughout the day.

Aberdeen Crossrail

Proposals for the Aberdeen Crossrail are at an advanced stage of development and have been taken forward by Nestrans in partnership with Aberdeenshire and Aberdeen City Councils, Transport Scotland and the rail industry.

The Nestran's RTS indicates that Aberdeen Crossrail will deliver more frequent rail services between Inverurie, Aberdeen and Stonehaven, providing a better service for commuters, enabling cross-city travel by rail and encouraging mode shift within the city. More frequent services will also enable new stations to be opened in both Aberdeen and Aberdeenshire, linking housing and employment destinations and creating new opportunities for people to travel by train.

The first phase of Aberdeen Crossrail is intended to deliver a half-hourly service between Inverurie, Aberdeen and Stonehaven, which would be achieved through improved frequency on the Inverness to Aberdeen services and their extension to Stonehaven with further extensions of trains from the south to Inverurie. A new station would open between Inverurie and Aberdeen at Kintore. Major rail infrastructure improvements between Aberdeen and Inverness would also be required.

The longer-term ambition is for a dedicated quarter-hourly local service between Inverurie, Aberdeen and Stonehaven, serving new stations to the north and south of the city centre and at Newtonhill. This would require additional rolling stock and a significant improvement in the rail infrastructure.

Invernet

Invernet was launched in December 2005 as a suburban network for Inverness. The scheme was conceived by Highland Rail Partnership and funded for 3 years by Highland Council, Highlands and Islands Enterprise and the Scottish Executive, and will be subsumed into the ScotRail franchise.

The Highland Rail Partnership working with HITRANS and the Highland Council is carrying out a more detailed study under Invernet II (Inverness - Elgin frequency plus new Dalcross Airport station) to examine the feasibility of additional rail services. However, it is likely that the costs and complications associated with modifying the signals will represent a significant problem.

3.5 Airports

The Aberdeen to Inverness transport corridor also serves two airports, namely the Aberdeen Airport at Dyce and Inverness Airport at Dalcross.

Aberdeen Airport

Aberdeen Airport, operated by BAA, is located some 10 kilometres west of Aberdeen and to the north of the A96 trunk road. On site facilities include 1,000 short stay and 900 long stay car parking spaces. In April 2006, the airport reported a rise of 9.5% in the number of passengers using the airport annually to more than 2.8 million passengers per year.

Aberdeen Airport provides more than 40 valuable fixed-wing domestic and international air connections and represents the region's main transport gateway, supporting the tourism industry and other important business interests.

A study by the Fraser of Allander Institute, carried out in 2002, found that Aberdeen Airport supported 9,120 jobs across Scotland, with more than 2,800 people directly employed at the airport. Direct airport employment is forecast to increase moderately to more than 3,000 by 2015 and to nearly 4,000 by 2030. The report also found that the airport's contribution to the Scottish economy was, at that time, more than £482m a year. Again, BAA expects this figure to grow substantially as the airport develops.

A Surface Access Strategy has been developed for the Airport, from which three key objectives have been set and agreed with the Airport Transport Forum (ATF):

- to increase the percentage of passengers using public transport from 4.5% to 7% by 2007;
- to reduce single occupancy car journeys by staff from 87% to 77% by 2007; and
- to develop an integrated transport strategy.

The Airport has also been subject to an Outline Master Plan. Various proposals and forecasts have been put forward to Aberdeen City Council for approval including a £10 million project to extend the main runway by up to 300 metres over time. Between 2005 and 2015, passenger numbers are forecast to grow from 2.8 million a year to between 3.3 million a year under the central forecast and 3.6 million a year under the high forecast; with cargo and mail tonnage rising from 5,300 tonnes a year to 6,800 tonnes a year.

Inverness Airport

Inverness Airport is the air gateway for the Highlands and Islands of Scotland and handles more than 330 scheduled flights a week to UK destinations. It is the largest of 10 airports serving the region operated by Highlands and Islands Airports Limited (HIAL). The airport is located 15 kilometres east of Inverness and to the north of the A96, and benefits from the construction of a new access roundabout on the trunk road at Mid Coul, which was completed in 2006. On site facilities include 650 pay car parking spaces.

In 2005/2006 the passenger total at the Airport rose to 665,677, which was an increase of 18% on the previous year.

Figures published by the UK Civil Aviation Authority showed that Inverness was the fastest growing of the five major Scottish airports in the 2005 calendar year. This was the second year running that Inverness had achieved this position.

The formation of a joint venture company, Inverness Airport Business Park Limited, in May 2005 to create a high amenity business park on a 250 hectare site at the airport offers further significant benefits to the area. Over the next 25 years the park will support inward investment and local business expansion with the potential to accommodate up to 5,000 full time jobs on the site.

A new road linking the airport to the main Inverness – Aberdeen A96 trunk road was officially opened in March 2006, at a cost of £4m and has unlocked the development potential of the Inverness Airport Business Park site.

During 2005/2006, HIAL also initiated plans to move from weekday local radar cover provided via the Ministry of Defence to a seven day a week service.

Inverness Airport's Annual Report 2005/2006 outlines the following targets for development and performance indicators:

- Secure first phase commercial development on Inverness Airport Business Park with their joint venture partners.
- Carry out the following capital works:
  - North apron rehabilitation at Inverness to accommodate increased business aviation traffic;
  - Car park expansion at Inverness to provide additional capacity and offer distinct long and short term public parking;
  - Replace the redundant fire training module at Inverness to meet HIAL training requirements; and
  - Complete the extension of the south apron at Inverness to accommodate increased scheduled aircraft movements.

3.6 Cycle Network

The 9,000 mile National Cycle Network is being developed by SUSTRANS, working with over 400 local authorities, other national and local organisations, the DETR and the Scottish Executive, and supported by the Millennium Fund of the National Lottery.

The Network will be roughly half on traffic free routes and paths, and half on quieter minor roads and traffic calmed urban streets. When completed, the Network is designed to be safe for novice cyclists, useful for local journeys and memorable for visitors. It will encourage people to try cycling for some journeys, helping to reduce congestion and traffic pollution.

In terms of provision between Aberdeen and Inverness along the transport corridor, the National Cycle Network currently only covers a short section of the route. The route originates within Aberdeen city centre, passes Haudagain Roundabout to the north before heading north towards Dyce. A limited section of the National Cycle Network could potentially be used by cyclists on the A96 at this location between Haudagain Roundabout and Bucksburn Roundabout.

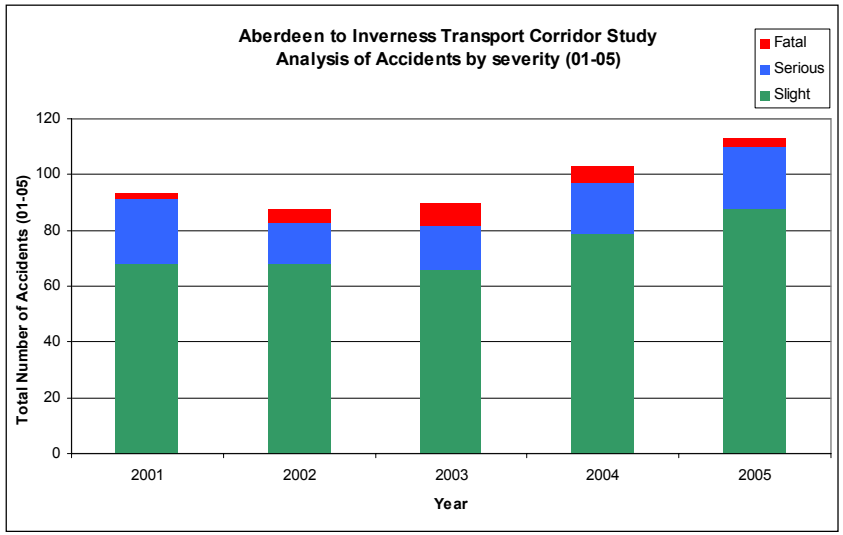
The National Cycle Network follows a number of C-Class and unclassified roads to the north of the A96 trunk road, passing through the towns of Turriff, Banff and Buckie before reaching Elgin, to the north of the A96. From this point, the route runs in parallel with the A96 before crossing the trunk road in Nairn, from which point the cycle route runs to the south of the A96, passing through Balloch, Culloden and Smithton before arriving in Inverness city centre via the B9006 to the south of Raigmore Interchange.

The location of the National Cycle Network between Aberdeen and Inverness is shown in Figure 3.6.1.

3.7 Road Safety

To assist in assessing current road safety conditions along the A96 trunk road, information on all road traffic accidents involving personal injury for the five-year period between 2001 and 2005 was obtained from the Transport Scotland for analysis and comparison with national trends.

Road traffic accidents, which involve personal injury, are recorded by the police using the standard STATS 19 form. These accidents are classified into one of three categories, namely fatal, serious or slight, according to the most severely injured casualty. Fatal accidents are recorded where the level of injuries sustained cause death within 30 days of the accident. A serious accident is defined as one where a casualty is detained in hospital or sustains fractures, concussion or severe cuts or where death occurs 30 or more days after the accident. Where a casualty sustains a sprain, bruise or slight cut, a slight accident is recorded.



Analysis of the accident statistics indicates that 487 accidents occurred along the A96 between Inverness and Aberdeen during the five-year period between 2001 and 2005 inclusive, of which 24 (5%) were fatal accidents, 94 (19%) were serious accidents and 369 (76%) were slight accidents.

Table 3.5 below summarises the number of accidents per annum during the five-year period between 2001 and 2005.

Table 3.5 - Summary of Accidents per Year (2001-2005)

Year	2001	2002	2003	2004	2005	Total
Fatal	2	5	8	6	3	24
Serious	23	15	16	18	22	94
Slight	68	68	66	79	88	369
Total	93	88	90	103	113	487

The locations of accidents during the five-year period are shown in Figure 3.7.1.

3.8 Environmental Conditions

Introduction

This environmental appraisal considers the baseline environmental conditions along the A96 trunk road, including possible bypass routes at Nairn, Elgin and Keith, and the Aberdeen to Inverness Railway. The A96 is one of the main trunk routes in the north east of Scotland connecting Aberdeen to Inverness. The railway also provides an essential public transport link between the two cities.

Potential environmental constraints in the corridor of the A96 and the railway, which generally follows the route of the A96 for much of the distance between Aberdeen and Inverness, have been examined. The possible bypasses at Nairn, Elgin and Keith are considered key strategic points and have been investigated separately. At this stage, there are no specific details available for potential alignments, any widening required, or the full extent of any land take, therefore this would be the subject of a separate assessment of design and layout to be undertaken at a later stage.

The information gathered from the relevant sources was used to evaluate the existing situation in the area surrounding the A96 between Inverness and Aberdeen, and to establish the key environmental issues.

Major sensitive receptors for each of the sections within the study corridor have been described including residential areas, community facilities, habitats and possible protected species that may be present along the route. Major development plan allocations have been identified, including landscape designations. There are also a variety of European, national and local designations relating to ecology, geology and natural and built heritage and these have been discussed where relevant.

The study area extends to 1 kilometre either side of the A96 and Railway line.

The environmental constraints along the corridor are shown in Figure 3.8.1, with more detailed plans in the Nairn, Elgin and Keith areas shown in Figures 3.8.2, 3.8.3 and 3.8.4 respectively.

Section Overview

<u>Section 1: Inverness – Nairn</u>

The main receptors are in the community of Nairn and those adjacent to the A96 and the railway. Moray Firth Special Area of Conservation (SAC) is located 1.2 km from the A96 at its nearest point. There are also a number of Special Protection Areas (SPA) at Moray Basin Firths and Bays, Highland & Grampian, Moray and Nairn Coast and the Inner Moray Firth.

Longman & Castle Stuart Bays Site of Special Scientific Interest (SSSI) is designated for its biological value. Kildrummie Kames SSSI is designated for its biological interest for its wetland and scrub features including the best stand of mature juniper in the Moray Firth area. There are pockets of Ancient Woodlands including Tornagrain Wood and Delnies Woodland as well as smaller pockets. There are a large number of Scheduled Ancient Monuments (SAMs) located within this section of the study area, these are marked on the environmental constraints map.

The main watercourse in this section is the River Nairn, which has the potential to flood the A96 and the Railway line at Nairn. There are no landscape designations within this section of the corridor. The Fishertown Conservation Area located in Nairn spans from the North Sea waterfront along the River Nairn to the A96. There are a number of category B & C listed buildings located between Nairn and Inverness directly adjacent to the A96. There are also a large number of Scheduled Ancient Monuments (SAMs) located within this section of the study area.

The airport and adjoining lands will be the focus for the early phases of new economic development. These will include an air/rail/road distribution freight village and a major business park. The strategic importance of the A96 corridor to Inverness and the region as a whole must be fully recognised and protected from premature piecemeal building. There will be a strict presumption against development that could prejudice efficient and effective community building and supporting infrastructure during the timeframe of the Local Plan.

Section 2: Nairn – Forres

The main receptors are in Auldearn and Forres, and adjacent to the A96 and the railway. There are no national, regional or local nature or geological designations within this section of the study area. There are however areas of Ancient Woodland within this section.

The main watercourse in this section is the River Findhorn, which has the potential to flood the A96 and the railway line at Forres.

There is a Conservation Area within Forres with a large number of category B & C listed buildings located in the study area in addition to Brodie Castle, Darnaway Castle Historic Gardens and Designed Landscape. There are also a number of Scheduled Ancient Monument along this section of the corridor. Brodie Castle and Darnaway Castle Historic Gardens and Designed Landscape are in the study area.

The Nairnshire Local Plan, December 2000, states that ‘Operation of the existing road network (including frontage improvements) and the potential for a bypass of Nairn – with appropriate links to the town – is likely to be investigated.’

Section 3: Forres – Elgin

The main receptors are in Elgin, and adjacent to the A96 and the Railway.

There are no geological designations or national, regional or local landscape designations within this section of the study corridor. Quarry Wood SSSI is however designated for its biological interest, in addition to pockets of Ancient Woodland at Quarry Wood and Alves Wood.

The River Lossie has the potential to flood the A96 and the Railway line at Elgin.

There are a large number of listed buildings located in Forres and between Forres and Elgin directly adjacent to the A96. There are two Category A Listed Buildings along this section in addition to a few Scheduled Ancient Monuments along this section of the route.

At Elgin there are two possible alignments for a bypass shown, one to the north of the town crossing the A941 to Lossie and one to the south which also crosses the A941 heading to Rothes.

Section 4: Elgin – Keith

The main receptors are in Keith and adjacent to the A96 and the Railway. There are a number of SSSI's in the area, namely, Spynie Loch, Loch Oire and River Spey, which are all designated for their importance to the local area. There are also areas of Ancient Woodland located within this section of the study corridor.

The Geology of the area consists of Dalradian metamorphic and then sedimentary formations of Upper and Middle Devonian Sandstone. There are a number of geological SSSI's in the area, namely, Teindland Quarry, Spynie Quarry, Findrassie SSSI and Dipple Brae which are all designated for their importance to the local area.

Watercourses in the study area include the River Spey, River Isla, Burn of Mulben and Burn of Fochabers. The River Spey is shown to have flood risk potential where the A96 crosses the River Spey in Fochabers, and at the Boat o Brig where the railway crosses the River.

Within this section of the route there are two Conservation Areas in Keith and Fochabers Conservation Area as well as a large number of category B & C Listed Buildings located in Elgin and Fochabers. There is also an Area of Great Landscape Value within the Spey Valley and Gordon Castle Historic Gardens and Designed Landscape. The long distance footpath 'The Speyside Way' crosses both the A96 and Railway line.

There is a proposed southern by-pass route for Keith marked on the Local Plan.

Section 5: Keith – Huntly

The main receptors are in Huntly and adjacent to the A96 and the Railway. There are a number of SSSI's in the area, namely, Whitehill, Mill Wood and Den of Pitlurg, which are all designated for their importance to the local area. There is a large area of Ancient Woodland at Bin Forest.

The Geology of the area consists of igneous rocks composing of Gabbro and allied types. There is a SSSI at Bin Quarry which has been designated for its geological content.

Watercourses include the River Isla, River Deveron and Burn of Cairnie. The River Isla has flood risk potential to railway line in Strath Isla.

Huntly Conservation Area contains a large number of listed buildings; however there are a few listed buildings located between Keith and Huntly but not directly adjacent to the A96. There are also five Scheduled Ancient Monuments within a kilometre of the A96 and the Railway line. There are no landscape designations within this section of the corridor.

Section 6: Huntly – Inverurie

The main receptors are in Inverurie and adjacent to the A96 and the Railway. The Moss of Kirkhill SSSI, located at NJ 535289 is a small basin fen designated for its content of flora. There are also small areas of Ancient Woodland in this section of the study area. Pitcaple and Legatsden Quarries SSSI have been designated for their geological content.

Watercourses in the study area include the River Urie, River Bogie and Glen Water. The River Urie is shown on SEPA's interactive flood map to potentially flood parts of the A96 near Old Rayne. The River Bogie potentially affects the A96 and Railway line at Huntly.

Within Inverurie there is a small Conservation Area. There are a large number of listed buildings located in Huntly and between Huntly and Inverurie that are directly adjacent to the A96. There are also a large number of Scheduled Ancient Monuments within one kilometre of the A96 and Railway line.

There is an Area of Landscape Significance designated within the Aberdeenshire Local Plan and part of the A96 and the Aberdeen to Inverness railway run through it. There are three Historic Gardens and Designed Landscapes located along this section of the route - Pitmedden, Leith Hall and Williamston House.

Section 7: Inverurie – Aberdeen

The main receptors are in the north west of Aberdeen, and adjacent to the A96 and the Railway. There are no national, regional or local nature designations within this section of the study area. There is however an area of Ancient Woodland at Kirkhill Forest. There are no geological designations within this section of the corridor.

The main watercourse is the River Don, which is shown on SEPA's interactive flood map to potentially flood the railway line between Kintore and Port Elphinstone. There are a number of category A, B & C Listed Buildings adjacent to the A96 along this section of the route in addition to a large number of Scheduled Ancient Monuments within a kilometre of the A96 and railway line. Keith Hall Historic Gardens and Designed Landscape is located in this section of the corridor. Aberdeen – Inverness railway passes through an Area of Landscape Significance.

The National Cycle Route 1 closely follows the alignment of the Aberdeen to Inverness Railway for much of this section. Both the A96 and railway line pass through part of the City of Aberdeen's Greenbelt.

Bypasses

Nairn Bypass

There are three SAM Sites within the general route corridor. The by-pass would also pass through Kildrummie Kames SSSI. There are areas of Ancient Woodland in the route alignment corridor and the proposed alignment would also cross a number of watercourses including the River Nairn.

Elgin Bypass

Part of Quarry Wood is designated as a SSSI due to its flora and is one of the few remaining semi-natural woodlands in the lowland of Moray. This SSSI is dissected by the A96. The proposed alignment would have to cross a number of watercourses including the River Lossie. There is a caravan/camping site at Delnies. There are three SSSI sites within the study area of the northern alignment, these are Findrissie, Sypnie Quarry and Loch Sypnie.

The Southern alignment of the by-pass would pass through areas of Ancient Woodland and the River Lossie at two locations. The proposed route would also cross the Aberdeen to Inverness Railway line and there is a Golf Course to the south of Elgin, which is considered a sensitive receptor.

Keith Bypass

The general route corridor would have to cross both the River Isla and the Burn of Mulben, the Aberdeen – Inverness railway and the Keith to Dufftown Railway. There are areas of Ancient Woodland within the study corridor and a Golf Course to the south, both of these land uses are considered sensitive.

Summary

There are a number of potentially sensitive receptors between Inverness and Aberdeen within the 1km study area of the A96 and the Aberdeen to Inverness railway line. The main sensitive receptors are residential properties adjacent to the transport corridor, which would experience changes in noise, air quality and vibration. There are a large number of Category B and C Listed Buildings all the way along the route (these are not shown on the Environmental Constraints map). There are also several category A Listed Buildings within the route corridor. There are Conservation Areas in the centres of most of the major towns within the route corridor. A large number of Scheduled Ancient Monuments could also experience changes upon their setting. There are Seven Historic Gardens and Designed Landscapes within the study area that could experience a slight change upon their setting depending on the final route alignment.

The main ecological sensitive receptor is the Moray Firth, which is a SAC and Ramsar Site. There are only a few Sites of Special Scientific Interest within the study area, with the Quarry Wood SSSI outside Elgin being the most likely to experience an adverse impact. There are large pockets of Ancient Woodland adjacent to the A96 throughout most of the study corridor. There are no landscape designations of national importance within or adjacent to the study area although part of the route passes through an 'Area of significant landscape' and 'Area of Great Landscape Value'.

The water quality of the watercourses is, in general, 'Excellent', and these are therefore considered to be sensitive receptors. All the major watercourses as well as the smaller watercourses are liable to flooding. The extent of flooding is not shown on the Environmental Constraints Map, although this information can be viewed on the SEPA website.

Overall, there are a number of environmental constraints along the transport corridor between Inverness and Aberdeen. Careful planning, route alignment and design choice at later stages in the process should make it possible to minimise any significantly adverse environmental impacts.

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Aberdeen to Inverness Transport Corridor Study

Figure 3.2.1
A96 General Location Plan

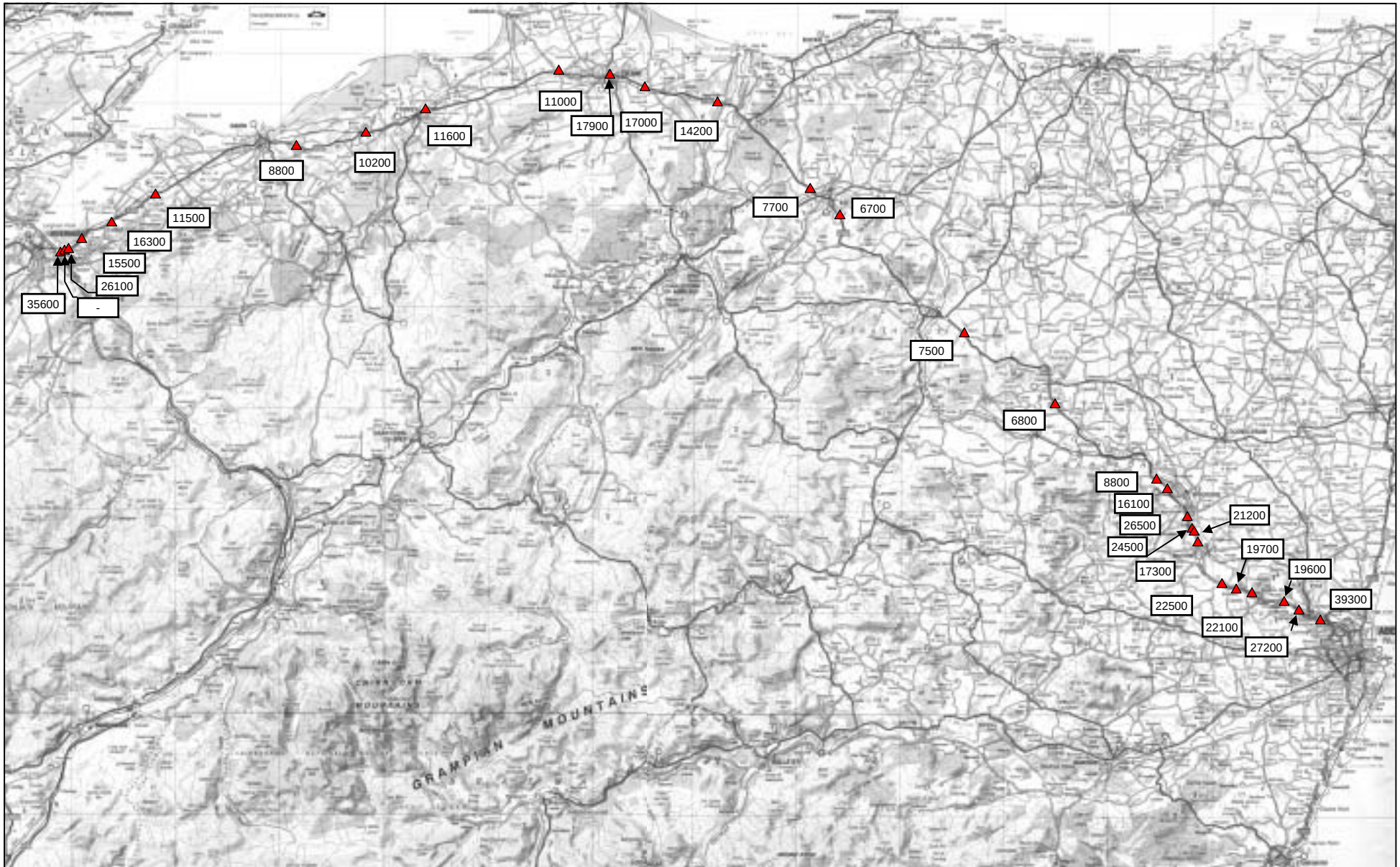

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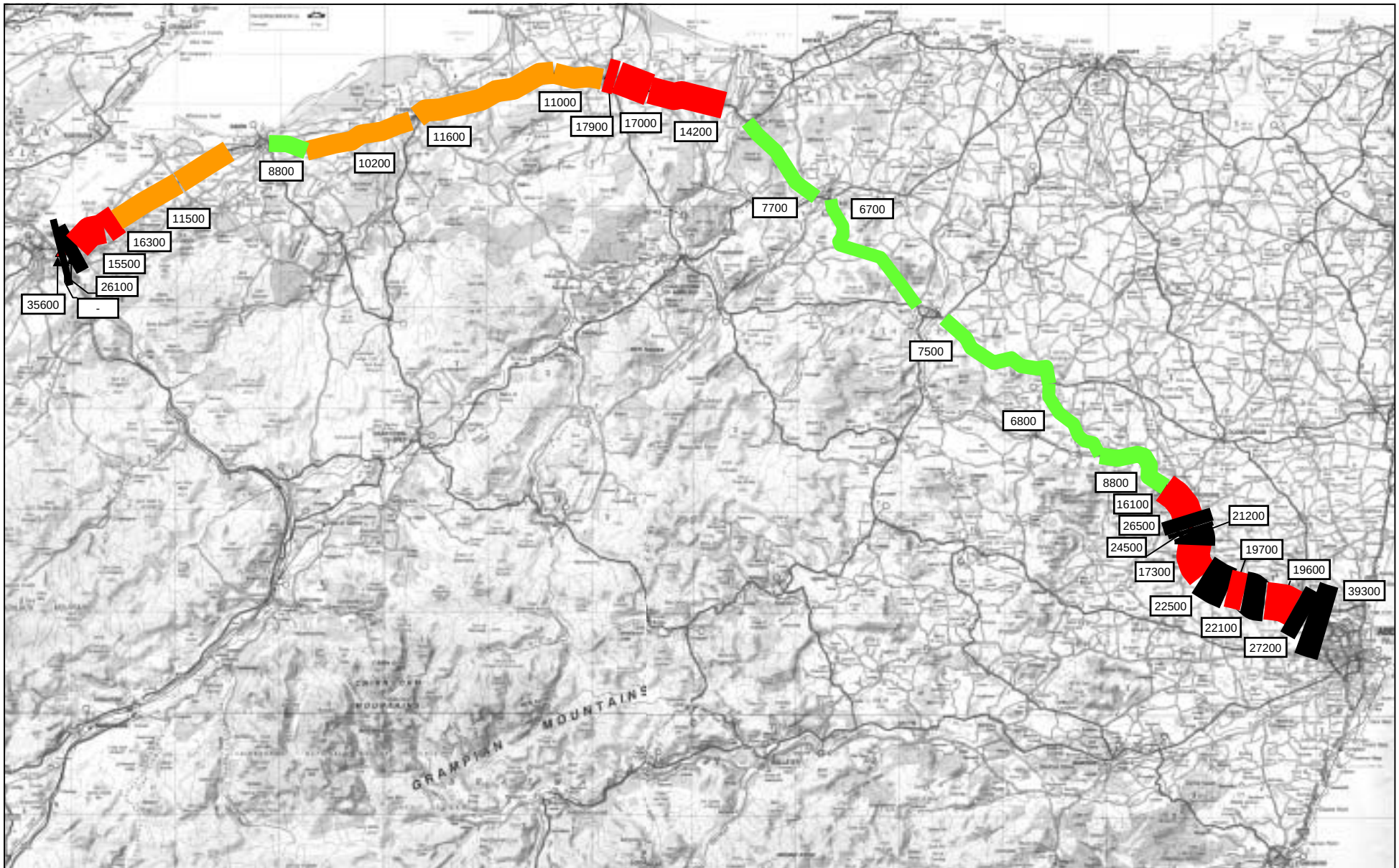
Figure 3.2.2
2005 AADT Flows



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- > 21,000 AADT
- 13,000 - 21,000 AADT
- 9,000 - 13,000 AADT
- < 9,000 AADT

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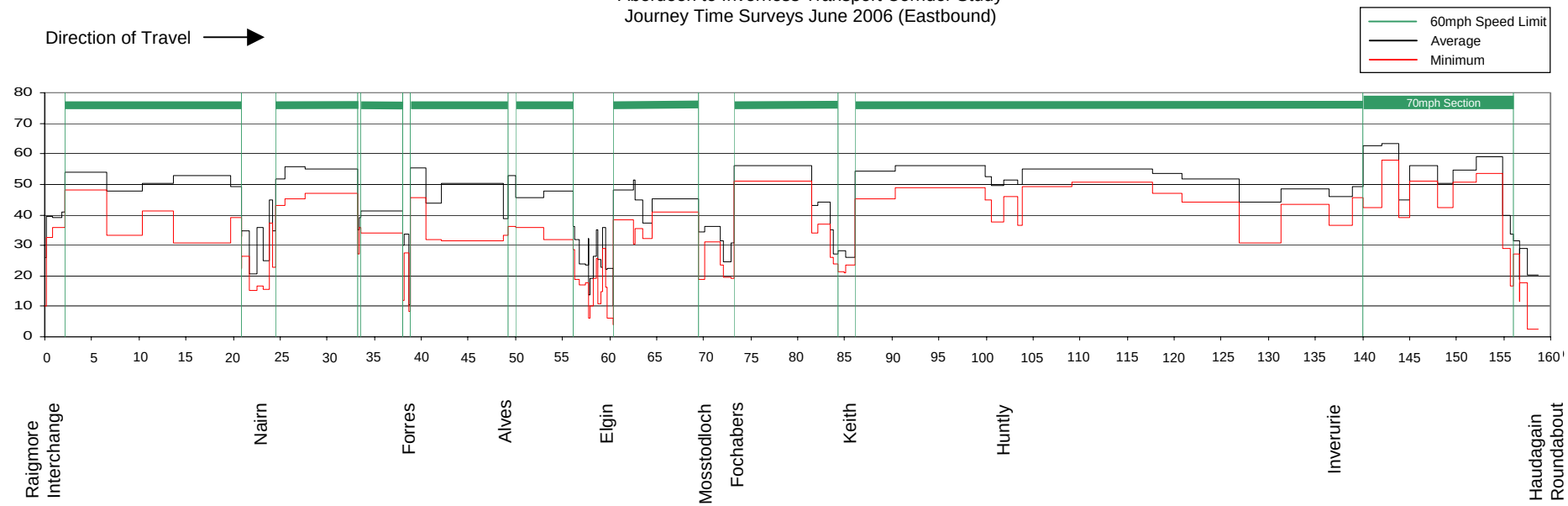
Figure 3.2.3
2005 AADT Bandwidths

Aberdeen to Inverness Transport Corridor Study
Journey Time Surveys June 2006 (Eastbound)

Direction of Travel →



Aberdeen to Inverness Transport Corridor Study
Journey Time Surveys June 2006 (Westbound)

← Direction of Travel

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60 mph rural road section

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Figure 3.2.4
Average Vehicle Speed by Direction
June 2006

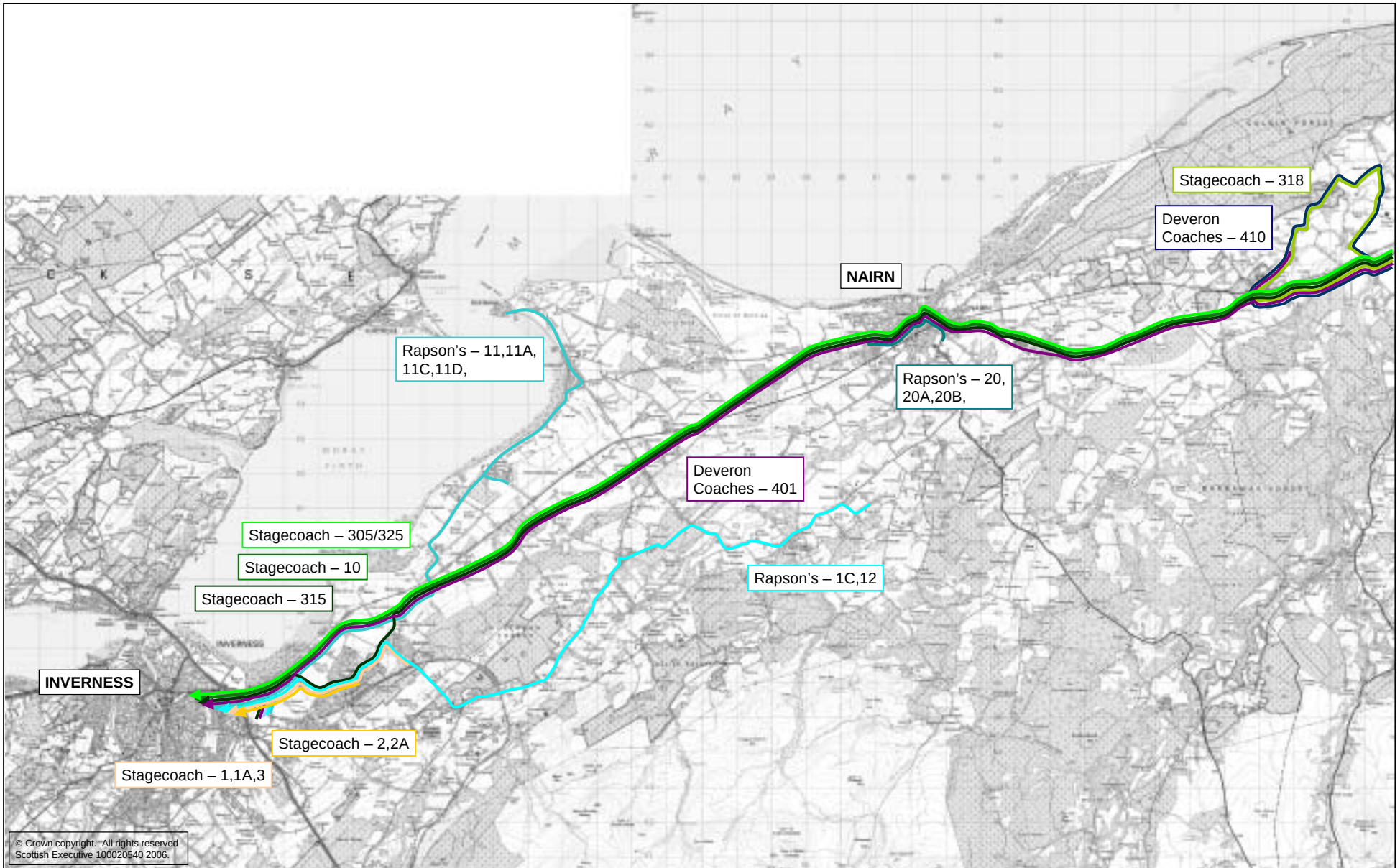

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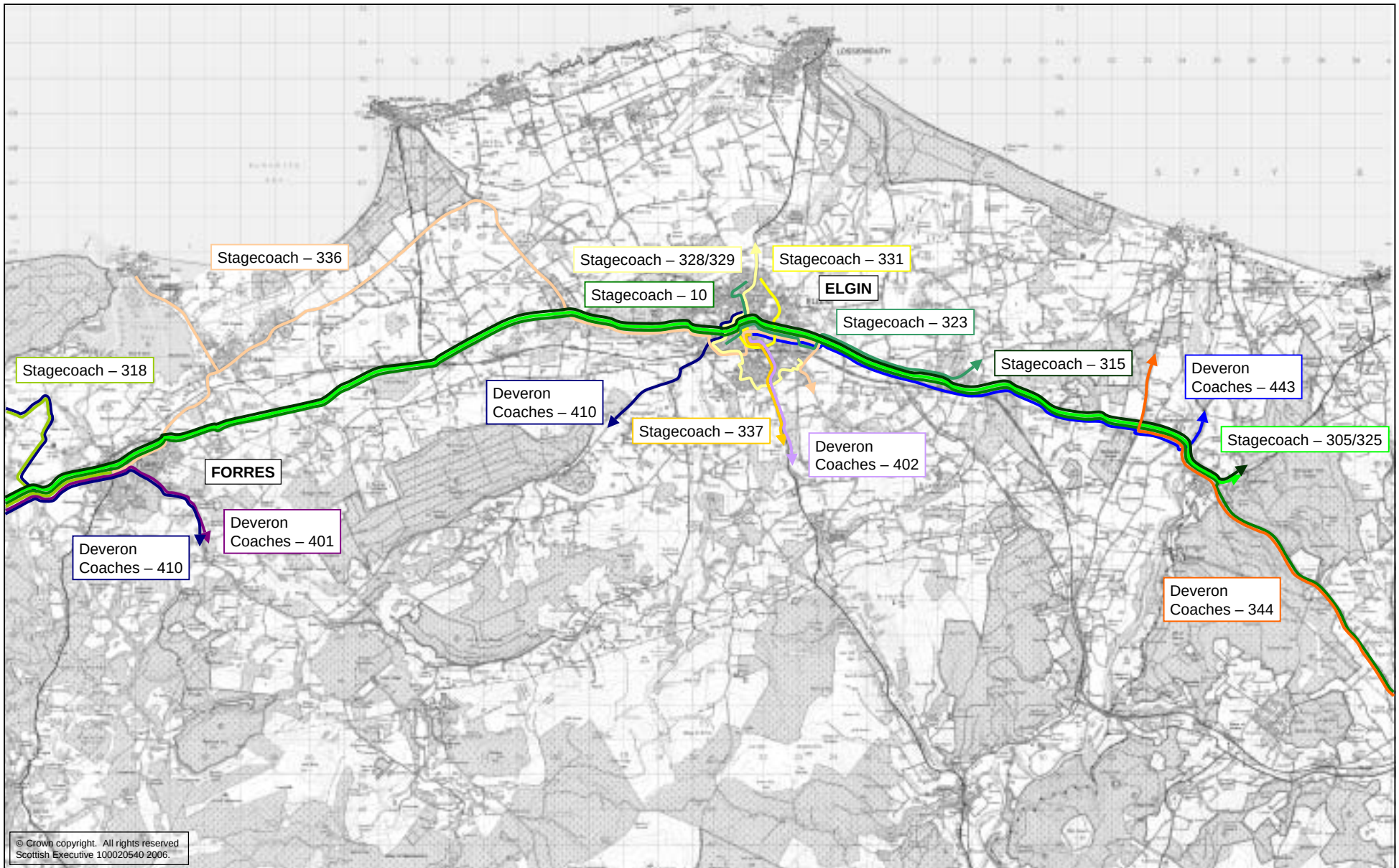
Figure 3.3.1a
Public Transport – Bus Routes



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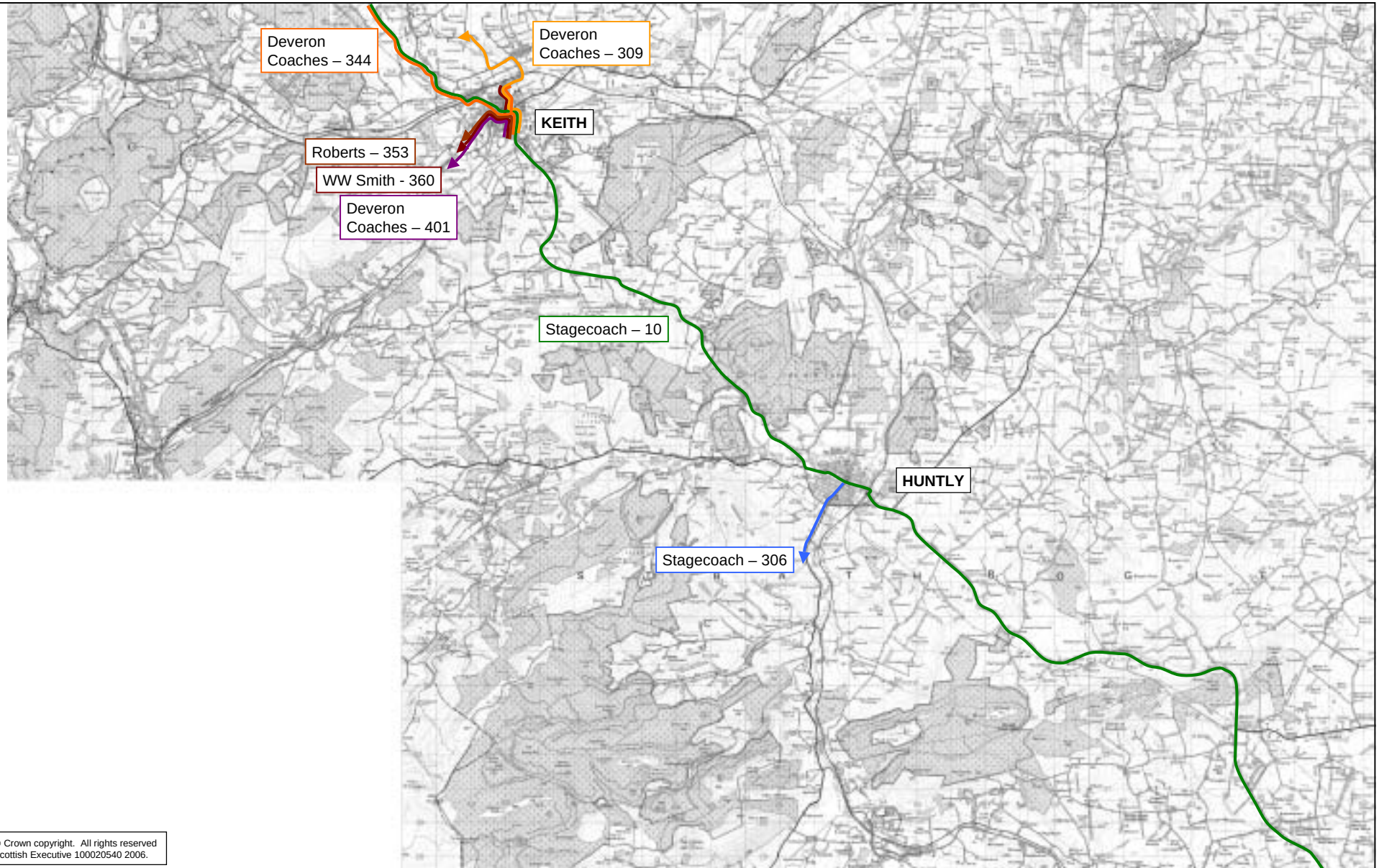
Aberdeen to Inverness Transport Corridor Study

Figure 3.3.1b
Public Transport – Bus Routes



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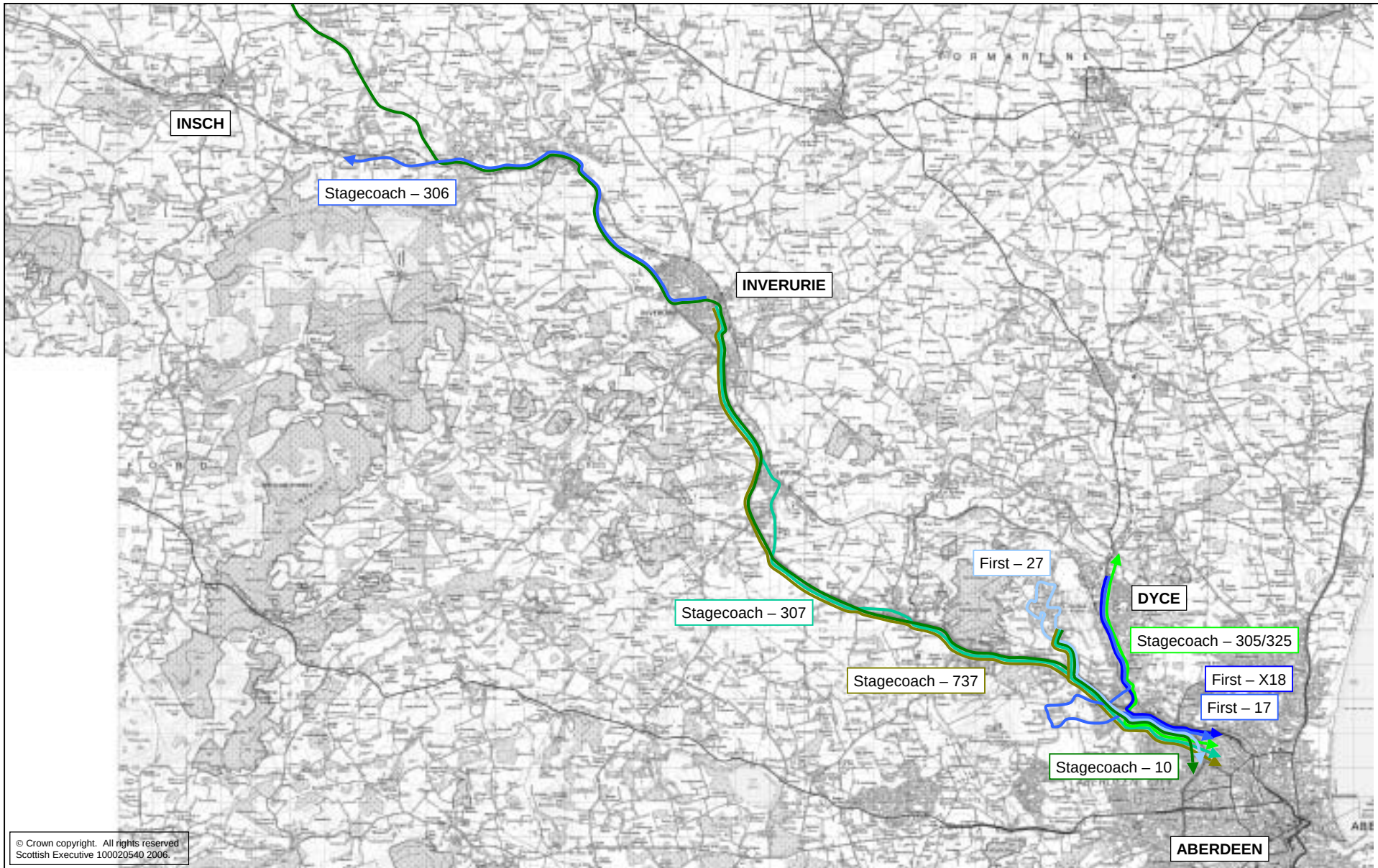
**Aberdeen to Inverness
Transport Corridor Study**

Figure 3.3.1c
Public Transport – Bus Routes



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Transport Corridor Study

Figure 3.3.1d
Public Transport – Bus Routes

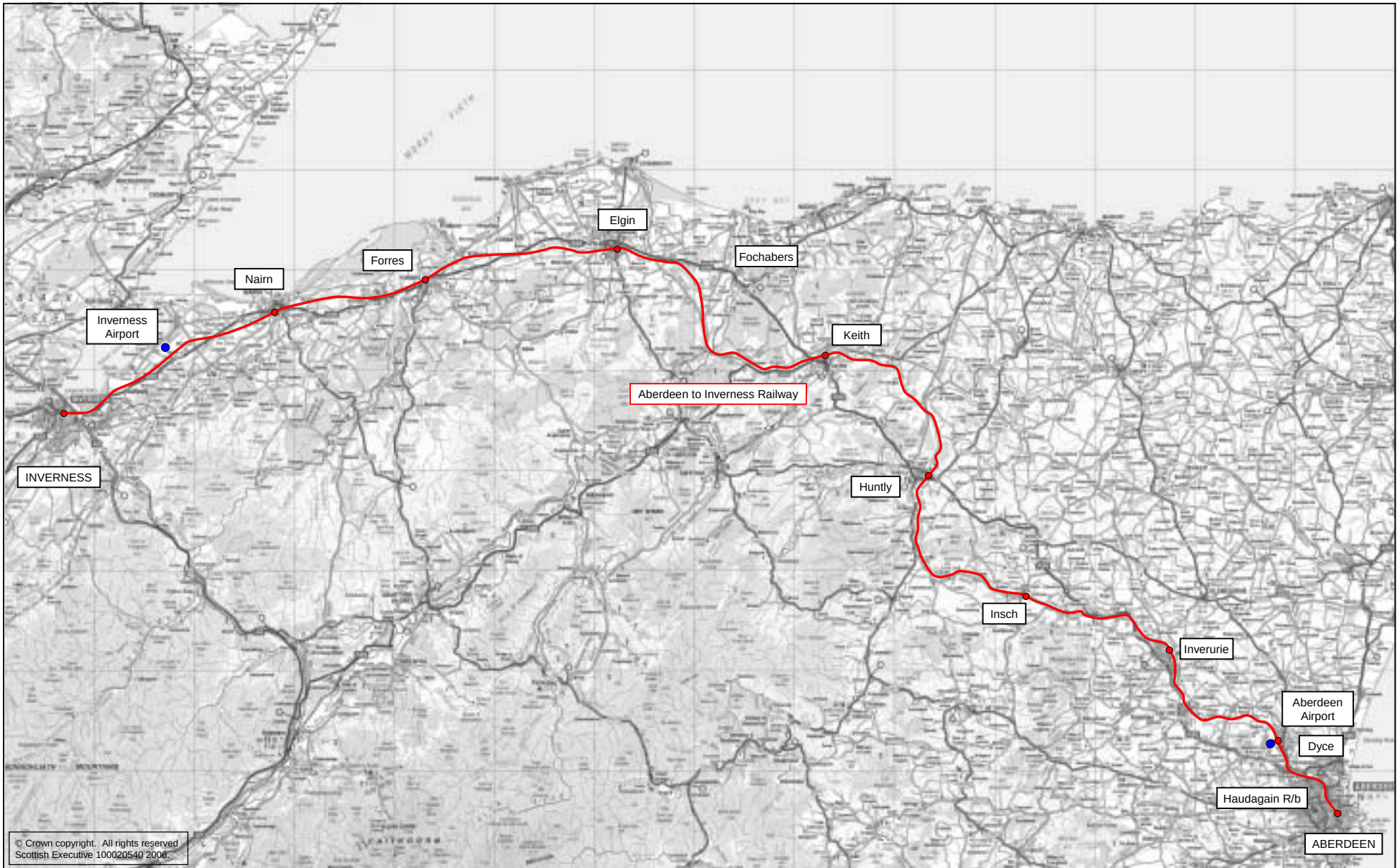

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Figure 3.4.1
Aberdeen to Inverness Railway

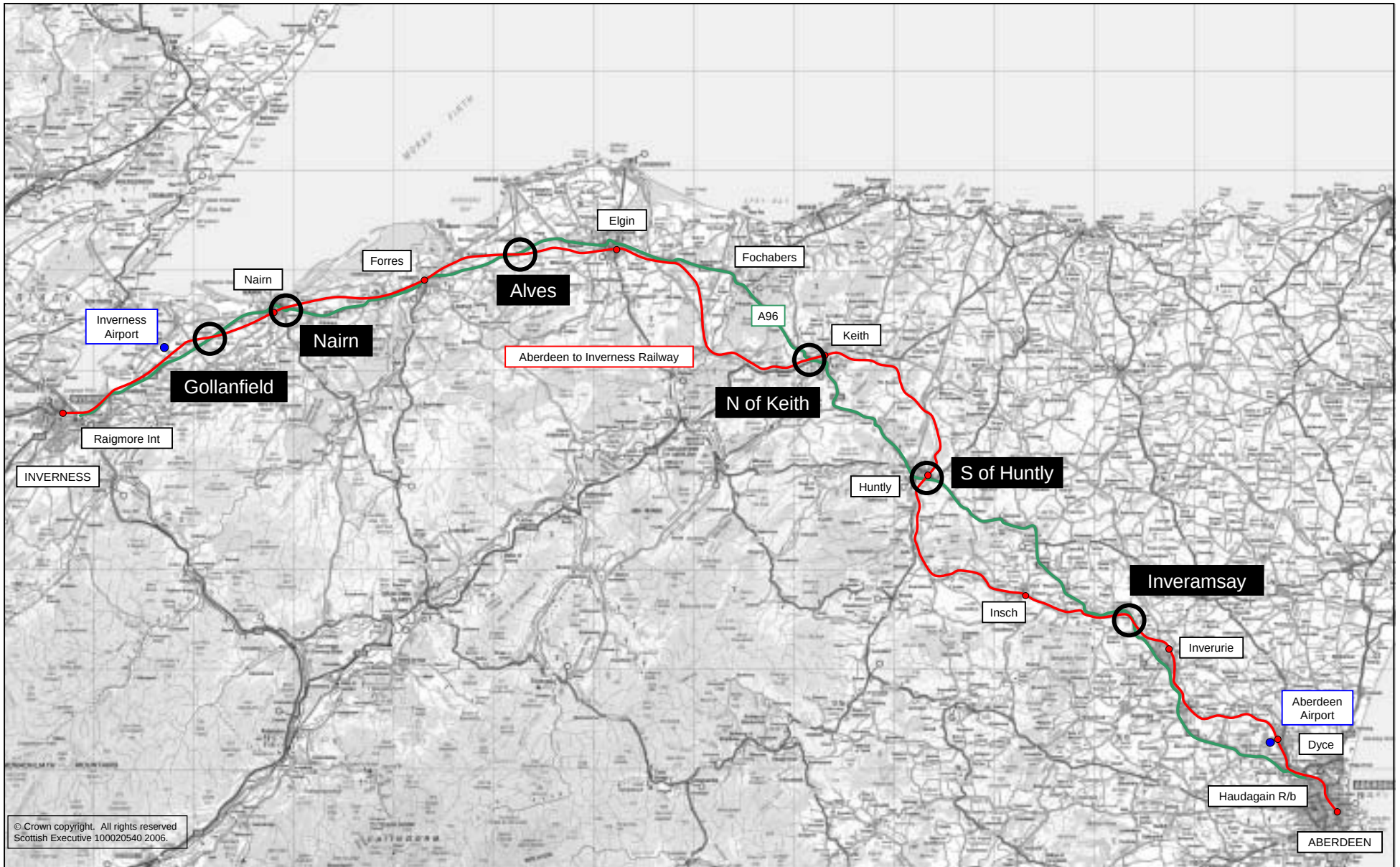

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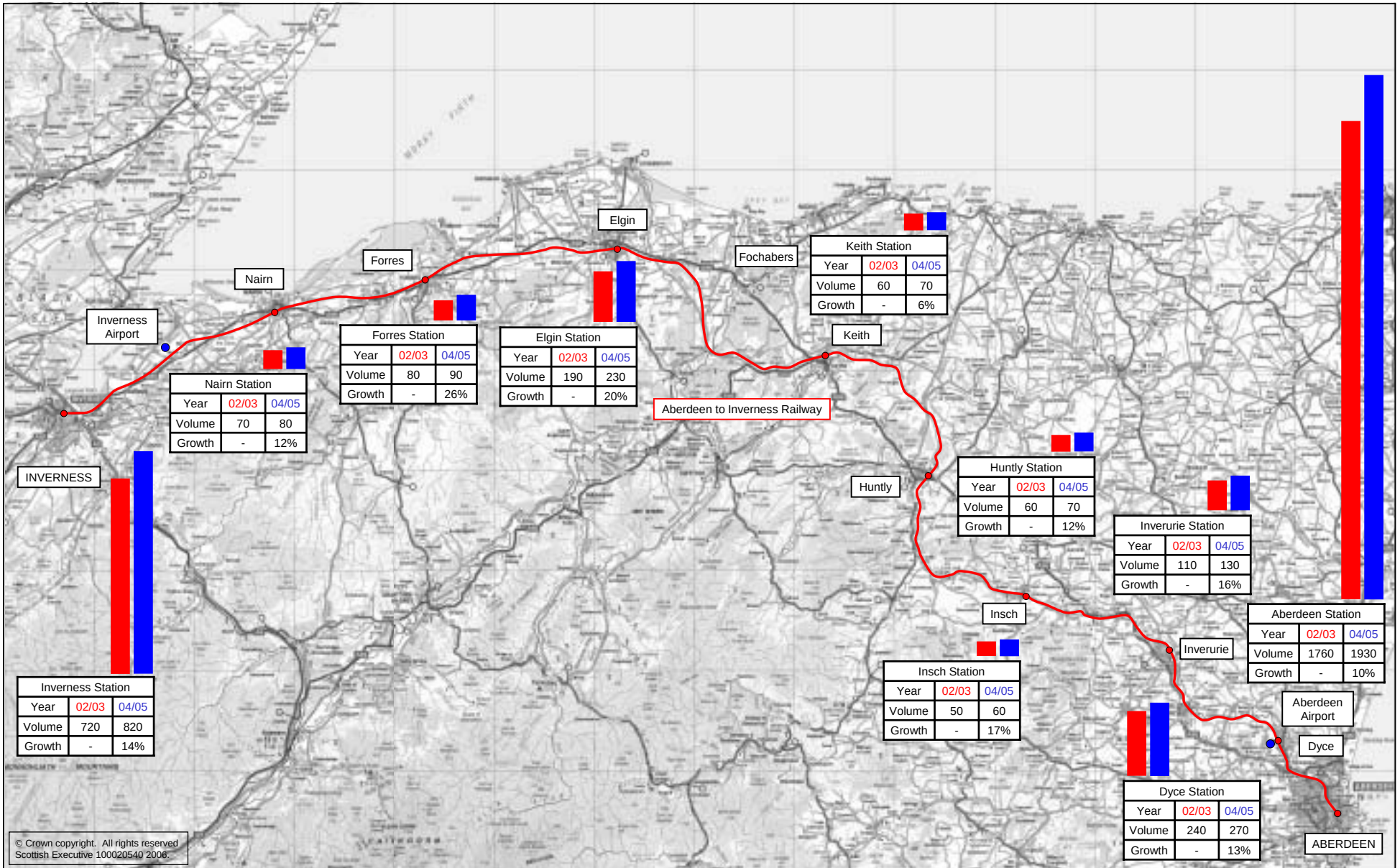
Figure 3.4.2
Railway Line Points of Interface with A96



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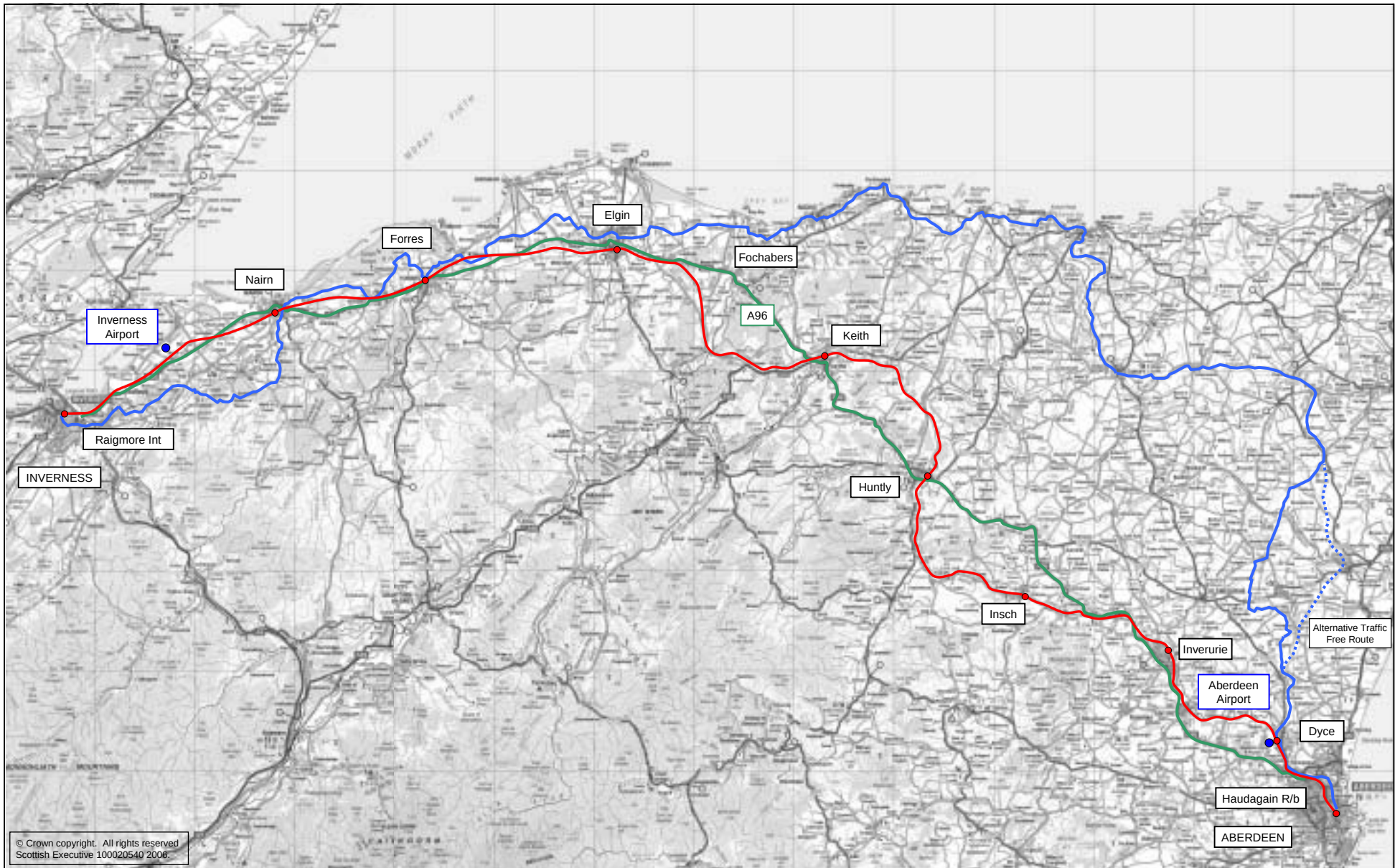
Passenger numbers based on total entries and exits numbers per station.
Volume by thousand passenger numbers

Aberdeen to Inverness Transport Corridor Study

Figure 3.4.3
Aberdeen to Inverness Railway
Passenger Numbers and Growth
(2002/2003 & 2004/2005)



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- A96 trunk road
- Aberdeen to Inverness railway (and stations)
- Public Cycleway

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Figure 3.6.1
National Cycle Network

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Notes
- Slight
- Serious
- Fatal

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Figure 3.7.1a
Accident Analysis 2001 - 2005

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Notes
- Slight
- Serious
- Fatal

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Figure 3.7.1b
Accident Analysis 2001 - 2005

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Notes
- Slight
- Serious
- Fatal

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Figure 3.7.1c
Accident Analysis 2001 - 2005

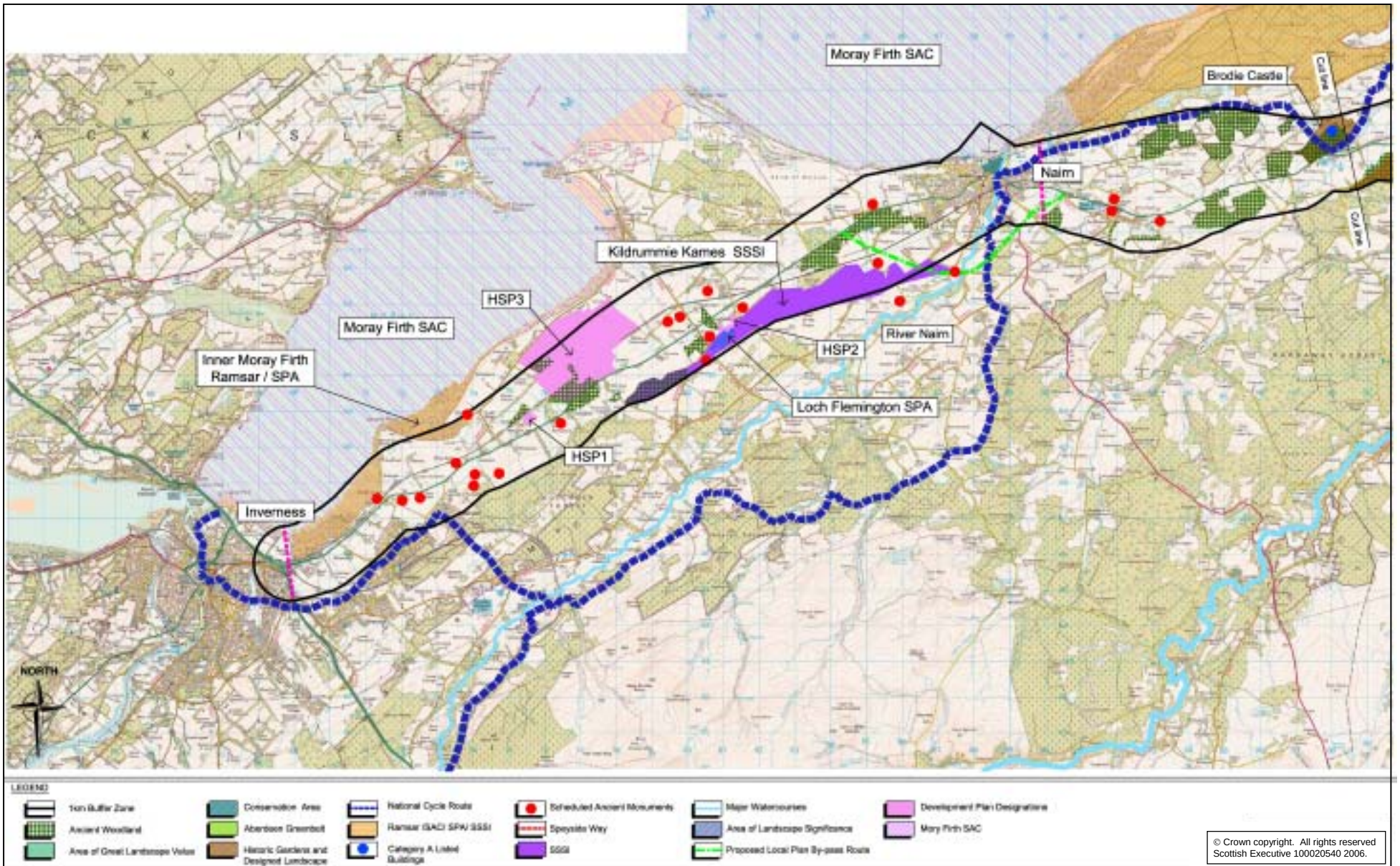

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Figure 3.8.1a
Environmental Constraints

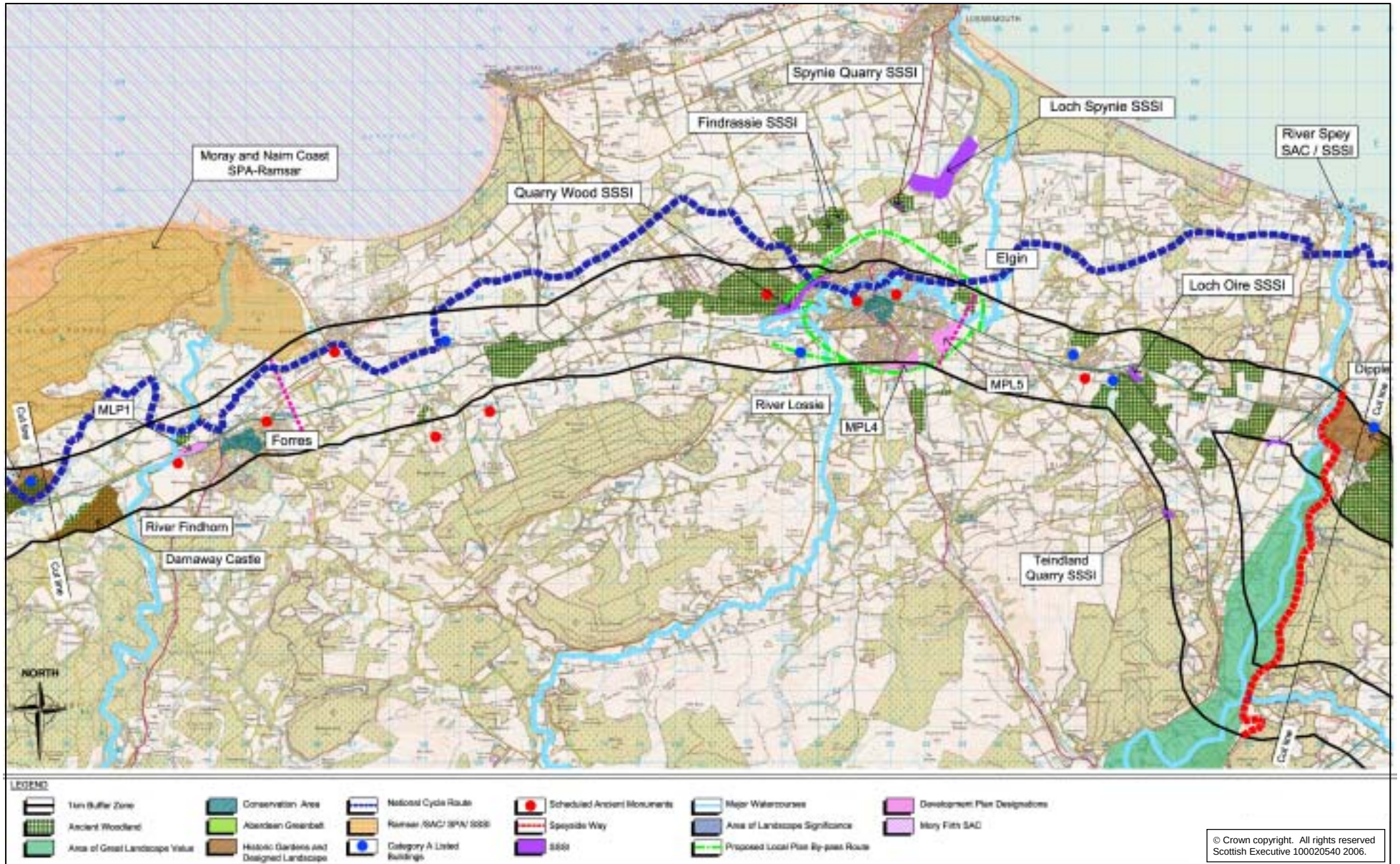

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Figure 3.8.1b
Environmental Constraints

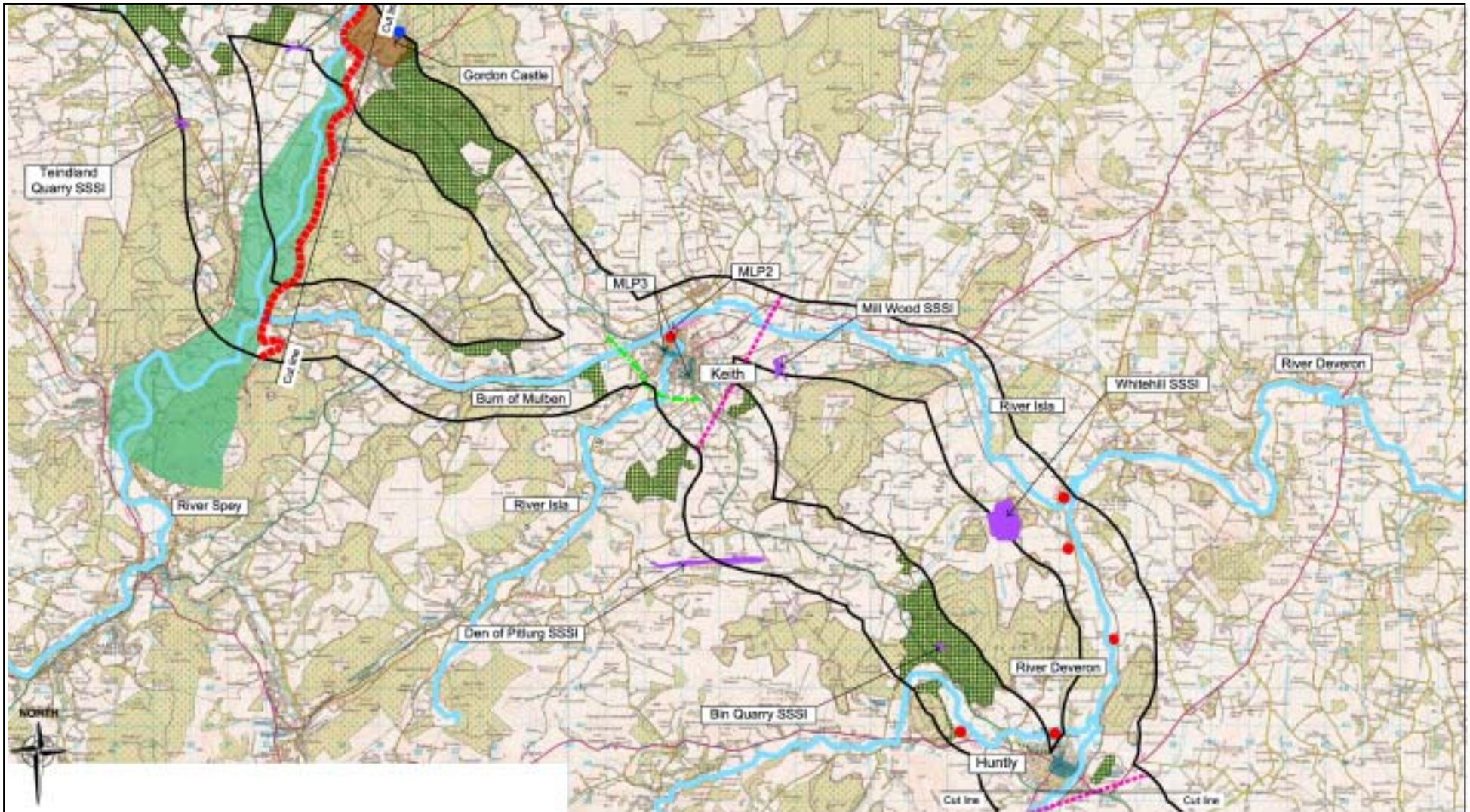

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Figure 3.8.1c
Environmental Constraints

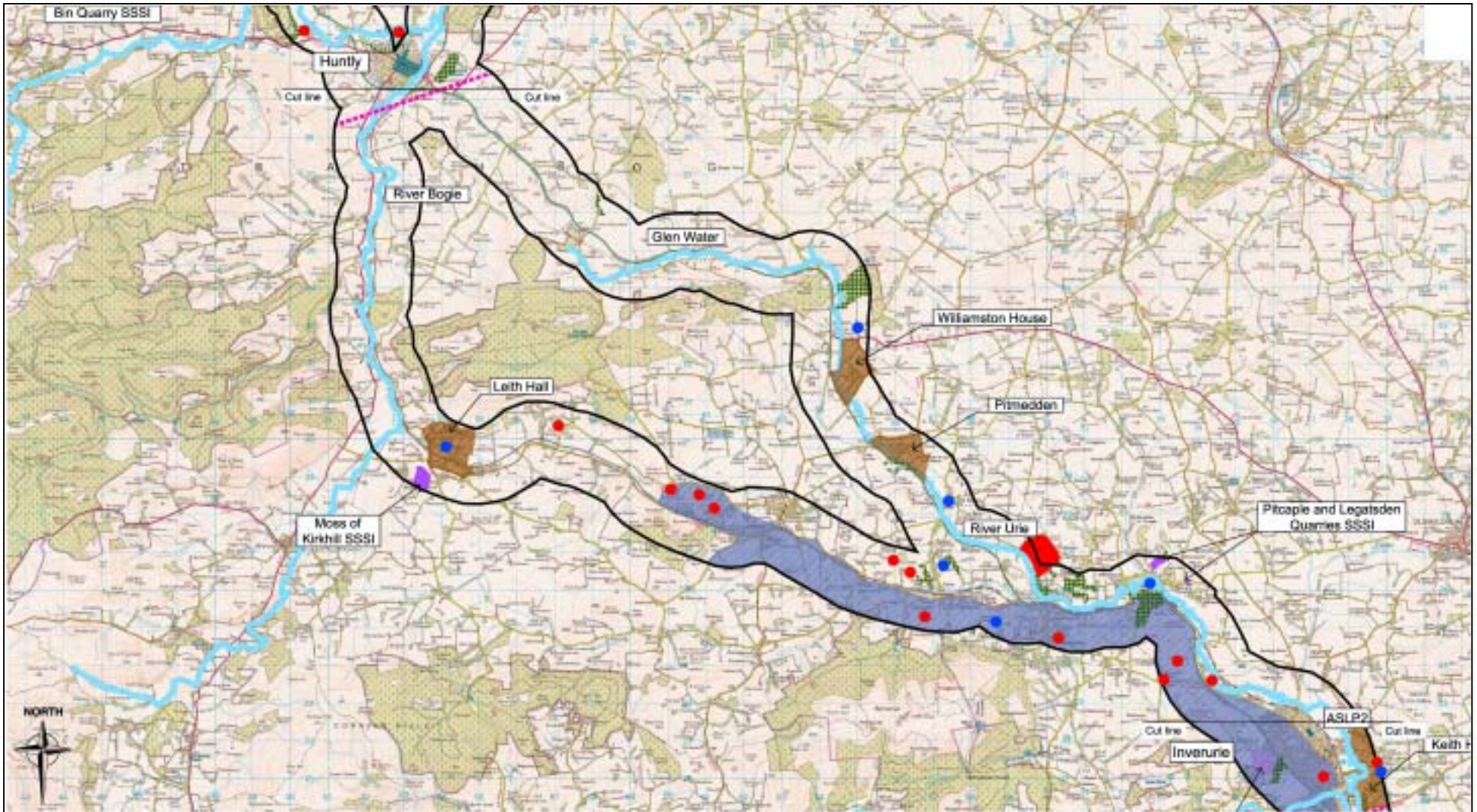

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Figure 3.8.1d
Environmental Constraints

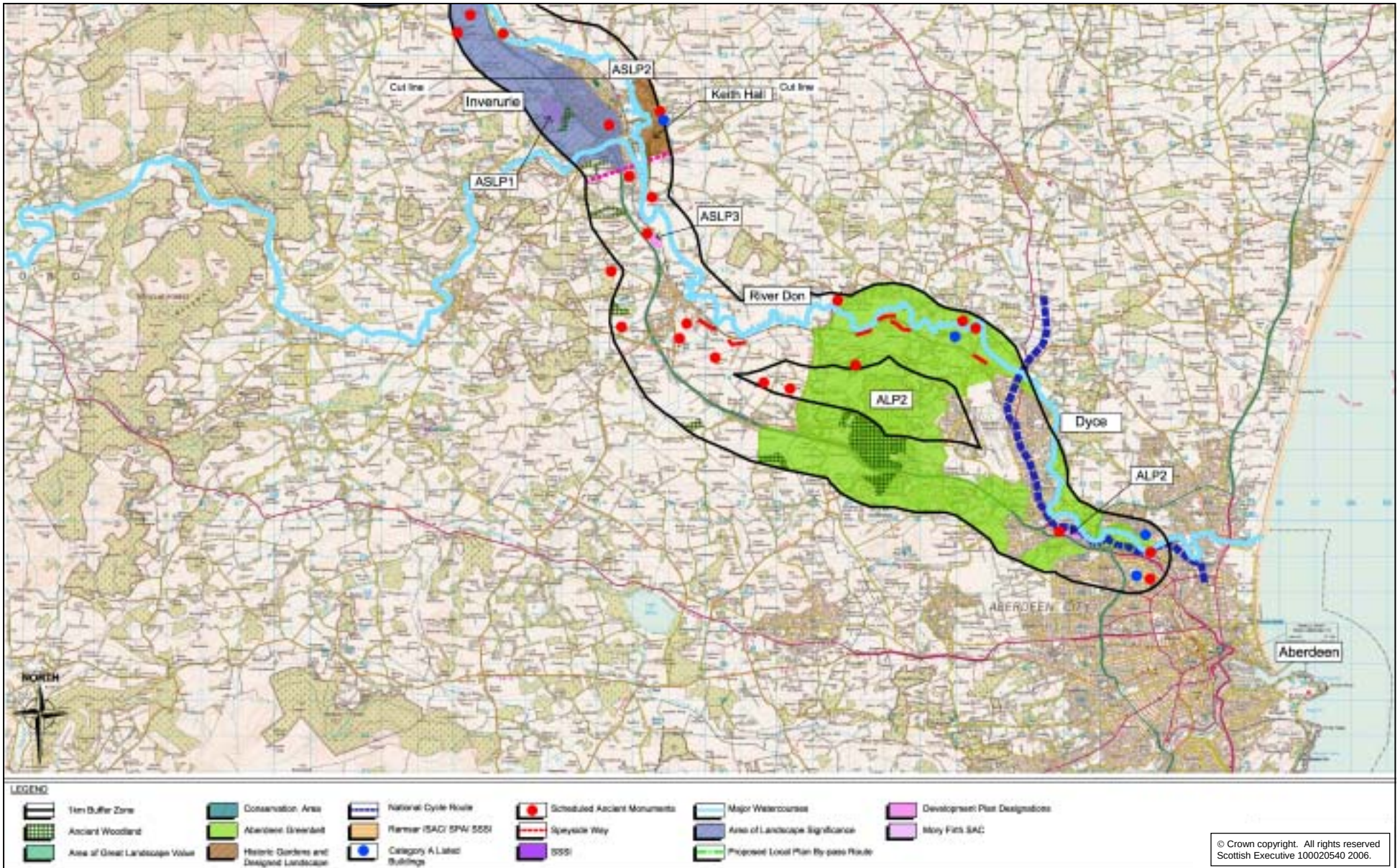

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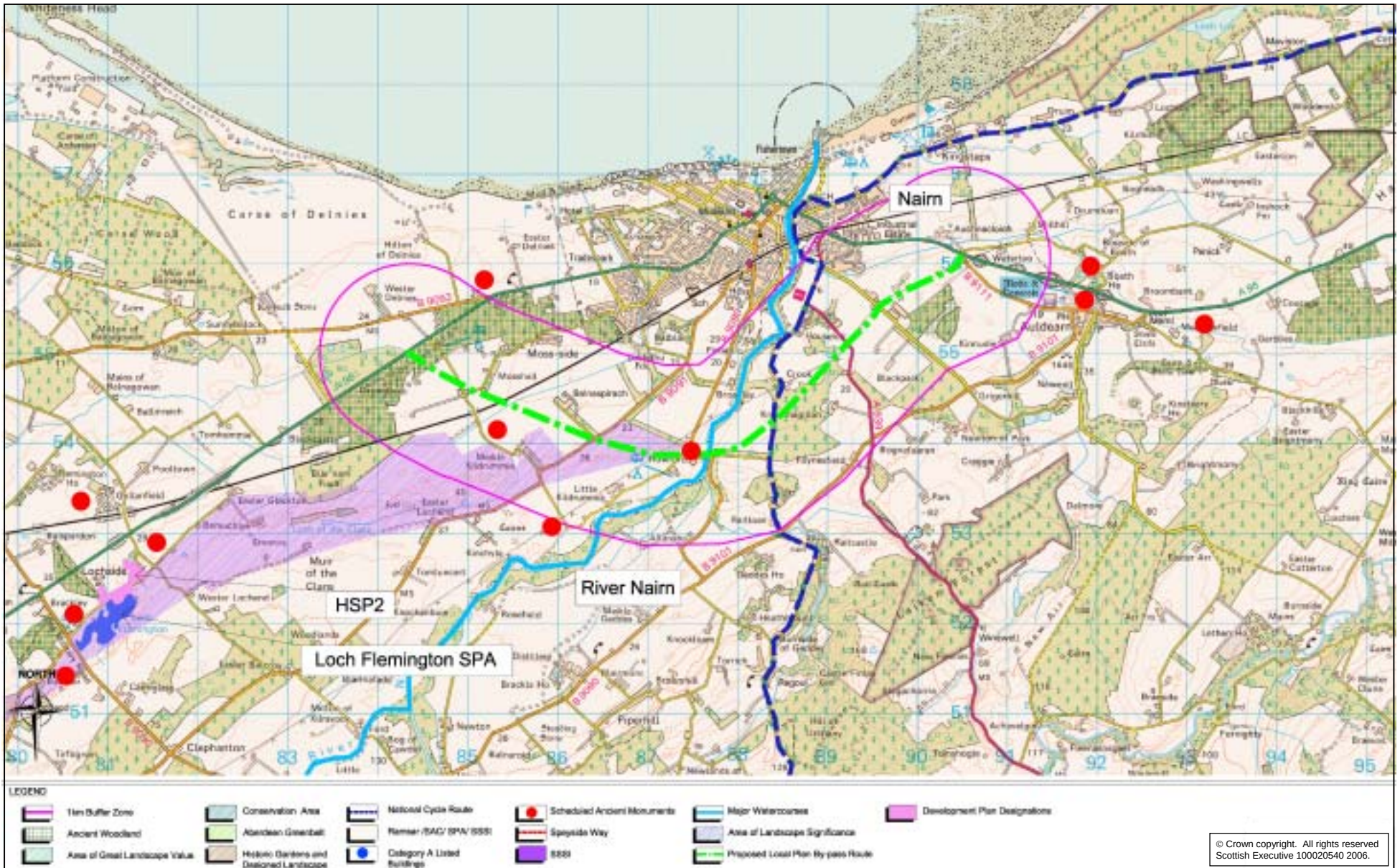
Figure 3.8.1e
Environmental Constraints



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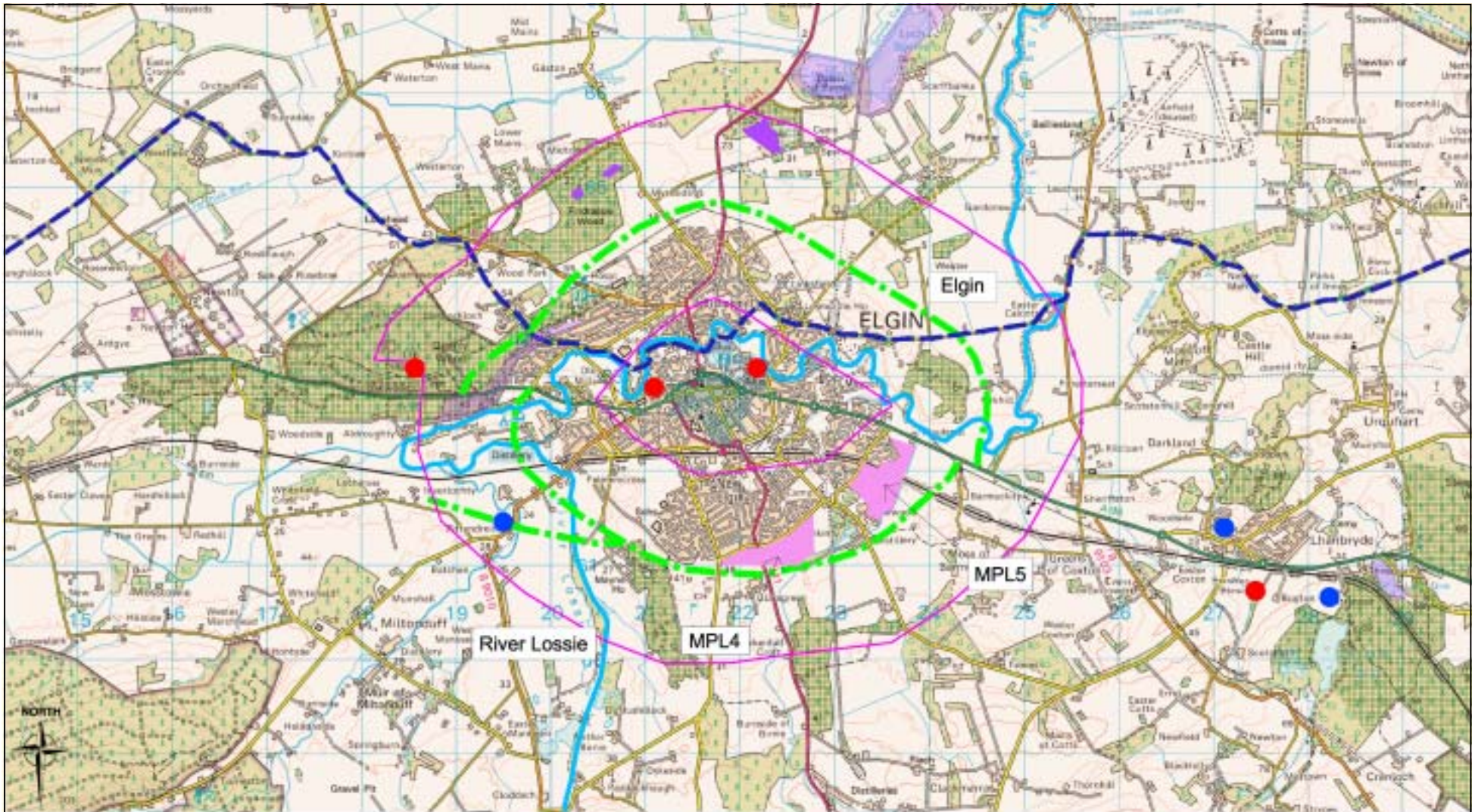
Transport Corridor Study

Figure 3.8.2
Nairn By-Pass



LEGEND

1km Buffer Zone
Ancient Woodland
Area of Great Landscape Value
Conservation Area
Aberdeen Greenbelt
Historic Gardens and Designed Landscape
National Cycle Route
Ramsar /SAC/ SPA/ SSSI
Category A Listed Buildings
Scheduled Ancient Monuments
Speyside Way
SSSI
Major Watercourses
Area of Landscape Significance
Proposed Local Plan By-pass Route
Development Plan Designations

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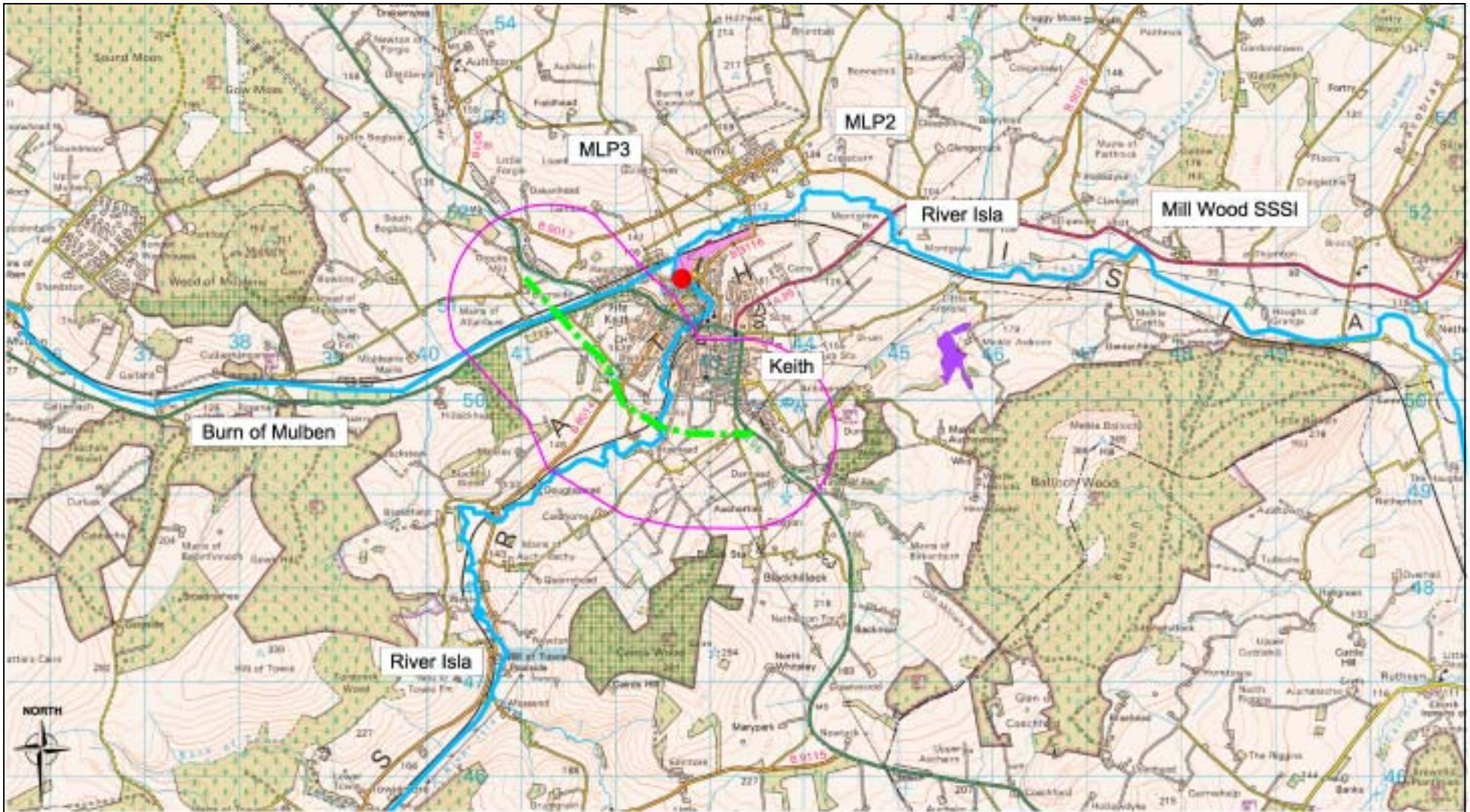
Figure 3.8.3
Elgin By-Pass



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Aberdeen to Inverness Transport Corridor Study

Figure 3.8.4
Keith By-Pass

4. PROBLEMS AND OPPORTUNITIES

4.1 Introduction

The identification of existing and potential problems within the transport and land-use system under consideration forms the starting point for the development of a transport proposal.

A key element in the STAG process is to be able to recognise the root causes of any identified problems within the study area and to develop transport improvement options that address the underlying issues. Identified problems should be supported by an analysis of available opportunities and an understanding of the constraints and uncertainties that may impact on the success of a proposed transport improvement option. Wherever reasonably practical, problems should be quantified in order to gauge the scale of the problem and to assist in defining appropriate targets as part of the established transport planning objectives.

In the case of the Aberdeen to Inverness Transport Corridor Study, the identification of initial problems has led to the collection of additional information to assist in defining conditions within the corridor including in particular data on journey times along the route, trends in road safety and passenger volumes at the rail stations within the corridor.

4.2 Existing Problems and Opportunities

The identification of problems within the existing transport corridor was an important process in the development of appropriate transport proposals for the future.

From the responses received during the consultation process, the following issues have been identified as the perceived current transport problems along the corridor.

- Volume of house building has exceeded investment in infrastructure
- Too much traffic for the standard of road
- 40mph limit on HGVs causes frustration
- Long journey times
- Congestion through built-up areas
- Poor air quality
- Poor journey time reliability
- More public transport services required
- Agricultural traffic causing platoons
- Lack of lay-by facilities
- Lack of overtaking opportunities leads to accidents
- Lack of alternative to private car
- Platooning
- Poor road surface
- Flood risk
- Drainage incorporating SUDS
- Protection of designated sites
- No safe or practical route for commuting by bicycle
- Road safety
- Conflict between strategic and local road traffic
- Burdens on firms using the corridor
- Queuing
- Public transport reliability
- Insufficient frequency / volume of trains

Given the comments regarding journey time reliability received during the consultation process, the current speed limits and road markings along the A96 trunk road have been established to assist in defining current operating conditions and overtaking opportunities along the route. This information is illustrated in Figure 4.2.1.

The results from the June 2006 journey time surveys are shown in Figure 4.2.2. This Figure also highlights the 50 mph threshold to provide a measure of consistency in journey times.

Given the comments regarding road safety received during the consultation process, the individual kilometre sections where the accident rates and severity ratio exceed the equivalent national values are shown in Figures 4.2.3 and 4.2.4 respectively.

4.3 Future Problems and Opportunities

From the responses received during the consultation process, the following issues are perceived to be the future transport problems along the corridor.

Short Term

- Increase in housing developments
- Increased traffic likely
- Lack of maintenance
- Increasing queues and delays
- Increased congestion
- Investment required in cycling infrastructure and sustainable modes of transport
- Still in need of infrastructure improvement
- Increased congestion in built-up areas
- Increased demand for rail travel leading to overcrowding
- Increasing cost for businesses leading to decreased competitiveness
- Greater need for overtaking opportunities
- Increased journey times
- Increased number of accidents
- Increased proportions of HGV traffic
- Drainage and flood risk
- Favouring energy efficient transport (rail/sea)
- Lack of alternative to private car use

Medium Term

- New settlements east of Inverness
- Increasing cost for businesses leading to decreased competitiveness
- Severe congestion
- Infrastructure could constrain the growth of businesses
- Damage to the economic sustainability of towns along corridor
- Deteriorating air quality
- Increasing safety problems
- Climate change
- Flood risk
- Significant impact on businesses in Moray
- Growth of Inverness (more demand on road)

Long Term

- Gridlock
- Reduction in air quality
- Economic and social well-being of the area
- Infrastructure that can handle all road and rail freight at sensible speeds
- Possible road user charging
- Extension of airport
- New settlements
- Private motoring costs
- Increasing traffic

In addition to the issues identified above, some additional perceived problems were identified during the first workshop. These include:

- Poor road alignment and standard at specific locations;
- Too much traffic for the standard of road;
- Road accident problems along the route;
- Current carbon emissions;
- Current and future energy prices;
- Impact of incident management, e.g. road/rail closures;
- Air quality management issues;
- Climate change; and
- Increased demand for rail and bus travel.

The information set out above was used as the basis for identifying, and quantifying wherever possible, the key transport related problems along the Aberdeen to Inverness transport corridor and to assist in the development of local transport objectives. The key problems are as follows:

- Poor road safety on some sections of the A96 between Aberdeen and Inverness;
- Poor journey time reliability on some rural sections of the A96;
- Increased traffic demand and vehicle composition leading to platooning, queuing and increased carbon emissions on the A96;
- Lack of safe overtaking opportunities along the A96;
- Congestion on the A96 on the approach to and through urban areas;
- Lack of attractive, sustainable transport alternatives to private car;
- Conflict between strategic and local traffic in urban areas;
- Severance for pedestrians caused by strategic traffic in urban areas;
- Poor air quality in some urban areas;
- Increased transport costs for local businesses leading to an adverse impact on economic growth within the corridor; and
- Difficulties associated with freight movements along the transport corridor.

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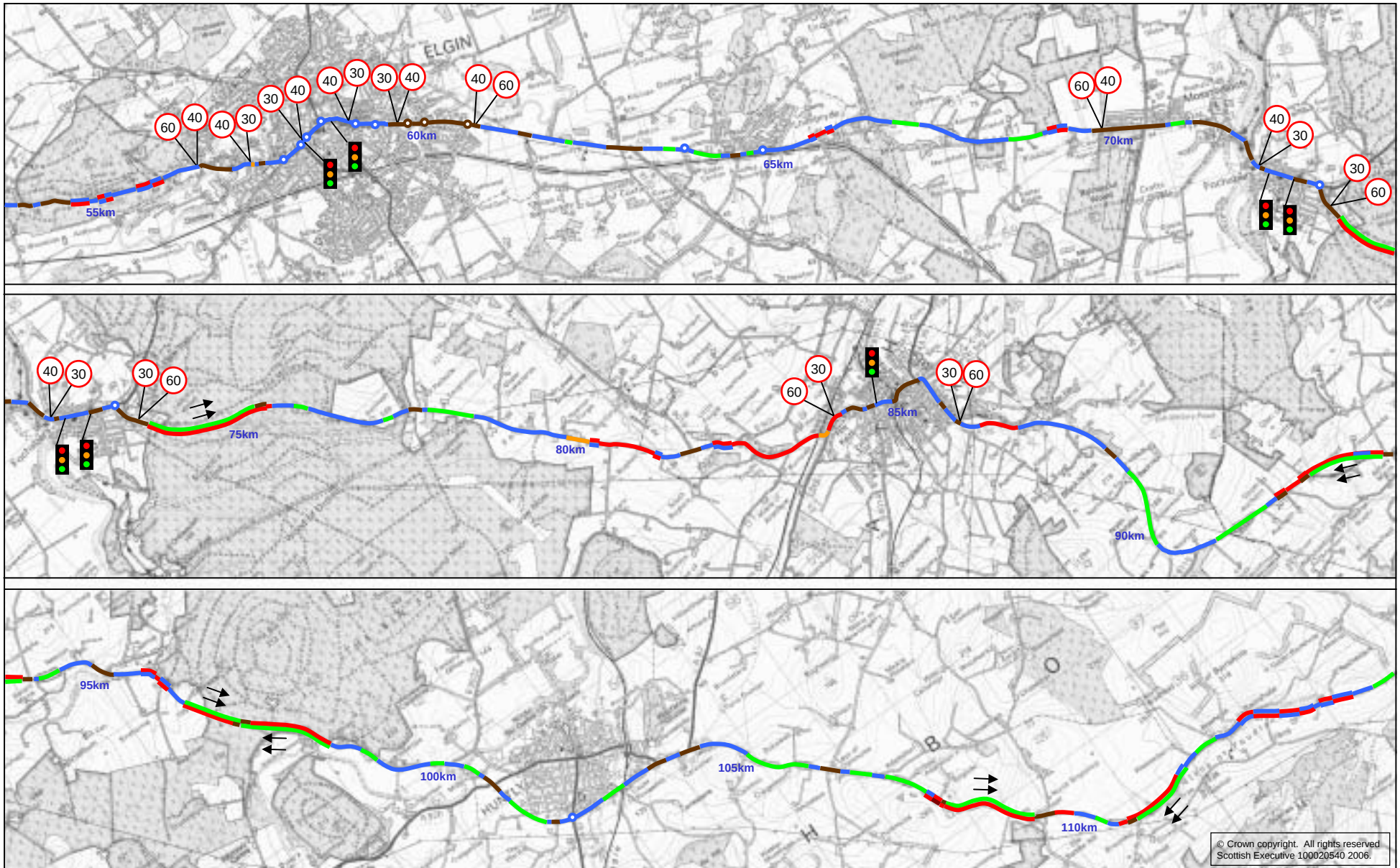
Notes

- Road Centre Line (Short Dash) Safe Overtaking
- Road Centre Line (Long Dash) Caution Overtaking
- Solid White Line (No Overtaking)
- Chevrons (Protected Right Turn or Ladder Markings)
- No Road Markings
- Speed Limit 60 | 30

Aberdeen to Inverness Transport Corridor Study

Figure 4.2.1a
Existing A96 Carriageway Characteristics



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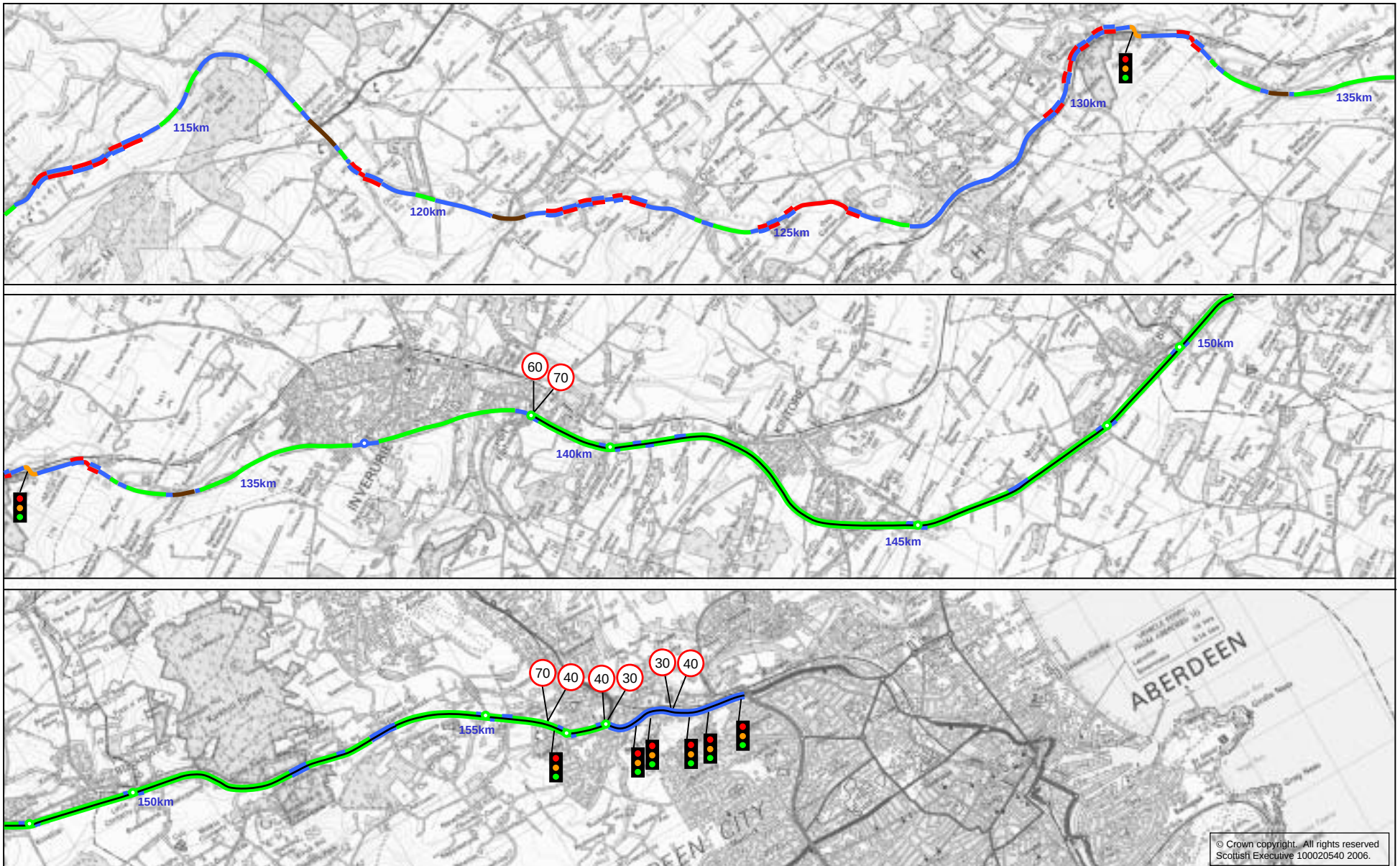
Aberdeen to Inverness
Transport Corridor Study

Figure 4.2.1b
Existing A96 Carriageway Characteristics



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Notes

Road Centre Line (Short Dash) Safe Overtaking

Road Centre Line (Long Dash) Caution Overtaking

Solid White Line (No Overtaking)

Chevrons (Protected Right Turn or Ladder Markings)

No Road Markings

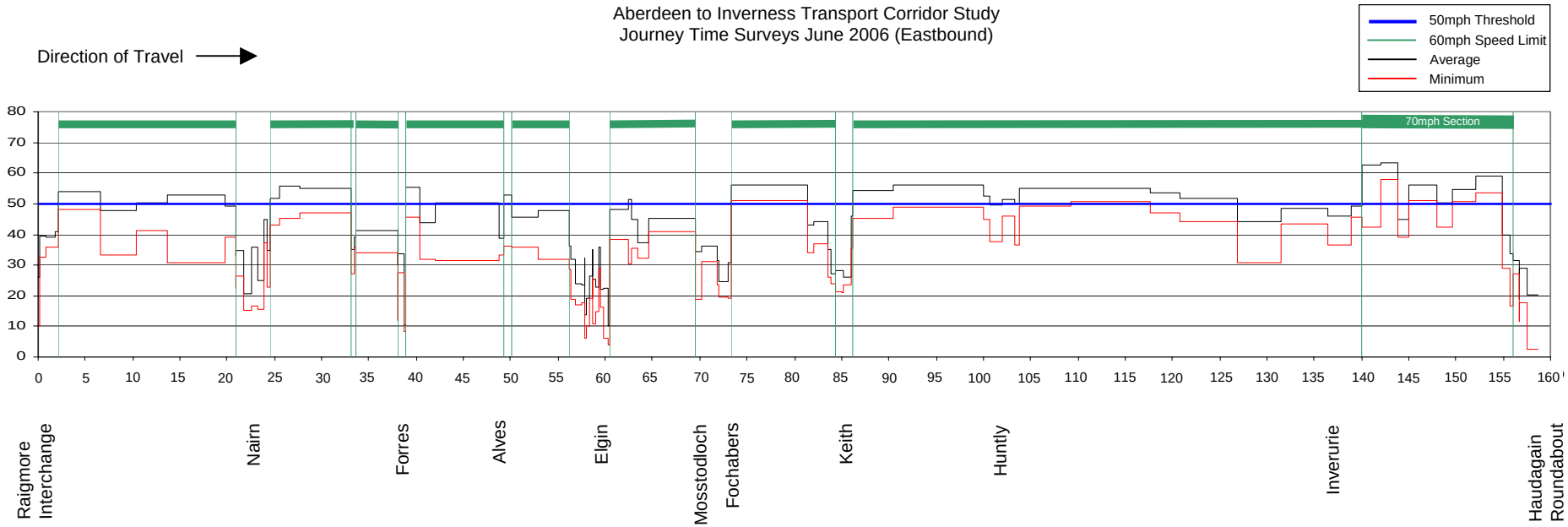
Speed Limit 60 30

Aberdeen to Inverness Transport Corridor Study

Figure 4.2.1c
Existing A96 Carriageway Characteristics

Aberdeen to Inverness Transport Corridor Study
Journey Time Surveys June 2006 (Eastbound)

Direction of Travel →



Aberdeen to Inverness Transport Corridor Study
Journey Time Surveys June 2006 (Westbound)

← Direction of Travel

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60 mph rural road section

Aberdeen to Inverness Transport Corridor Study

Figure 4.2.2
Average Vehicle Speed by Direction
June 2006

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Figure 4.2.3
Accident Rate by km (2001-2005)

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Figure 4.2.4
Accident Severity by km (2001-2005)
Locations with a cluster of 5 or more accidents

5. SETTING THE TRANSPORT PLANNING OBJECTIVES

5.1 Introduction

The setting of appropriate objectives is key to the development and appraisal of any planning proposals. The transport planning objectives set for this study express the desired outcomes in the study area and the wider local area.

There are three distinct categories of objectives identified in STAG, namely Government, planning and external. Each of the three categories of objectives may have sub-objectives which can assist in establishing a monitoring framework and for formal evaluation at a later stage.

The guidance contained in STAG recommends that, as a matter of good practice, the extent to which planning objectives 'nest' within the most relevant Government objectives should be considered. This simplifies the comparison of the relative performance of transport proposals against the Government's objectives.

Based on the above, SMART (Specific, Measurable, Attainable, Relevant and Timed) transport planning objectives for the study have been established. This method of defining objectives provides a transparency to the objective setting process and assists in focussing on the key aspects of the project. Therefore, to ensure that the established transport planning objectives are consistent with other transport policy objectives, the following hierarchy have been considered:

- Government Objectives;
- National Transport Strategy;
- Regional Transport Strategy; and
- Local Transport Strategies.

5.2 The Government's Objectives

The Government's objectives that relate directly to the Aberdeen to Inverness Transport Corridor Study reflect the five main areas to be considered when appraising transport proposals, namely:

- Environment;
- Safety;
- Economy;

- Integration; and
- Accessibility and Social Inclusion.

These objectives, which were established in the White Paper 'Travel Choices for Scotland', can assist in any planning exercise to ensure that all possible impact areas have been considered as part of any transport proposal. They also ensure that any transport proposals requiring Government funding are considered at a national level and reflect the responsibility of the Government to balance the requirements and resources of different areas and communities throughout Scotland.

The transport planning objectives relating to Environment are as follows:

- to reduce **noise**;
- to improve **local air quality**;
- to reduce **greenhouse gases**;
- to protect and enhance the **landscape**;
- to protect and enhance the **townscape**;
- to protect the **heritage of historic resources**;
- to support **biodiversity**;
- to protect the **water environment**;
- to encourage **physical fitness**; and
- to improve **journey ambience**.

The transport planning objectives relating to Safety are as follows:

- to reduce **accidents**; and
- to improve **security**.

The transport planning objectives relating to Economy are as follows:

- to get good value for money in relation to impacts on **public accounts**;
- to improve **transport economic efficiency for business users and transport providers**;
- to improve **transport economic efficiency for consumer users**;
- to improve **reliability**; and
- to provide beneficial **wider economic impacts**.

The term Integration can specifically mean the following:

- integration within and between different types of transport, so that each contributes its full potential and people can move easily between them;
- integration with the environment, so that the transport choices available support a better environment;
- integration with land-use planning, at national, regional and local level, so that transport and planning work together to support more sustainable travel choices and reduce the need for travel; and
- integration with policies for education, health and wealth creation, so that transport helps make a fairer, more inclusive society.

The transport planning objectives relating to Integration are as follows:

- to improve **transport interchange**;
- to integrate transport policy with **land-use policy**; and
- to integrate transport policy with **other Government policies**.

The transport planning objectives relating to Accessibility and Social Inclusion are as follows:

- measurement of ease of access to the transport system itself in terms of, for example, the proportion of homes within x minutes of a bus stop or the proportion of buses which may be boarded by a wheel-chair user;
- measurement of ease of access to facilities, with the emphasis being on the provision of the facilities necessary to meet people's needs within certain minimum travel times, distances or costs;
- measurement of the value which people place on having an option available which they might use only under unusual circumstances (such as when the car breaks down) – 'option value' – or even the value people place on simply the existence of an alternative which they have no real intention of using – 'existence value'; and
- measurement of ease of participation in activities (for personal travel) or delivery of goods to their final destination (for goods travel), provided by the interaction of the transport system, the geographical pattern of economic activities, and the pattern of land use as a whole.

The four uses of the term Accessibility and Social Inclusion have in the past overlapped but can be expressed more simply as:

- to increase **option values**;
- to reduce **severance**; and
- to improve **access to the transport system**.

5.3 The National Transport Strategy

The Government set five high level objectives for transport in Scotland's Transport Future. They are to:

- Promote economic growth by building, enhancing, managing and maintaining transport services, infrastructure and networks to maximise their efficiency;
- Promote social inclusion by connecting remote and disadvantaged communities and increasing the accessibility of the transport network;
- Protect our environment and improve health by building and investing in public transport and other types of efficient and sustainable transport which minimise emissions and consumption of resources and energy;
- Improve safety of journeys by reducing accidents and enhancing the personal safety of pedestrians, drivers, passengers and staff; and
- Improve integration by making journey planning and ticketing easier and working to ensure smooth connection between different forms of transport.

Within the National Transport Strategy (NTS), the Government recognises that potential tensions exist between these high level objectives such as promoting economic growth while protecting our environment. However, great emphasis is placed on ensuring that synergy is achieved.

The strategy outlined in the NTS identifies 3 key strategic areas of focus to achieve this vision. They are to:

- **Improve journey times and connections**, to tackle congestion and the lack of integration and connections in transport which impact on our high level objectives for economic growth, social inclusion, integration and safety;
- **Reduce emissions**, to tackle the issues of climate change, air quality and health improvement which impact on our high level objective for protecting the environment and improving health; and
- **Improve quality, accessibility and affordability**, to give people a choice of public transport, where availability means better quality transport services and value for money or an alternative to the car.

Action Plan for Buses in Scotland

The aims, objectives and actions address the different types of development that are required in different parts of Scotland. They recognise that there is no 'one size fits all' solution, and that all partners need to act in various ways, tailoring solutions to the specific problems. To improve bus services through effective transport planning we need:

- a clear vision of how local bus services meet local needs;
- greater use of bus plans with explicit actions to deliver vision;
- close partnership working between transport authorities and bus operators; and
- improved communication with all stakeholders.

Scotland's Railways

The Rail has a central role in Scotland's National Transport Strategy. The vision for the railway in Scotland is that it should provide a safe, reliable customer focused service that supports the economy and delivers wider social inclusion and environmental aspirations. Although the railway cannot be a solution for all of Scotland's transport needs, the key strengths of the railway will be maximised to develop the rail network where that is the best long term solution to:

- Offer world class train services which connect our city regions and major towns, providing journey times and quality of service that are competitive with car and air;
- Provide access to inter-urban services through high quality interchange stations that link with feeder rail services from intermediate stations and offer easy transfer from car, bus, tram, subway, ferry, cycle and walking;
- Make commuter train services attractive to passengers by ensuring that the journey to work is a high quality, reliable travel option and by ensuring that our rolling stock choices take account of environmental considerations, including air quality and noise emissions;
- Support heavily loaded freight trains carrying an increasingly wide range of products with effective interchange to road and sea; and
- Achieve a rail industry that delivers efficiently and effectively to support our aims and vision.

Freight Action Plan for Scotland

The Government's vision is for Scotland to be a place where the movement of freight, through the entire supply chain, is efficient and sustainable, on a transport infrastructure that is integrated and flexible thus allowing Scotland's businesses to compete and grow in a global economy. To achieve this vision, the Freight Action Plan focuses on the following aims and objectives for all key partners in the public and private sectors:

- To enhance Scotland's Competitiveness:
- To support the development of the freight Industry in Scotland:
- To maintain and improve the Accessibility of rural and remote areas:
- To minimise the adverse impact of freight movements on the Environment in particular through the reduction in emissions and noise:
- To ensure freight transport policy Integration.

5.4 Regional Transport Strategies

The Aberdeen to Inverness transport corridor passes through two regional transport strategy areas, namely:

- Hitrans, which includes the Highlands and Moray Council areas; and
- Nestrans, which includes the Aberdeenshire and Aberdeen City Council areas.

Hitrans

Hitrans Regional Transport Partnership prepared a draft regional transport strategy (RTS) for the region in November 2006. The Strategy identifies common issues, builds consensus on the ways to tackle these issues, and sets out the priorities for future investment in the region. The Strategy is considered a framework against which policy initiatives and projects can be developed across the region and beyond. The Strategy also seeks to promote the region's strategic priorities as policy develops at the national and local levels.

The development of the new Strategy is in keeping with the Transport (Scotland) Act 2005, which calls for the Strategy to plan how transport in the region will be provided, developed, improved and operated so as to:

- Enhance social and economic well-being;
- Promote public safety, including road safety and the safety of users of public transport;
- Be consistent with the principle of sustainable development and to conserve and enhance the environment;
- Promote social inclusion;
- Encourage equal opportunities and, in particular, the observance of the equal opportunities requirements;
- Facilitate access to hospitals, clinics, surgeries and other places where a health service is provided; and
- Integrate with transport elsewhere.

The Strategy is intended to contribute to the overall vision, aim and objectives as set out in the White Paper - Scotland's Transport Future, dated June 2004. The improvement proposals outlined in the RTS are also intended to feed into the Strategic Transport Projects Review, which is currently being undertaken.

With reference to the Aberdeen to Inverness corridor, the following improvement options have been identified in the Hitrans RTS:

- Inverness Airport and flights
  - Surface Access Strategy to deliver better integration

- Terminal building and runway extension

- Inverness to Aberdeen Rail Line
  - Commuter services Elgin-Inverness
  - Dalcross Station at Inverness airport
  - Journey time improvements and hourly departure Inverness to Aberdeen

- A96 Corridor Road
  - Dual carriageway Inverness to airport
  - Fochabers bypass with demand management & provision of space for passenger transport / cycling through Fochabers, plus bus priority on approaches and P&R
  - Elgin bypass with demand management & provision of space for passenger transport / cycling through Elgin, plus bus priority on approaches and P&R
  - Other bypasses on route (including Nairn and Keith) with demand management & provision of space for passenger transport / cycling through settlements, plus bus priority on approaches and P&R
  - Dual carriageway options on A96
  - Variants of the above option would include providing dual carriageway sections only

- Congestion & Urban Issues
  - Enhance connectivity between Inverness Retail Park and the city centre

Nestrans

Nestrans Regional Transport Strategy (RTS) sets out the challenges facing Aberdeen City and Aberdeenshire over the next fifteen years and how they will be addressed. The strategy includes a comprehensive appraisal of the problems and issues affecting transport in the north east, sets clear objectives and proposes a detailed plan of action for improving transport in the region between now and 2021.

Nestrans vision is for a transport system for the north east of Scotland which enables a more economically competitive, sustainable, and socially inclusive society.

Four strategic objectives containing twelve operational objectives were developed from the detailed analysis of problems and issues. The four key objectives are as follows:

- Economy - To enhance and exploit the north east's competitive economic advantages, and reduce the impacts of peripherality;
- Accessibility and Social Inclusion - To enhance choice, accessibility and safety of transport, particularly for disadvantaged and vulnerable members of society and those living in areas where transport options are limited;
- Environment - To conserve and enhance the north east's natural and built environment and heritage and reduce the effects of transport on climate and air quality; and
- Spatial Planning - To support a strong, vibrant and dynamic city centre and town centres across the north east.

The objectives set out in the Strategy guide the development of options and ensure that the final strategy meets the objectives.

The RTS has been developed based on the national objectives set out in the 2004 Transport White Paper and the NTS consultation document issued in July 2006. The final strategy will be updated to reflect the content of the final NTS and any schemes developed will also feed into the Strategic Transport Projects Review.

With reference to the Aberdeen to Inverness corridor, the following improvement options have been identified in the Nestrans RTS:

- Capacity and journey time improvements on the A96 west of Inverurie;
- Upgrading the A90/A96 Haudagain junction;
- A96 west of Inverurie - junction, alignment and overtaking opportunities;
- enhance frequency of rail services between Aberdeen and Inverness;
- to improve bus services throughout the north east, to encourage modal shift and thereby reduce carbon emissions and other pollutants and utilise roadspace more effectively;
- Bus priority measures on A96 – approach to Dyce Drive;
- Park and ride – A96 Chapelbrae (Inverurie Road);
- Transport Interchange – Inverurie an integrated rail/bus/taxi interchange at Inverurie Station; there will also be cycle lockers and increased car parking to encourage the use of Park & Ride, as well as improved traffic, pedestrian and cycling connections within the town;
- Enhancing the existing bus services that serve the airport along the A96 corridor;
- Aberdeen Crossrail, including increased frequency of services and new stations in the City and Aberdeenshire;
- In the longer term, explore a fixed link from the City to Aberdeen Airport, either as an addition to Crossrail or as a guided bus route;
- Continued development of cycle routes on key routes within Aberdeenshire, into Aberdeen;

- Investigate potential for measures to provide more reliable journey times for HGVs and identify a trial route for implementation of priority measures; and
- Support the development of modern inter-modal freight terminals to provide future capacity for rail freight expansion.

It should be noted that the Nestrans RTS was published on 13 December 2006 and was not therefore available for discussion during either of the two stakeholder workshops.

5.5 Local Transport Strategies

The Aberdeen to Inverness transport corridor passes through four local transport strategy areas, as discussed in the following documents:

- Local Transport Strategy for the Highlands – October 2000
- The Moray Local Transport Strategy
- Aberdeenshire Council Local Transport Strategy Review 2006 – Full Consultation Document
- Local Transport Strategy for Aberdeen – December 2000

Local Transport Strategy for the Highlands – October 2000

The following strategies have been promoted within the LTS combining short-term objectives with long-term vision. The targets relate the strategies to timescales and present two alternative possibilities of what can be achieved with and without additional funding. A partnership approach has been adopted and facilitated by the introduction of Community Planning to ensure the LTS is consistent with other relevant plans. The strategies include:

- Continue to fight for fair fuel prices in Highland Council Areas;
- Reduce the number of accidents and improve safety on the road network;
- Make the best use of existing roads for all users;
- Restrain the demand for travel by private cars for commuting, particularly at peak hours, and provide alternatives to enable this; and
- Work with operators to provide a high quality integrated public transport network appropriate to the needs of communities.

The primary economic role of public transport over much of Highland is tourism. Although 82% of tourists travel by car, this leaves significant numbers who use trains and buses. With high fuel costs, the availability of reasonably priced public transport becomes increasingly vital for attracting tourists. The Inverness – Aberdeen route has a role for both business and leisure travel, and there is scope for this to be developed further. An integrated transport policy will allow for the most appropriate mode or modes to be used for any journey, taking account of social exclusion and special needs, convenience and flexibility, economy and environmental factors such as avoidance of congestion and pollution.

Of the 962 kilometres of trunk road within Highland, only 40% has seen significant improvement within the last 30 years. The Council will press the Scottish Executive to improve the A82 and the A96 as well as to continue improvements of the A95, A86, and A87, which were being progressively improved by the Local Authority before trunking took place in 1996.

The Council adopted the following policy in regards to trunk road network improvements:

- To recommend to the Secretary of State the level of service required on the trunk roads to meet the needs of the Highland area and assist in prioritisation of improvements to maximise benefits to the Highlands.

A desire to improve trunk roads must however be balanced against the need to meet road traffic reduction targets.

The Moray Local Transport Strategy

The Local Transport Strategy has been developed within the context of sustainable development and this encompasses economic, social and environmental considerations. It is clear that successful economic development depends upon efficient transport networks both within the Moray boundaries and linking it to the rest of the UK and Europe.

The present trunk road network consists of the A96 to Inverness and Aberdeen, linking the A9 and A90 respectively, and the A95 from Keith to Aviemore. The A96 forms part of the Trans European Road Network in the North East. The A96 currently suffers from slow speeds due to slow moving vehicles, therefore there is a clear need for its improvement to dual carriageway, although in the short term route action and the provision of additional overtaking opportunities should be taken forward. It is essential that key bottlenecks are removed by providing bypasses at Elgin, Fochabers and Keith to increase journey reliability, as well as safety and other environmental benefits to the communities involved.

The following actions have been identified in the LTS:

- Upgrading the A96 to dual carriageway
- Upgrading the A98 and A941 to trunk road quality
- Provision of bypasses for Fochabers, Keith and Elgin
- Upgrading the A95 to trunk road standards
- Prioritising route improvements
- Maintaining roads and infrastructure

The need to improve the capacity of the Aberdeen - Inverness rail line was seen as a prerequisite to improving services, timetables and connections on that route. The main requirement is seen as the construction of passing loops to allow an increase in the number of services on the route. The key actions identified in the LTS are:

- Improving the speed, quality and frequency of rail services within and connecting to Moray;
- Upgrading station staffing and facilities;

- Improving the integration between rail and rail, and rail and bus services at Elgin, Forres, Keith, Inverness and Aberdeen; and
- Promoting the increased use and reliability of rail freight.

In rural areas such as Moray, traditional bus services are often unviable. Therefore, there is a need to promote cost effective community initiatives which meet the transport needs of the population. A number of actions require to be considered further to improve the situation. These could include:

- More flexible use of school buses
- Relaxation of regulations regarding fare paying passengers on community buses
- The potential for a community bus network
- Maintaining and improving the existing bus network
- Upgrading public transport facilities
- Tackling rural accessibility

In addition, it will be necessary for traffic management measures to be formulated so that public transport movement is assisted. Traffic management measures include parking standards and provision, safety initiatives, physical and regulation measures, transport demand management, teleworking and development planning. All have an important role to play in reducing and improving traffic issues within Moray. The following actions are identified in the LTS:

- Ensure that parking provision is appropriate to requirements
- Provide car parking standards related to development appropriate to Moray
- Continue to monitor and review the Road Safety Plan
- Improvement of traffic, cyclist, and pedestrian environments
- Promoting modern communications infrastructure
- Ensuring the availability of high technology training
- Focussing development in accessible areas
- Using developer contributions to assist in the provision of facilities for cycling, walking and public transport
- Promoting a reduction in car use

Aberdeenshire Council Local Transport Strategy Review 2006 – Full Consultation Document

Aberdeenshire's Local Transport Strategy sets out the Transport Vision and objectives of the Council and provides a three-year Action Plan for meeting local challenges and needs. The key issues identified include the need to limit the environmental impact of transport; social exclusion; peripherality; lack of accessibility to employment, health, higher education and leisure facilities; and the availability and affordability of public transport, which were identified by the Council's initial public consultation on updating the LTS. A series of objectives based around the over-riding principles of sustainability have been developed. These include:

- To promote a sustainable economy by maximising the effectiveness and efficiency of transport services, infrastructure and networks;
- To promote social inclusion by connecting communities to facilities and services, and increasing the accessibility of the transport network;
- To reduce the environmental footprint of transport services, infrastructure and networks by reducing harmful emissions, and consumption of non-renewable resources and energy;
- To improve safety and security of journeys by reducing casualties and enhancing the personal safety of all users of the transport network; and
- To improve the integration of the transport system between different services and modes, and with other relevant local, regional, national and European policies.

The principal road links in the north east are the trunk roads, namely the A90 south and north, and the A96 to Inverness. The A96 connects Aberdeenshire and Aberdeen to Inverness. Working with HITRANS (the Highland and Islands Regional Transport Partnership), NESTRANS is looking to secure ongoing improvements to tackle the route's existing road safety problem and provide journey time reliability improvements.

The LTS notes that trunk road traffic growth over the last five years has generally been at low to medium growth levels (6.2% to 8.8%). However, growth on the A96 corridor has been at, or beyond, high growth forecasts (11.2%). The level of growth diminishes to low to medium levels outwith the Aberdeen City travel to work area.

The proposals for the Aberdeen Western Peripheral Route are supported as this new road, which will connect the current A90 south of Aberdeen with the A96 trunk road to the west of Aberdeen and the current A90 to the north of the city, will deliver significant benefits to the North-east of Scotland, reducing the impact of increasing congestion and improving accessibility compared with the existing trunk road network through Aberdeen City.

Local Transport Strategy for Aberdeen – December 2000

The aims of the Transportation Strategy reflect the need to balance the requirement for a vibrant economy with a community in which everyone feels included, and at the same time minimising impacts on the environment. The City Council's Interim Transportation Strategy contained five key objectives. These are:

- To take full account of the environmental, social and economic implications of transport;
- To maximise accessibility for all to services and job opportunities;
- To campaign for improved external links to Aberdeen by rail, sea, road and air;
- To improve safety in transportation matters; and
- To ensure the efficient use of resources in accordance with the strategy.

These five objectives encompass the principles of sustainable transport in line with balancing community, economic and environmental considerations. Equally, they take full account of the Council's corporate objectives of protecting the environment, ensuring the provision of quality services, enhancing democracy and enhancing the local economy. A comprehensive list of 28 sub-objectives has been defined, against which alternative scenarios can be tested.

The LTS notes that in Aberdeen, the level of capital expenditure on transport projects fell from £7m per year in 1993, to just £2.1m in 1997. This partly reflected a different attitude to accommodating the uncurtailed demand for use of the private car (that is a move away from the "predict and provide" style of projecting car demand and planning to cater for it). The purpose of the proposals identified in the LTS is to redress a situation where transport in the north east of Scotland is chronically underfunded, to one where expenditure is available to ensure that the area can have the transport infrastructure that it needs. The target set in the LTS is "by 2011, for expenditure on transport in the north east of Scotland to be at least double its present level, in real terms".

The Transportation Strategy has set a number of targets aimed at influencing travel demand within the City. Without continuing investment and enlightened attitudes to travel, many roads in the city will become heavily congested for most of the day. The following targets have been set aimed at addressing the Council's overall objective of reducing traffic as a way of improving economic, social and environmental circumstances within the City:

- By 2011, to reduce the modal share of travel to work in Aberdeen by car to less than 40% (a reduction of at least one quarter from 1991 figure of 53%);
- By 2011, to reduce the modal share of travel to work into Aberdeen City Centre by car drivers to 25% (a reduction by almost half from 1991 figure of 44%);

- By 2011, to reduce the total number of vehicle trips within the Aberdeen Area, consisting of the City and its main catchment area of 20 miles around, by 20% of 1997 levels (a reduction of 29% on projected "do nothing" figures); and
- By 2011, to reduce the total mileage travelled within the built-up area of Aberdeen by 20% of 1997 levels (a reduction of 30% on projected "do nothing" figures).

The policies, proposals and targets for prioritising roadspace will seek to achieve the strategy objectives by making more efficient and effective use of roadspace thereby increasing accessibility to the City without the environmental effects of more road building. Encouraging buses assists in the shift towards safer modes of travel whilst being more socially inclusive. The proposals and targets identified in the LTS include:

- To introduce measures which give greater priority to vulnerable road users;
- To introduce measures which give greater priority to buses as efficient users of roadspace;
- To give priority to goods vehicles in appropriate locations by 2003;
- To adopt a criteria-based system within which to consider calls for roadspace priority, based on safety, environmental impact, economic contribution, community impact, accessibility, equity and public acceptability; and
- To investigate opportunities for taxi-only routes in the City by 2005.

Given the inadequacy of the existing trunk road network, the Council believes that there is a need for a high quality route to dual carriageway standard with grade separated junctions as a key element of the Transportation Strategy to act both as bypass and as a distributor around the City (the Western Peripheral Route).

5.6 Draft Transport Planning Objectives – Stakeholder Questionnaire

As part of the consultation process, a questionnaire was issued to all stakeholders to provide them with the opportunity to comment on existing conditions within the transport corridor, to identify key problems and to define draft transport planning objectives.

The draft objectives defined in the returned questionnaires are set out in Table 5.1.

Table 5.1 – Draft Transport Planning Objectives Identified in Stakeholder Questionnaire

		Appraisal Criteria Objective				
Ref.	**Draft Transport Planning Objectives**	**Environment**	**Safety**	**Economy**	**Integration**	**Accessibility**
	Stakeholder Questionnaire					
Q1	Acceptable journey times			✓		
Q2	Increase journey time reliability			✓		
Q3	Enable and support economic growth			✓		
Q4	Enhance efficiency on the network			✓		
Q5	Reliable road and rail network			✓	✓	
Q6	Ease the flow of traffic			✓		
Q7	Reduce carbon emissions	✓				
Q8	To reduce environmental intrusion	✓				
Q9	Safer, more environmentally friendly transportation	✓	✓			
Q10	A safe infrastructure		✓			
Q11	Reduced conflict between different modes of transport				✓	
Q12	To reduce the accident rate on the A96		✓			
Q13	Increase public transport usage				✓	
Q14	Providing increased public transport opportunities					✓
Q15	Increase multi-modal journey opportunities					✓
Q16	Integration of transport services				✓	
Q17	A traffic free cycle corridor along the route					✓
Q18	Improve the standard of the road			✓		
Q19	Better infrastructure provision			✓		
Q20	Build a road infrastructure that is fit for purpose			✓		
Q21	Enhanced safety, integration, accessibility and environment	✓	✓		✓	✓
Q22	Improve connections between communities in the NE and S of Scotland				✓	

5.7 Draft Transport Planning Objectives – Stakeholder Workshops

The **first** Stakeholder Workshop was held on 26 October 2006 in Elgin. The stated objectives of the workshop were to:

- inform all stakeholders of the purpose, extent and details of the Aberdeen to Inverness Transport Corridor Study;
- involve stakeholders in reviewing existing/future conditions, identifying problems and opportunities, and setting transport planning objectives;
- establish the views of stakeholders on the problems along the corridor, identifying what they consider to be the most serious; and
- enable stakeholders to understand the position of others and that priorities and solutions can conflict with each other.

The **second** Stakeholder Workshop was held on 12 December 2006 in Elgin. The stated objectives of the workshop were to:

- agree the SMART objectives developed for the Transport Corridor;
- review and update the Do-Minimum / Reference Case for the corridor;
- generate improvement options; and
- sift the improvement options.

As an integral part of the workshop, a series of draft transport planning objectives were identified. These objectives were developed by three separate groups based on the information collected in response to the Stakeholder Questionnaire and through open debate during the course of the workshop.

The draft transport planning objectives developed at the first Stakeholder Workshop are set out in Table 5.2

These draft objectives have been considered further to distinguish between objectives and solutions, and to identify common themes, which has led to the development of SMART objectives for the study.

Workshop reports were produced to document the key outcomes of the workshops.

Table 5.2 – Draft Transport Planning Objectives Developed at First Stakeholder Workshop

		Appraisal Criteria Objective				
Ref.	**Draft Transport Planning Objectives**	**Environment**	**Safety**	**Economy**	**Integration**	**Accessibility**
	Workshop Group 1					
W1	Upgrade the standard of road fit for purpose due to too much traffic for the standard of road – anything above 13,000 AADT upgrade to a dual carriageway within 5 years.			✓		
W2	Ensure average journey times don't exceed 2 hours for road through bypassing the urban areas due to long journey times.			✓		
W3	Reduce impact of agricultural traffic from current levels by 10% pa over 10 years due to agricultural traffic causing platoons.		✓	✓		
W4	Separated / segregated lay-by every 10 miles in each direction, and overnight HGV facilities near or adjacent to transport interchanges due to lack of lay-by facilities.		✓			
W5	Ensure average journey times along the corridor do not vary by 10% due to burdens on firms using the corridor.			✓		
W6	Provide safe off route cycle facilities between communities that are within 10km along the A96 corridor due to no safe or practical route for commuting by bicycle.	✓	✓		✓	✓
W7	Reduce conflict between strategic and local traffic and between pedestrians and vehicles – Bypassing urban areas and demand management due to perceived road safety problem.		✓	✓		✓
W8	Increase the capacity of the rail line to accommodate an hourly service i.e. double tracking and passing loops due to rail services being not frequent enough.			✓	✓	✓

	Workshop Group 2					
W9	To provide increased overtaking opportunities along the route to address safety and reliability issues.		✓	✓		
W10	To accommodate increased demand through improved transport infrastructure for all modes.					✓
W11	Improve train frequency by introducing 2-hourly clock face service.				✓	✓
W12	To upgrade road geometry to current design standards.		✓	✓		
	Workshop Group 3					
W13	Increase modal share by sustainable modes of transport to meet identified targets.				✓	✓
W14	At least meet national and local accident targets along route.		✓			
W15	Improve journey time reliability for both road and rail.			✓		✓
W16	Integration of land-use planning, policies and plans to minimise the impact of travel generated.				✓	
W17	Address air quality issues at least in line with Govt and EU targets to contribute to the air quality action plans.	✓				
W18	Address climate change and emission targets at least in line with Govt policy.	✓				

5.8 SMART Transport Planning Objectives

Based on the above, SMART (Specific, Measurable, Attainable, Relevant and Timed) transport planning objectives have been developed for the study. These study specific objectives have been nested within the Government's five main objectives to highlight synergies between objectives and to achieve a level of consistency in the reporting process. It should be noted that any improvement options considered in response to these objectives would be developed and assessed in accordance with standard procedures and would be required to satisfy prevailing statutory procedures.

Environment

Through the consultation and workshop process, some stakeholders identified a problem with environmental issues along the corridor.

Addressing air quality issues, at least in line with Government and EU targets, to contribute to the air quality action plans and addressing climate change and emission targets, again at least in line with Government policy, have been identified as transport planning objectives by the stakeholders. Although these over-arching objectives are part of the Government's national targets, local improvement schemes could make a positive contribution within the Aberdeen to Inverness corridor. Reducing congestion, particularly in urban areas, should improve local air quality.

It should also be noted that the environmental impact of any options being considered will also be assessed and appropriate mitigation measures will be introduced to maintain and enhance the environment along the route.

In addition to contributing to the national, regional and local transport planning policies, the SMART transport planning objective for the Corridor Study relating to the Environment is as follows:

a) To reduce congestion, particularly in urban areas, to make a positive contribution to improving local air quality.

Safety

Through the consultation and workshop process, stakeholders identified a problem with road safety issues along the corridor.

The feedback received through the consultation process regarding road safety issues has been investigated through examination of the local accident statistics taking into account local accident rates and severity ratios based on current traffic volumes and carriageway standards.

In addition to contributing to the national, regional and local transport planning policies, the SMART transport planning objectives for the Corridor Study relating to Safety are as follows:

b) In the immediate short term, improve road safety along the A96 between Aberdeen and Inverness where the local accident rate AND the associated severity ratio for a cluster of accidents both exceed the corresponding national average values over the 5 year period (2001 to 2005) to reduce local values to less than the national values.

c) In the short term, improve road safety along the A96 between Aberdeen and Inverness where the local accident rate OR the associated severity ratio for a cluster of accidents exceeds the corresponding national average values over the 5 year period (2001 to 2005) to reduce local values to less than the national values.

Economy

Through the consultation and workshop process, stakeholders identified a problem with platooning of traffic due to slow moving vehicles within the traffic stream and a lack of overtaking opportunities leading to unreliable journey times. It was also noted that the national speed limits for the rural single carriageway sections vary between 40 mph and 60 mph depending on the type of vehicle. In urban areas, the conflict between strategic and local traffic was also identified as a problem. The feedback received through the consultation process regarding variability of vehicle speeds on some sections of the A96 has been investigated through site observations and data collection surveys.

In addition to contributing to the national, regional and local planning transport policies, the SMART transport planning objectives for the Corridor Study relating to Economy are as follows:

d) In the medium term, to improve journey time reliability on rural sections of the A96 trunk road where the speed limit is 60 mph to achieve an average link speed which is more than 50 mph OR a minimum link speed which is less than 30% below the average link speed relative to the 2006 baseline conditions.

e) To reduce conflict in urban areas between strategic traffic and local traffic.

Integration

Through the consultation and workshop process, stakeholders identified a problem with integration along the corridor.

The key problems related to an infrequent rail service, constrained timetable and failure to maximise opportunities for commuters. Stakeholders also identified a problem with the capacity of the railway to accommodate an hourly service.

In addition to contributing to the national, regional and local transport planning policies, the SMART transport planning objective for the Corridor Study relating to Integration is as follows:

f) In the medium term, to achieve a 5% mode shift from private car commuting and inter-urban trips to more sustainable forms of transport, including bus, rail, walking and cycling, within the transport corridor and to contribute to the UK target for reducing carbon emissions.

The local objective includes a specific reference to reduce emissions in response to the Government's high level objectives to protect the environment.

Accessibility & Social Inclusion

Accessibility is defined as the relative ease with which individuals or groups can reach amenities or services of importance.

Through the consultation and workshop process, stakeholders identified a problem with Accessibility along the corridor.

The key problems related to the provision of safe cycle facilities between communities and the conflict between pedestrians and vehicles within the urban areas.

In addition to contributing to the national, regional and local transport planning policies, the SMART transport planning objective for the Corridor Study relating to Accessibility & Social Inclusion is as follows:

g) To encourage cycling and address pedestrian severance issues in support of sustainable forms of transport.

Based on the above, the potential synergies between the SMART transport planning objectives have been investigated. This has resulted in the three objectives 'a', 'e' and 'g' being combined into a single objective. The local objective was subsequently extended in recognition of the Government's high level objectives regarding economic growth.

The combined single objective is as follows:

a+e+g) ***In the long term, to reduce the conflict between strategic and local traffic in urban areas leading to improvements in local air quality, reduced severance for pedestrians and supporting economic growth and development within the corridor.***

Based on feedback during the consultation process, an additional Transport Planning Objective was identified concerning the movement of freight by road and rail. Although this was not identified as a key problem during the workshop, the problems associated with the movement of freight was highlighted on the consultation questionnaires. The following additional objective has therefore been defined:

h) ***In the medium term, to improve the efficiency of freight movements along the transport corridor.***

The final SMART objectives, including an implementation timeframe, are therefore as follows. For the purpose of these objectives, short, medium and long term has been taken as up to 5, 10 and 15 years respectively.

The relationship between the SMART Transport Planning Objectives developed for the Aberdeen to Inverness Transport Corridor Study and the Government's five main objectives for transport is shown in Table 5.3.

The established objectives are generally consistent with the three key strategic outcomes of Scotland's National Transport Strategy, dated December 2006, namely:

- improve journey times and connections;
- reduce emissions; and
- improve quality, accessibility and affordability.

Table 5.3 – SMART Transport Planning Objectives

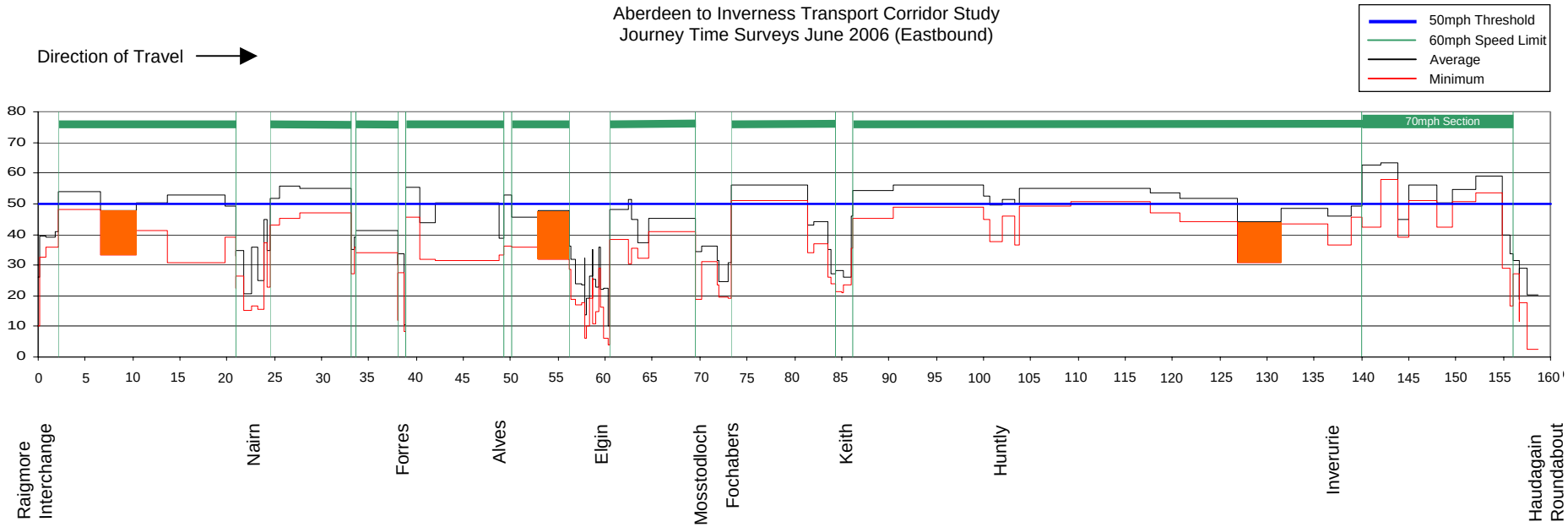
		Appraisal Criteria Objective				
Ref.	**SMART Transport Planning Objectives**	**Environment**	**Safety**	**Economy**	**Integration**	**Accessibility**
1	In the immediate short term, **improve road safety** along the A96 between Aberdeen and Inverness where the local accident rate AND the associated severity ratio for a cluster of accidents both exceed the corresponding national average values over the 5 year period (2001 to 2005) to reduce local values to less than the national values.		✓			
2	In the short term, **improve road safety** along the A96 between Aberdeen and Inverness where the local accident rate OR the associated severity ratio for a cluster of accidents exceeds the corresponding national average values over the 5 year period (2001 to 2005) to reduce local values to less than the national values.		✓			
3	In the medium term, to **improve journey time reliability** on rural sections of the A96 trunk road where the speed limit is 60 mph to achieve an average link speed which is more than 50 mph OR a minimum link speed which is less than 30% below the average link speed relative to the 2006 baseline conditions.			✓		
4	In the medium term, to achieve a **5% mode shift** from private car commuting and inter-urban trips to more sustainable forms of transport, including bus, rail, walking and cycling, within the transport corridor and to contribute to the UK target for reducing carbon emissions.	✓		✓	✓	✓
5	In the long term, to **reduce the conflict** between strategic and local traffic in urban areas leading to **improvements in local air quality**, **reduced severance** for pedestrians and supporting **economic growth** and development within the corridor.	✓	✓	✓		✓
6	In the medium term, to improve the efficiency of **freight movements** along the transport corridor.	✓		✓		

Based on the SMART objectives developed during the consultation process, the sections of the A96 trunk road where improvements should be considered to achieve the transport planning objectives for journey time reliability are shown in Figure 5.7.1. This Figure highlights the six sections where the average speed is less than 50 mph and the minimum speed is more than 30% below the average speed. The geographical locations of these sections are shown in Figure 5.7.2.

The sections of the A96 trunk road where improvements should be considered to achieve the transport planning objectives for improved road safety are shown in Figure 5.7.3. This Figure highlights the seven 1-kilometre long sections where the local accident rate and the local severity ratios for a cluster of 5 or more accidents during the five-year period between 2001 and 2005 both exceed the equivalent national values. The geographical locations of these sections are shown in Figure 5.7.4.

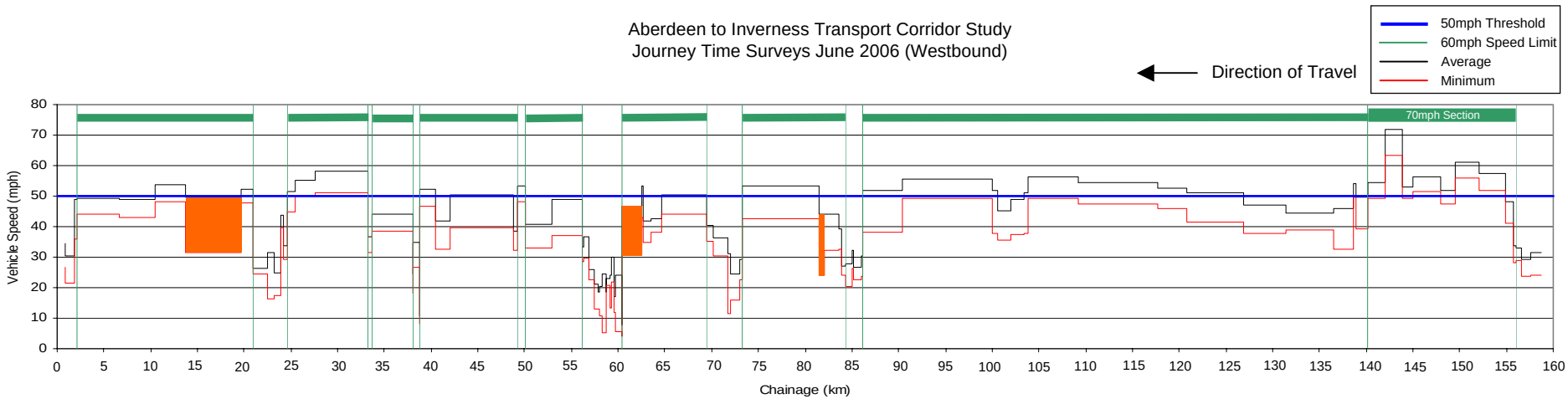
Aberdeen to Inverness Transport Corridor Study
Journey Time Surveys June 2006 (Eastbound)

Direction of Travel →



Aberdeen to Inverness Transport Corridor Study
Journey Time Surveys June 2006 (Westbound)

← Direction of Travel



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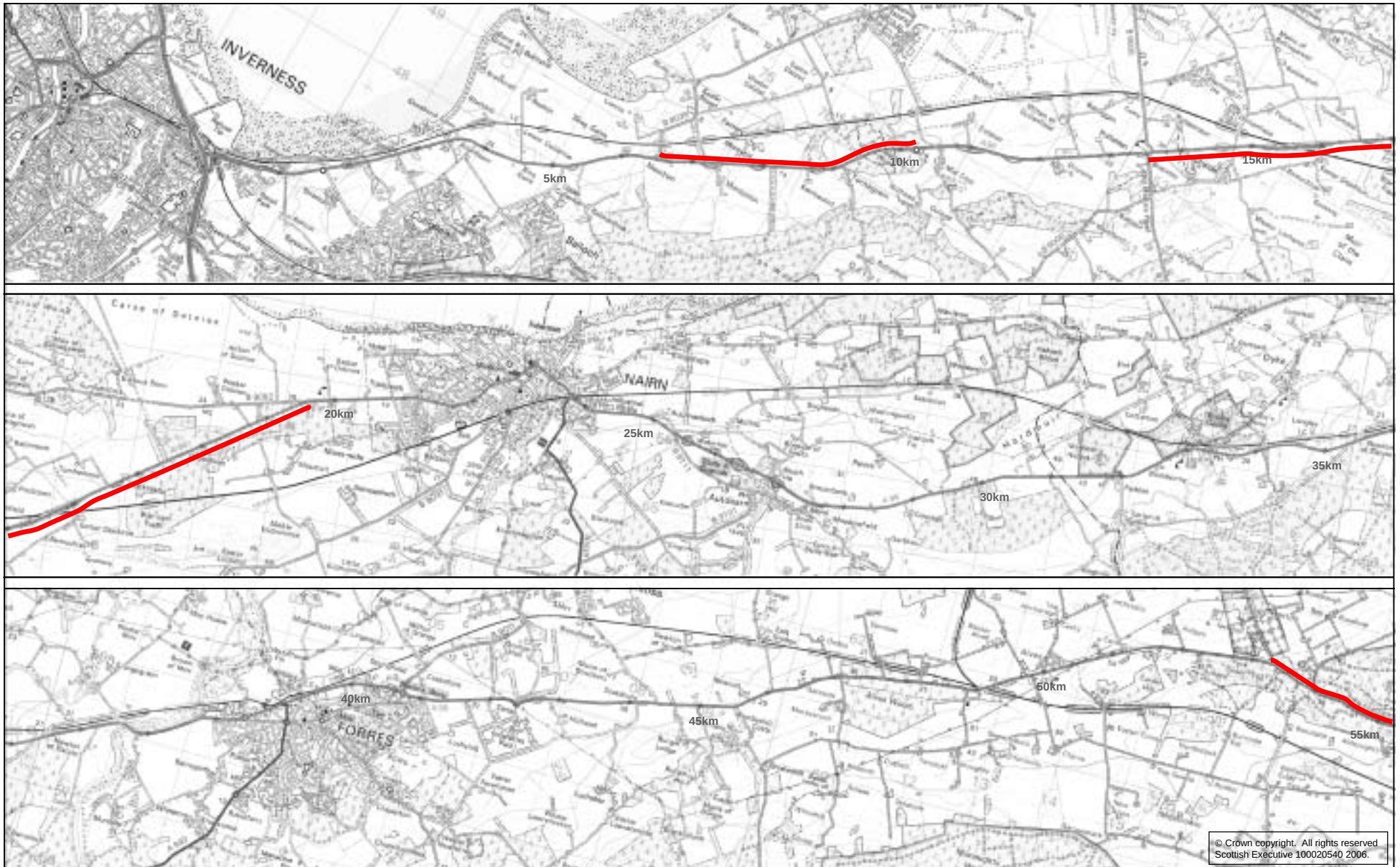
Notes

60 mph rural road section

Average Speed < 50mph & Min/Average Ratio >30%

Aberdeen to Inverness Transport Corridor Study

Figure 5.7.1
Average Vehicle Speed by Direction
June 2006



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Average Speed < 50mph & Min/Average Ratio >30%

Aberdeen to Inverness
Transport Corridor Study

Figure 5.7.2a
Journey Time Constraints

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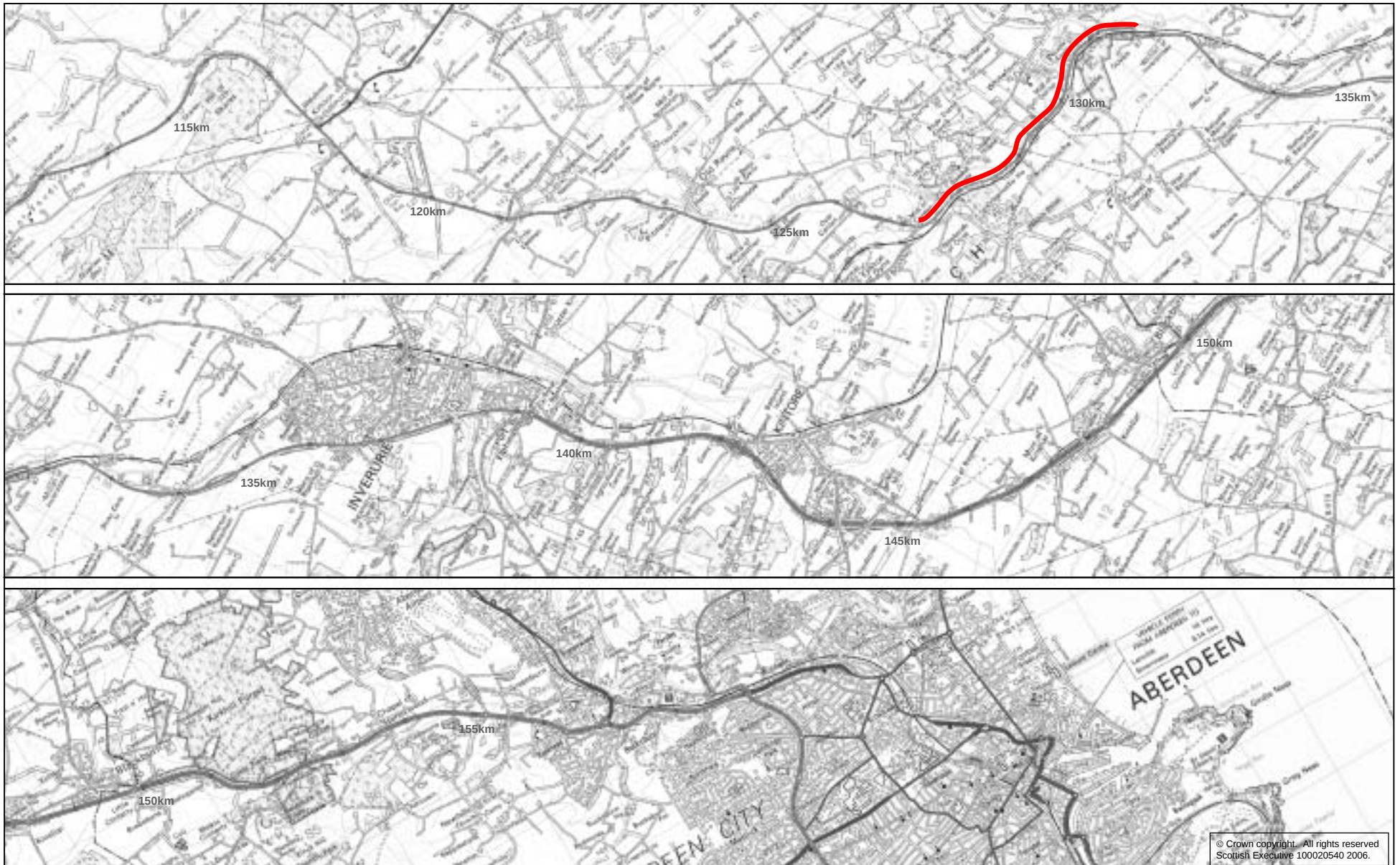
Average Speed < 50mph & Min/Average Ratio >30%

Aberdeen to Inverness
Transport Corridor Study

Figure 5.7.2b
Journey Time Constraints



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Average Speed < 50mph & Min/Average Ratio >30%

Aberdeen to Inverness
Transport Corridor Study

Figure 5.7.2c
Journey Time Constraints

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Aberdeen to Inverness Transport Corridor Study

Figure 5.7.3
Accident Rate and Severity by km (2001-2005)
Locations with a cluster of 5 or more accidents

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Telephone (0141) 332 2258
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Telephone (0131) 225 1230
Inverness
Telephone (01463) 716000

Local greater than National Accident Rate
A96
Local greater than National Accident Severity Ratio

Local 1 to 2 times National
Local 2 to 3 times National
Local greater than 3 times National

Aberdeen to Inverness Transport Corridor Study

Figure 5.7.4a
Local Accident Severity Ratios and Accident Rates per km

Scott Wilson Scotland Ltd
Glasgow
Telephone (0141) 332 2258
Edinburgh
Telephone (0131) 225 1230
Inverness
Telephone (01463) 716000

Local greater than National Accident Rate
A96
Local greater than National Accident Severity Ratio

Local 1 to 2 times National
Local 2 to 3 times National
Local greater than 3 times National

Aberdeen to Inverness
Transport Corridor Study

Figure 5.7.4b
Local Accident Severity Ratios and
Accident Rates per km

Scott Wilson Scotland Ltd
Glasgow
Telephone (0141) 332 2258
Edinburgh
Telephone (0131) 225 1230
Inverness
Telephone (01463) 716000

Local greater than National Accident Rate
A96
Local greater than National Accident Severity Ratio

Local 1 to 2 times National
Local 2 to 3 times National
Local greater than 3 times National

Aberdeen to Inverness Transport Corridor Study

Figure 5.7.4c
Local Accident Severity Ratios and Accident Rates per km

6. OPTION GENERATION, SIFTING AND DEVELOPMENT

6.1 Generation of Options

As part of the STAG assessment process, it is important to derive a range of options and that this process is carried out in a logical, transparent and auditable manner. In the Aberdeen to Inverness Transport Corridor Study, consideration has also been given to how best to combine strategy level options for testing from the number of potential combinations to meet the defined objectives.

The most common method of defining options for analysis is to assess how the problem being confronted can be ameliorated or eliminated. In general terms, appropriate proposals should be generated through the following sources:

- Options from the consultation process;
- Options which have a planning history and which remain valid;
- Transport initiatives and land use planning options developed through the statutory planning and policy process;
- Options from the structured decision making process;
- Options generated by the project team; and
- Options from the Regional and Local Transport Strategies

The nature and scale of the transport improvement options being developed for appraisal reflect the work undertaken in setting the transport planning objectives, as outlined previously. The key opportunities for the transport corridor relate primarily to:

- Addressing road safety concerns along the A96 trunk road;
- Improving journey time reliability on rural sections of the A96 trunk road;
- Encouraging a shift from private car trips to more sustainable forms of transport such as bus, rail, cycling and walking and contributing positively to targets for reducing carbon emissions;
- Addressing the conflict between strategic and local traffic in urban areas, air quality, pedestrian severance issues, and contributing positively to supporting economic growth; and
- Improving the efficiency of freight movements along the transport corridor.

The options generated in consultation with the stakeholders for consideration in addressing the highlighted problems within the overall transport planning objectives are shown in Table 6.1. To maximise the benefits of local knowledge and experience of prevailing transport conditions, the stakeholders were grouped geographically into three groups G1, G2 and G3 representing Highland, Moray and Aberdeenshire / Aberdeen City respectively.

Table 6.1 – Generation of Transport Improvement Options

Option Ref.	Workshop Ref.	Option Description
1	All-1	Provision of dual carriageway from Aberdeen to Inverness
2	All-2	Provision of double track rail line from Aberdeen to Inverness
3	All-3	Nairn Bypass
4	All-4	Elgin Bypass
5	All-5	Keith Bypass
6	All-6	A82/A9/ A96 Link Road
7	All-7	Provision of Grade separated junctions on dual carriageway
8	All-8	Removal of shuttleworking section
9	All-9	Provision of a new station at Inverness Airport
10	All-10	Increasing frequency of train services (hourly schedule)
11	All-11	Addition of bus lanes at Inverness and Aberdeen
12	All-12	Provision of cycle track from Inverurie to Aberdeen
13	All-13	1.5 hour journey time from Aberdeen to Inverness (rail)
14	All-14	Climbing Lanes/WS2+1 - (Strategic dual carriageways)
15	All-15	Railway passing loops
16	G1-16	Travel planning and demand management
17	G1-17	Quality bus partnerships/ schemes
18	G1-18	Investment in cycling and walking infrastructure
19	G1-19	Interchange facilities at railway stations
20	G1-20	Interchange facilities at key junctions for all modes
21	G1-21	Facilities for HGV's & tractors lay-bys for platoons to disperse
22	G1-22	Freight park and interchange at the Inverness airport
23	G1-23	Short sea shipping for freight between In & Ab (coastal route)
24	G1-24	Hard edge strips for agricultural vehicles
25	G1-25	Freight transport interchange outside towns
26	G1-26	Environmental enhancement of town centres
27	G1-27	Commuters cycle network within and between towns
28	G1-28	Keith - a carbon neutral town (a test case)
29	G1-29	Facilities for pedestrian and cyclist crossings in rural sections
30	G1-30	Short term AIP schemes

31	G2-16	Fochabers and Mosstodloch bypass
32	G2-17	Priority vehicle lanes
33	G2-18	Enhanced travel initiatives through concessionary travel
34	G2-19	Park & Ride
35	G2-20	Improvement schemes to address local accident issues
36	G2-21	Improvement schemes to address journey time reliability issues
37	G2-22	Enhanced public transport facilities (services and infrastructure)
38	G2-23	Provision of improved cycling facilities
39	G2-24	New rolling stock and additional service capacity
40	G2-25	Local commuter rail services
41	G3-16	Park & Ride sites
42	G3-17	A96/A90 Junction Haudagain improvement
43	G3-18	Education/behavioural change - travel planning, travel awareness e.g. car sharing, video conferencing
44	G3-19	Relative cost of modes - pricing & fares/subsidy
45	G3-20	Priority lanes & HOV Lanes
46	G3-21	Pedestrian crossings at local points
47	G3-22	Technology - VMS, real time information
48	G3-23	Enforcement e.g. cameras/signs/policing
49	G3-24	Short term measure & Dualling to Inverness Airport
50	G3-25	Delnies Improvement
51	G3-26	Threapland Junction Improvement
52	G3-27	Public transport infrastructure e.g. shelters, real time info
53	G3-28	Localised junction safety improvements
54	G3-29	Public transport fleet improvements - quality & capacity
55	G3-30	Increased frequency of Type B Layby provision for slow moving vehicles
56	G3-31	Improved access for disability usage/ buggy usage - road/rail
Additional Options		
57	Add-1	Provision of Dual Carriageway from Inverness to Fochabers/Mosstodloch
58	Add-2	Provision of WS2+1 from Inverness to Fochabers/ Mosstodloch

6.2 Preliminary Assessment of Options

Given the scale of the Aberdeen to Inverness Transport Corridor Study, no one measure will provide a solution to the transport problems within the study area. It is therefore likely that the most effective solutions will consist of packages of different measures.

The sifting process must therefore balance the conflict between wishing to include all potential options whilst keeping timescales within appropriate levels, and the inherent difficulty in combining options into packages, the whole and the elements of which need to be appraised.

In undertaking the sifting of options process for the transport corridor, consideration has been given to current conditions along the corridor. However, should demand within the corridor increase more rapidly than anticipated, it may be necessary to re-examine some of the improvement options that have been sifted at this stage.

The results of the preliminary assessment of options against the established transport planning objectives, which will facilitate the sifting process, are summarised below in Table 6.2. This Table includes the option reference number, the workshop reference number, which indicates which of the workshop groups generated and assessed the option, and a description of the transport improvement option. The Table also indicates the distribution of scores assigned by the various groups at the workshops based on the usual 7 point positive or negative scale of slight, moderate and large centred on a neutral score of zero. The overall weighted option score is also shown in the Table based on a 4 point scale where a rating of 4 is the highest value with a score of 7.6 or more, 1 is the lowest rating with a score of 3 or less, and 2 and 3 are intermediate ratings with scores of between 3.1 and 5, and between 5.1 and 7.5 respectively.

In some cases, an option may receive a negative score against a specific objective. In this case, the option should be rejected or developed further to address the specific areas of concern.

The options that have the higher ratings of 3 and 4 are highlighted in the Table.

Table 6.2 – Preliminary Assessment of Transport Improvement Options

Option Ref.	Workshop Ref.	Description	Option Scoring and Sifting									
			No. of Groups	3	2	1	0	-1	-2	-3	Option Score	Option Rating
1	All-1	Provision of dual carriageway from Aberdeen to Inverness	3	3	0	0	2	0	1	0	-ve	-
2	All-2	Provision of double track rail line from Aberdeen to Inverness	3	1	1	1	3	0	0	0	5.3	3
3	All-3	Nairn Bypass	1	1	2	1	2	0	0	0	8.0	4
4	All-4	Elgin Bypass	2	2	1	2	2	0	0	0	8.5	4
5	All-5	Keith Bypass	2	0	2	2	3	0	0	0	5.5	3
6	All-6	A82/A9/ A96 Link Road	1	1	2	1	2	0	0	0	8.0	4
7	All-7	Provision of Grade separated junctions on dual carriageway	2	1	1	3	2	0	0	0	5.5	3
8	All-8	Removal of shuttleworking section (at Inveramsay A96/rail crossing)	2	0	2	0	5	0	0	0	3.0	1
9	All-9	Provision of a new station at Inverness Airport	1	1	1	0	4	0	0	0	5.0	2
10	All-10	Increasing frequency of train services (hourly schedule)	3	0	1	2	2	0	0	0	5.7	3
11	All-11	Addition of bus lanes at Inverness and Aberdeen	2	1	0	2	3	0	0	0	5.0	2
12	All-12	Provision of cycle track from Inverurie to Aberdeen	1	0	0	4	2	0	0	0	4.0	2
13	All-13	1.5 hour journey time from Aberdeen to Inverness (rail)	3	1	1	2	3	0	0	0	5.3	3
14	All-14	Climbing Lanes/WS2+1 - (Strategic dual carriageways)	3	0	2	1	2	0	0	0	6.3	3
15	All-15	Railway passing loops	3	0	1	2	3	0	0	0	4.0	2
16	G1-16	Travel planning and demand management	1	1	2	2	1	0	0	0	9.0	4
17	G1-17	Quality bus partnerships/ schemes	1	1	3	1	1	0	0	0	10.0	4
18	G1-18	Investment in cycling and walking infrastructure	1	1	0	3	2	0	0	0	6.0	3
19	G1-19	Interchange facilities at railway stations	1	1	0	4	1	0	0	0	7.0	3
20	G1-20	Interchange facilities at key junctions for all modes	1	1	2	0	3	0	0	0	7.0	3
21	G1-21	Facilities for HGV's & tractors lay-bys for platoons to disperse	1	0	4	0	2	0	0	0	8.0	4
22	G1-22	Freight park and interchange at the Inverness airport	1	0	0	3	3	0	0	0	3.0	1
23	G1-23	Short sea shipping for freight between In & Ab (coastal route)	1	1	0	0	5	0	0	0	3.0	1
24	G1-24	Hard edge strips for agricultural vehicles	1	0	1	3	2	0	0	0	5.0	2
25	G1-25	Freight transport interchange outside towns	1	1	1	0	4	0	0	0	5.0	2
26	G1-26	Environmental enhancement of town centres	1	0	1	1	4	0	0	0	3.0	1
27	G1-27	Commuters cycle network within and between towns	1	0	0	0	0	0	0	0	0.0	1
28	G1-28	Keith - a carbon neutral town (a test case)	1	2	0	0	4	0	0	0	6.0	3
29	G1-29	Facilities for pedestrian and cyclist crossings in rural sections	1	0	2	1	3	0	0	0	5.0	2
30	G1-30	Short term AIP schemes	1	2	0	0	4	0	0	0	6.0	3

31	G2-16	Fochabers and Mosstodloch bypass	1	2	0	2	2	0	0	0	8.0	4
32	G2-17	Priority vehicle lanes	1	0	1	1	4	0	0	0	3.0	1
33	G2-18	Enhanced travel initiatives through concessionary travel	1	0	0	0	6	0	0	0	0.0	1
34	G2-19	Park & Ride	1	0	1	2	3	0	0	0	4.0	2
35	G2-20	Improvement schemes to address local accident issues	1	2	0	1	3	0	0	0	7.0	3
36	G2-21	Improvement schemes to address journey time reliability issues	1	1	0	1	4	0	0	0	4.0	2
37	G2-22	Enhanced public transport facilities (services and infrastructure)	1	0	1	3	2	0	0	0	5.0	2
38	G2-23	Provision of improved cycling facilities	1	0	0	4	2	0	0	0	4.0	2
39	G2-24	New rolling stock and additional service capacity	1	0	1	2	3	0	0	0	4.0	2
40	G2-25	Local commuter rail services	1	1	0	2	3	0	0	0	5.0	2

41	G3-16	Park & Ride sites	1	0	2	2	2	0	0	0	6.0	3
42	G3-17	A96/A90 Junction Haudagain improvement	1	0	1	2	3	0	0	0	4.0	2
43	G3-18	Education/behavioural change - travel planning, travel awareness e.g. car sharing, video conferencing	1	0	1	5	0	0	0	0	7.0	3
44	G3-19	Relative cost of modes - pricing & fares/subsidy	1	1	0	5	0	0	0	0	8.0	4
45	G3-20	Priority lanes & HOV Lanes	1	0	2	3	1	0	0	0	7.0	3
46	G3-21	Pedestrian crossings at local points	1	0	3	0	3	0	0	0	6.0	3
47	G3-22	Technology - VMS, real time information	1	0	0	5	1	0	0	0	5.0	2
48	G3-23	Enforcement e.g. cameras/signs/policing	1	1	2	0	3	0	0	0	7.0	3
49	G3-24	Short term measure & Dualling to Inverness Airport	1	0	1	4	1	0	0	0	6.0	3
50	G3-25	Delnies Improvement	1	0	1	1	4	0	0	0	3.0	1
51	G3-26	Threapland Junction Improvement	1	0	1	1	4	0	0	0	3.0	1
52	G3-27	Public transport infrastructure e.g. shelters, real time info	1	1	0	1	4	0	0	0	4.0	2
53	G3-28	Localised junction safety improvements	1	0	2	1	3	0	0	0	5.0	2
54	G3-29	Public transport fleet improvements - quality & capacity	1	1	0	2	3	0	0	0	5.0	2
55	G3-30	Increased frequency of Type B Layby provision for slow moving vehicles	1	0	1	1	4	0	0	0	3.0	1
56	G3-31	Improved access for disability usage/ buggy usage - road/rail	1	0	0	2	4	0	0	0	2.0	1

Additional Options

57	Add-1	Provision of Dual Carriageway from Inverness to Fochabers/Mosstodloch	1	3	0	1	1	0	1	0	-ve	-
58	Add-2	Provision of WS2+1 from Inverness to Fochabers/ Mosstodloch	1	0	3	1	2	0	0	0	7.0	3

6.3 Sifting and Development of Options

The scoring and rating system described above as part of the preliminary assessment of the options provides a transparent mechanism for the selection or rejection of improvement options. Given the high number of options generated, the purpose is to reduce these to a reasonable number which will then be subjected to the STAG Part 1 and Part 2 appraisals as part of the Strategic Transport Projects Review.

Although some of the improvement options identified for the transport corridor are significant and could be considered major schemes, none of the options have been developed beyond an initial concept.

Based on the scoring and rating system, 8 (14%) of the 58 options generated returned a score of 7.5 or more, which are rated as the highest category 4. Some 19 (33%) of the 58 options generated returned a score of more than 5.0 and less than 7.5, which are rated as category 3. These two categories combined account for 27 (47%) of the total number, which equates to almost half of the generated options.

Although the remaining 31 (53%) options contribute to the established transport planning objectives, the results of the preliminary assessment indicate that these are less effective in contributing to the full range of objectives.

However, in addition to the 27 improvement options described above, it is considered reasonable to retain two additional options which, although achieving a rating less than 3, could deliver significant improvements. These options are:

- Removal of shuttleworking section (at Inveramsay); and
- Addition of bus lanes at Inverness and Aberdeen.

In addition, it should be noted that the junction improvement options being developed to address the problems associated with congestion during peak times at Haudagain Roundabout are presently being considered as part of a separate STAG appraisal.

To assist in the sifting process, an initial investigation of the feasibility, affordability and likely public acceptability of the proposals was undertaken as part of a pre-implementability appraisal. Based on the discussions through the consultation process and workshops, it is considered unlikely the provision of double track railway from Aberdeen to Inverness could be delivered cost effectively. Consequently, this option, although rated as category 3, has been rejected as being unaffordable at this time.

Options 19 and 20 were also rated as category 3, but as both focussed on the provision of interchange facilities, these options have been combined into a single improvement option.

Similarly, options 30 and 35 were also rated as category 3, but as both focussed on localised road safety improvements, these options have been combined into a single improvement option.

It should be noted that, particularly in the case of the railway, there might be synergies that exist through combining a series of discrete improvement options which could potentially be lost when considering the options in isolation. The effects of a 1.5 to 2 hour rail service between Aberdeen and Inverness (option 13) and the provision of interchange facilities (options 19 and 20) have been identified for more detailed consideration within the Strategic Transport Projects Review.

In addition, the potential synergy from the introduction of additional local commuter rail services, such as Aberdeen Crossrail and Invernet, and new rail stations such as those being considered at Kintore and Inverness Airport, and the combined benefits of an increased frequency of train services coupled with the provision of passing loops, should be considered further. Consequently, two additional options have been developed based on these discrete options.

Based on the results of the pre-appraisal assessment, the 28 broadly defined transport improvement options described in Table 6.3 below should be taken forward for further more detailed consideration within the Strategic Transport Projects Review.

Table 6.3 – Transport Improvement Options to be considered within Strategic Transport Projects Review

Sift. Opt. Ref.	Gen. Opt. Ref.	Option Source	Description of Improvement Option	Trans Group	Option Score / Rating	S1	S2	JTR	MS	TC	FM
1	3	All-3	Nairn Bypass	Road	4		✓	✓✓		✓✓✓	✓✓
2	4	All-4	Elgin Bypass	Road	4		✓	✓✓✓		✓✓✓	✓✓
3	5	All-5	Keith Bypass	Road	3		✓	✓✓		✓✓	✓✓
4	6	All-6	A82/A9/ A96 Link Road	Road	4		✓		✓✓	✓✓✓	✓✓
5	7	All-7	Provision of Grade separated junctions on dual carriageway	Road	3		✓✓	✓✓		✓	✓
6	8	All-8	Removal of shuttleworking section (at Inveramsay A96/rail crossing)	Road	1			✓✓			✓
7	10	All-10	Increasing frequency of train services (hourly schedule)	Rail	3			✓	✓✓	✓	✓
8	11	All-11	Addition of bus lanes at Inverness and Aberdeen	Bus	2		✓		✓✓✓	✓	✓
9	13	All-13	2 hour journey time from Aberdeen to Inverness (rail) – Note 1	Rail	3			✓	✓✓	✓	✓
10	14	All-14	Climbing Lanes/WS2+1 - (Strategic dual carriageways)	Road	3		✓✓	✓✓			✓✓
11	16	G1-16	Travel planning and demand management	Bus & Rail	4	✓	✓✓	✓	✓✓✓	✓✓	
12	17	G1-17	Quality bus partnerships/ schemes	Bus	4	✓	✓✓	✓✓	✓✓✓	✓✓	
13	18	G1-18	Investment in cycling and walking infrastructure	Peds & Cyc	3	✓	✓		✓✓✓	✓	
14	19+20	G1-19 +G1-20	Interchange facilities at railway stations and key junctions for all modes	Rail	3	✓✓	✓✓	✓	✓✓✓	✓	
15	21	G1-21	Facilities for HGV's & tractors lay-bys for platoons to disperse	Road	4	✓✓	✓✓	✓✓			✓✓
16	28	G1-28	Keith - a carbon neutral town (a test case)	Env	3				✓✓✓	✓✓✓	
17	30+35	G1-30 +G2-20	Short term AIP schemes	Safety	3	✓✓✓	✓✓✓				
18	31	G2-16	Fochabers and Mosstodloch bypass	Road	4	✓		✓✓✓		✓✓✓	✓
19	41	G3-16	Park & Ride sites	Bus & Rail	3		✓		✓✓	✓✓	✓
20	43	G3-18	Education/behavioural change - travel planning, travel awareness e.g. car sharing, video conferencing	Bus & Rail	3	✓	✓	✓	✓✓	✓	✓
21	44	G3-19	Relative cost of modes - pricing & fares/subsidy	Bus & Rail	4	✓	✓	✓	✓✓✓	✓	✓
22	45	G3-20	Priority lanes & HOV Lanes	Freight	3	✓	✓		✓✓	✓	✓✓
23	46	G3-21	Pedestrian crossings at local points	Peds & Cyc	3	✓✓	✓✓			✓✓	
24	48	G3-23	Enforcement e.g. cameras/signs/policing	Safety	3	✓✓	✓✓✓	✓✓			
25	49	G3-24	Short term measure & Dualling to Inverness Airport	Road	3	✓	✓	✓✓		✓	✓
26	58	Add-2	Provision of WS2+1 from Inverness to Fochabers/ Mosstodloch	Road	3		✓	✓✓		✓✓	✓✓
27	10+15	Dev-1	Increased frequency of train services with provision of passing loops	Rail	3			✓	✓✓	✓	✓
28	40+9	Dev-2	Local commuter rail services such as Aberdeen Crossrail and Invernet, with new rail stations, e.g. Inverness Airport and Kintore	Rail	3		✓		✓✓✓	✓✓	

Note 1 – Increased from 1.5 hours to 2 hours which is considered to be a more reasonable improvement.

7. CONCLUSIONS AND RECOMMENDATIONS

Based on the information set out in this pre-appraisal report, which includes the findings of a detailed consultation process including a specific project questionnaire and two workshops for the key stakeholders, it is concluded that the key problems along the corridor have been identified, SMART transport planning objectives have been defined and various options have been generated and sifted to identify a range of improvement options.

It is recommended that the 28 broadly defined transport improvement options shown in Table 6.3 be taken forward for further, more detailed, consideration within the Strategic Transport Projects Review.