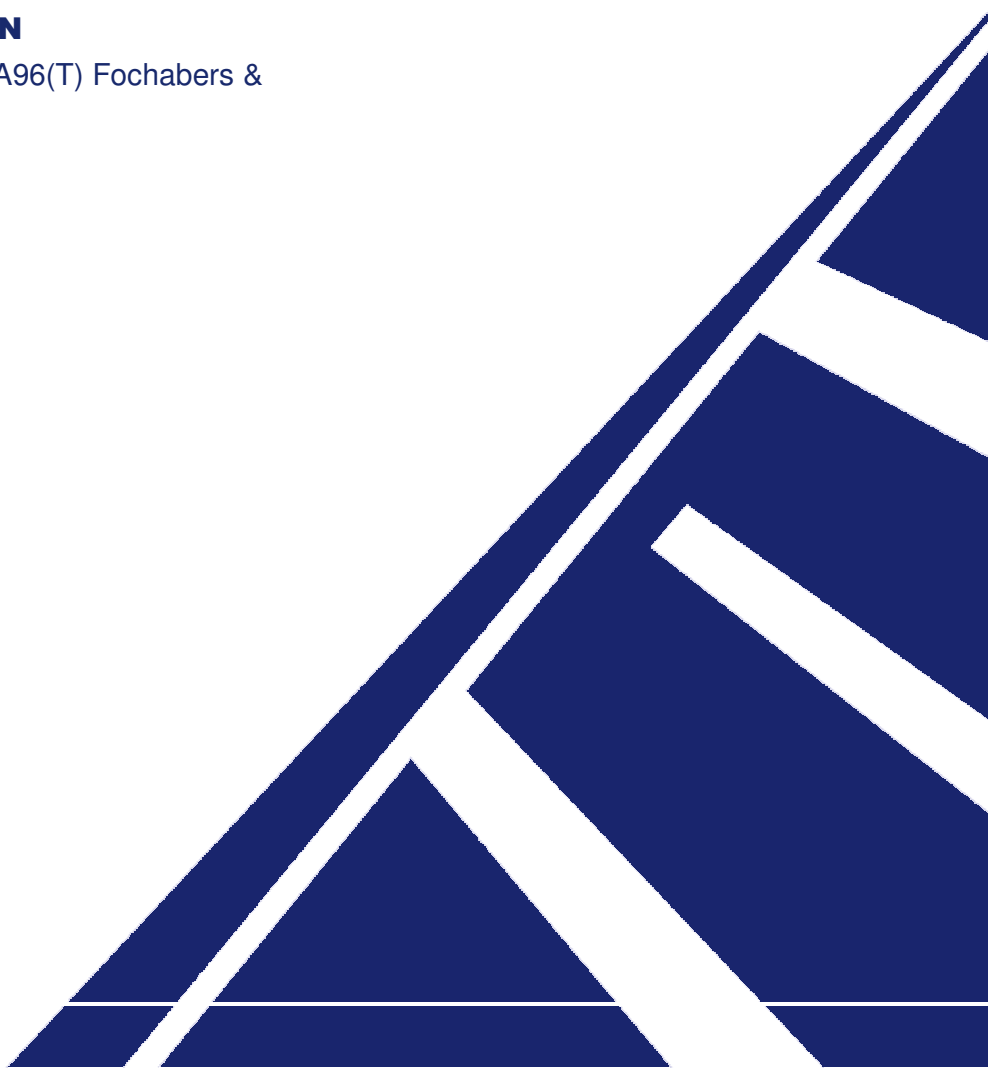




CÒMHDHAIL TRANSPORT
ALBA SCOTLAND

TRANSPORT SCOTLAND
SCOTTISH TRUNK ROAD INFRASTRUCTURE
PROJECT EVALUATION

1YA Evaluation Report for A96(T) Fochabers &
Mosstodloch Bypass



TRANSPORT SCOTLAND
SCOTTISH TRUNK ROAD INFRASTRUCTURE
PROJECT EVALUATION

1YA Evaluation Report for A96(T) Fochabers &
Mosstodloch Bypass

CONTENTS

	Page
1 SUMMARY OF IMPACTS	7
1.1 Operational Indicators – How is the scheme operating?	7
1.2 Process Indicators – How well was the scheme implemented?	7
1.3 Forecasting – How accurate were predictions?	8
1.4 Objectives – Is the scheme on track to meet its objectives?	8
1.5 Costs to Government – Is the scheme delivering value for money?	9
2 INTRODUCTION	11
2.1 Background to Project Evaluation	11
2.2 Evaluation Reporting	12
3 PROJECT EVALUATION	15
3.1 Introduction	15
3.2 Evaluation Methodology	17
3.3 The operation of the scheme and process evaluation	18
3.4 Environment	25
3.5 Safety	28
3.6 Economy	31
3.7 Accessibility & Social Inclusion	33
3.8 Value for Money	36
3.9 Progress Towards Achieving Objectives	36
A ENVIRONMENT	40
A.1 Noise and Vibration	40
A.2 Global and Local Air Quality	41
A.3 Water Quality, Drainage and Flood Defence	42
A.4 Geology	43
A.5 Biodiversity and Habitats	43
A.6 Landscape & Visual Amenity	45
A.7 Agriculture and Soils	46
A.8 Cultural Heritage	46
A.9 Physical Fitness	49
A.10 Land Use	50
A.11 Vehicle Travellers	50
B METHODOLOGY AND DATA SOURCES	53
B.1 Overview	53
B.2 Network Traffic Indicators	53
B.3 Environmental	55
B.4 Safety	56
B.5 Economy	57
B.6 Integration	58
B.7 Accessibility & Social Inclusion	58
B.8 Value for Money	58

TABLES

	Page
Table 2.1: Summary Details	12
Table 3.1: ATC Data	19
Table 3.2: Traffic Analysis Summary	20
Table 3.3a: Travel Time Data (A96(T) Bypass)	23
Table 3.3b: Travel Time Data (Bypassed A96 via Fochabers and Mosstodloch)	23
Table 3.4: Predicted vs Actual Travel Time Summary	24
Table 3.5: Accident Data Summary	29
Table 3.6: Progress Towards Achieving Objectives	37

FIGURES

Figure 2.1: Project Location Plan

Figure 3.1: General Location Plan

Figure 3.2: ATC Location Plan

Figure 3.3a: Pre Opening Journey Time Survey

Figure 3.3b: Post Opening Journey Time Survey

Figure 3.4a: 3 Years Before Opening Accidents

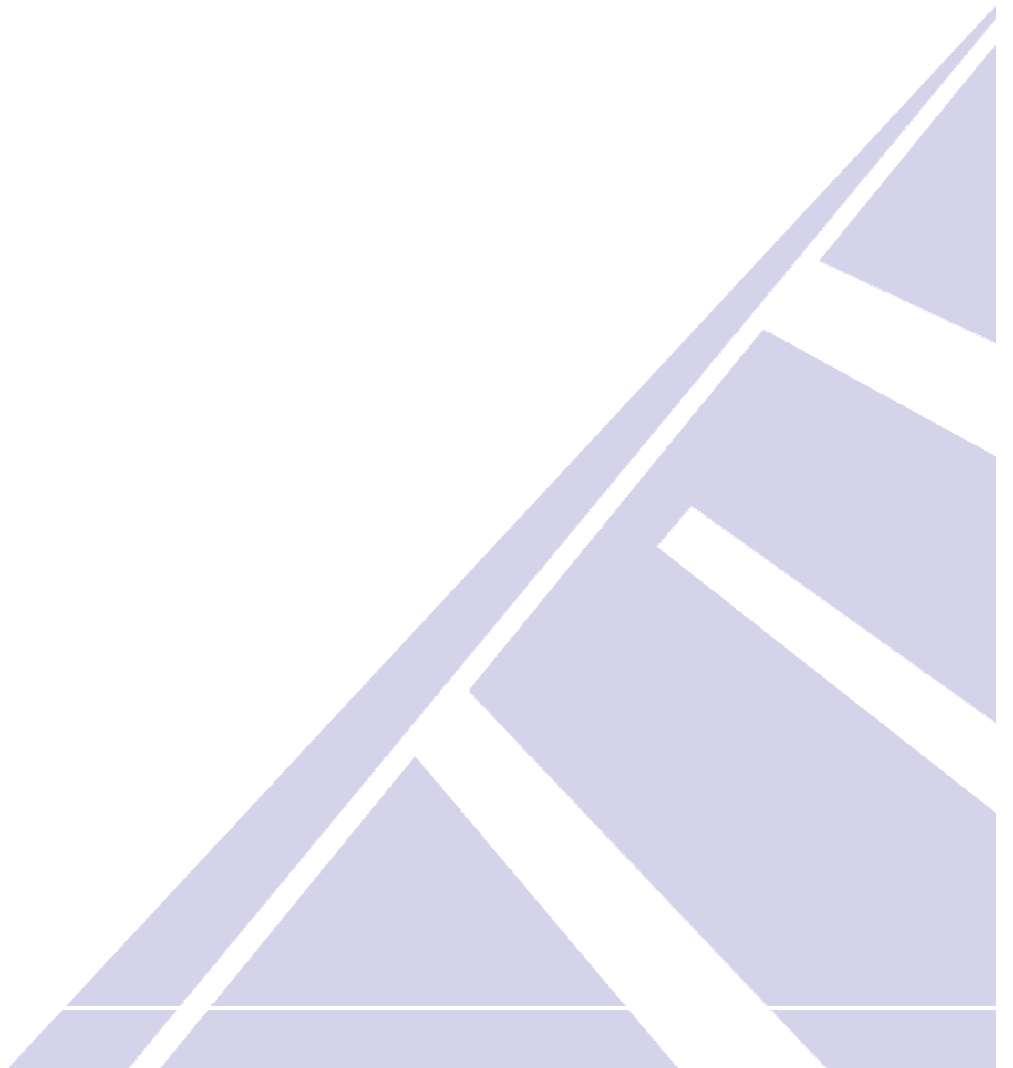
Figure 3.4b: 1 Year After Opening Accidents

GLOSSARY

The following abbreviations have been used in this report:

AADT	Annual Average Daily Traffic
ATC	Automatic Traffic Counter
BCR	Benefit to Cost Ratio
DAL	Differential Acceleration Lane
DMRB	Design Manual for Roads and Bridges
HITRANS	Highlands and Islands Transport Partnership
NPV	Net Present Value
NRTF	National Road Traffic Forecasts
RSA	Road Safety Audit
S2	Single 2-Lane Carriageway
STAG	Scottish Transport Appraisal Guidance

SUMMARY OF IMPACTS



SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

1 SUMMARY OF IMPACTS

This section provides a short summary of the key elements contained within this One Year After Evaluation report of the A96(T) Fochabers & Mosstodloch Bypass scheme.

1.1 Operational Indicators – How is the scheme operating?

Traffic flows within the communities of Fochabers and Mosstodloch have reduced significantly following the opening of the project, with strategic traffic using the bypass. Anecdotal evidence indicates an increase in the demand for parking within Fochabers and suggests that the scheme may have had a positive impact on local businesses within the town.

Average journey times for strategic traffic using the A96(T) have reduced following the opening of the scheme, with savings of approximately 30 seconds.

The scheme is operating safely in its first year of operation, with only two accidents occurring within the vicinity of the scheme. These were not attributable to the design or layout of the improvement.

The bypass provides opportunities to overtake and it has been reported that vehicles are entering the chevron areas at the end of the overtaking lanes. There is also anecdotal evidence suggesting that the overtaking sections are not long enough to clear queuing in heavy traffic.

1.2 Process Indicators – How well was the scheme implemented?

The Mosstodloch bypass was completed in September 2011, ahead of schedule. It initially opened with a 30 mph speed limit in force and only a single lane in each direction, although full opening of all lanes and removal of the temporary speed limits was implemented a few weeks later. The Fochabers bypass was opened in January 2012 marking the completion of the project, ahead of schedule. A temporary 30 mph speed limit remained in force for a short period until work next to the carriageway was complete. Work on local accesses, footways and landscaping was completed in the following months.

The scheme layout is configured with overtaking lanes leading away from the roundabouts. The layout was designed and constructed to the standards applicable at the commencement of the construction contract.

The environmental mitigation measures proposed for the scheme within the Environmental Statement have, generally, been implemented and seen to be in good condition.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

A Stage 4 Road Safety Audit (RSA) was carried out in August 2013 providing a review of accidents that had occurred in the period one year after opening.

A Stage 3 Cycle Audit was carried out in February 2012 and considered the specific cycle facilities provided as part of the proposals.

The design phase of the scheme pre-dated the introduction of the DDA guidance, therefore, no Disability Discrimination Act (DDA) Audit was carried out.

1.3 Forecasting – How accurate were predictions?

Traffic flows on the A96(T) in the vicinity of the scheme are lower than forecast, and have been reducing for a number of years. It is acknowledged, however, that the economic downturn has seen a widespread reduction in traffic flows across the Scottish road network.

The scheme layout is configured with overtaking lanes leading away from the roundabouts. This layout differs from that modelled during the appraisal.

Predicted travel time savings could not be confirmed as proposed speed reduction measures through Mosstodloch, not in place when the pre-opening journey times surveys were carried out, were included in the economic analysis.

1.4 Objectives – Is the scheme on track to meet its objectives?

The nature of the scheme (bypass of Fochabers and Mosstodloch with overtaking lanes leading away from the roundabouts) will most certainly have enhanced overtaking opportunities.

Journey time data (before and after the scheme implementation) suggest that the scheme has been successful in reducing journey times on the A96(T), contributing to number of key objectives for the scheme.

Whilst the scheme is operating safely in its first year of operation, it is too early to conclude that the scheme has delivered additional road safety benefits. This will continue to be monitored in future years.

SCOTTISH TRUNK ROAD INFRASTRUCTURE **PROJECT EVALUATION**

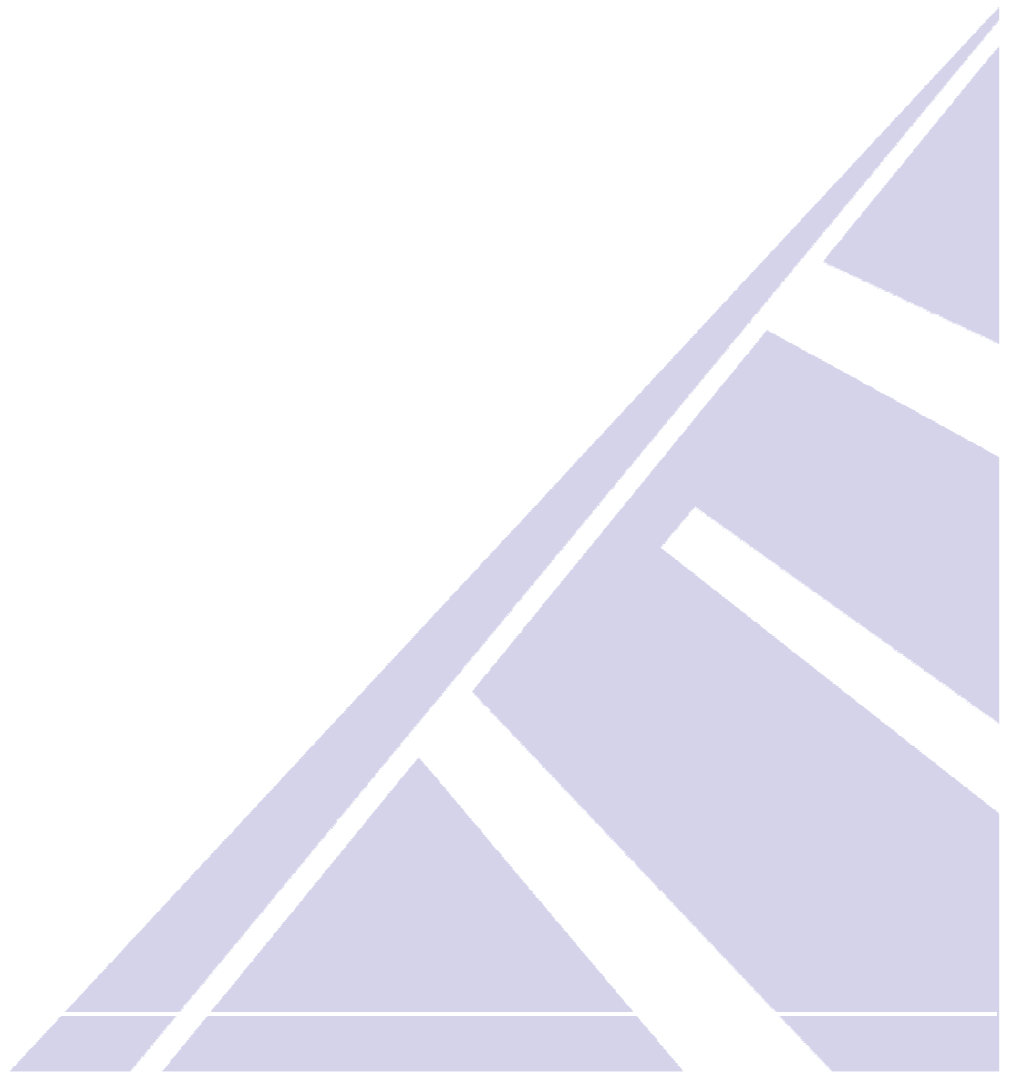
TRANSPORT **SCOTLAND**

1.5 Costs to Government – Is the scheme delivering value for money?

In accordance with the strategy for the A96(T) route (which was developed to meet the aspirations of the six point plan for improvement of the A96(T) Inverness to Aberdeen Trunk Road), the Fochabers & Mosstodloch Bypass project forms part of a series of improvements that can be expected to provide benefits to transport users and help encourage economic development within north east Scotland and beyond.

While the NPV and BCR for this scheme may be lower than those predicted at the time of assessment, it is judged that the project will continue to provide benefits to road users.

INTRODUCTION



SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

2 INTRODUCTION

2.1 Background to Project Evaluation

Road infrastructure projects normally take a minimum of 5 to 7 years to plan prior to the commencement of construction and it is not possible to know exactly what will happen when a project is opened, nor what would have happened had the project not been built, particularly when the project is opened a number of years after its assessment.

The aims of evaluation, as set out in the Design Manual for Roads and Bridges (DMRB), Volume 5, SH 1/97 'Traffic and Economic Assessment of Road Schemes in Scotland', are as follows:

- to satisfy the demands of good management and public accountability by providing the answers to questions about the effects of a new or improved road;
- to identify the strengths and weaknesses in the techniques used for appraising projects, so that confidence in the roads programme is maintained;
- to allow the predictive ability of the traffic or transport models used to be monitored to establish whether any particular form of model is consistently more reliable than others when applied to particular types of projects; and
- to assist in the assessment of compensation under Part 1 of the Land Compensation (Scotland) Act 1973 for depreciation due to the physical factors caused by the use of public works.

The evaluation of trunk road projects is evolving as Transport Scotland improves its process and reporting to reflect the principles of monitoring and evaluation set out in the Scottish Transport Appraisal Guidance (STAG).

STAG advocates evaluation against indicators and targets derived for the Transport Planning Objectives originally set for the project, STAG criteria (Environment, Safety, Economy, Integration and Accessibility & Social Inclusion) and relevant policy directives, the aim of which is to identify:

- whether the project is performing as originally intended;
- whether, and to what extent, it is contributing to established policy directives; and
- whether the implemented project continues to represent value for money.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

Furthermore, Scottish Trunk Road Infrastructure Project Evaluation (STRIPE) by Transport Scotland sets out the requirements for evaluation which draws on DMRB and STAG. This document was finalised in 2013 and acts as a guide to evaluation for relevant projects. STRIPE states that two programmed evaluations should be carried out on relevant schemes, as follows:

- A One-Year After Evaluation – prepared one year after opening, this report should “provide Transport Scotland with an early indication (as far as is practicable) that the project is operating as planned and is on-track to achieve its objectives. The One-Year After Evaluation also provides a Process Evaluation including an assessment of actual vs. forecast project cost, and programme together with reasons for variance”. STRIPE also states that a stand-alone report should be prepared on each individual project. Information gathering should be supported by a site visit and stakeholder interviews.
- A Detailed Evaluation – 3 or 5 years after opening. This second evaluation “considers a project’s impacts, whether it has achieved its objectives and reviews the actual impacts against forecasts and determines the causes of any variances”.

2.2 Evaluation Reporting

As recommended in STRIPE, this report constitutes a One-Year After (1YA) Evaluation Report. It is a standalone report on the A96(T) Fochabers & Mosstodloch Bypass Project. This project fits the criteria for evaluation at this stage, as it cost over £5m and was completed and opened to traffic in the 2011/12 financial year.

Table 2.1 Summary Details

Route	Project Name	Standard	Length (km)	Open to Traffic
A96(T)	Fochabers & Mosstodloch Bypass	S2, DAL & CL	5.1	January 2012

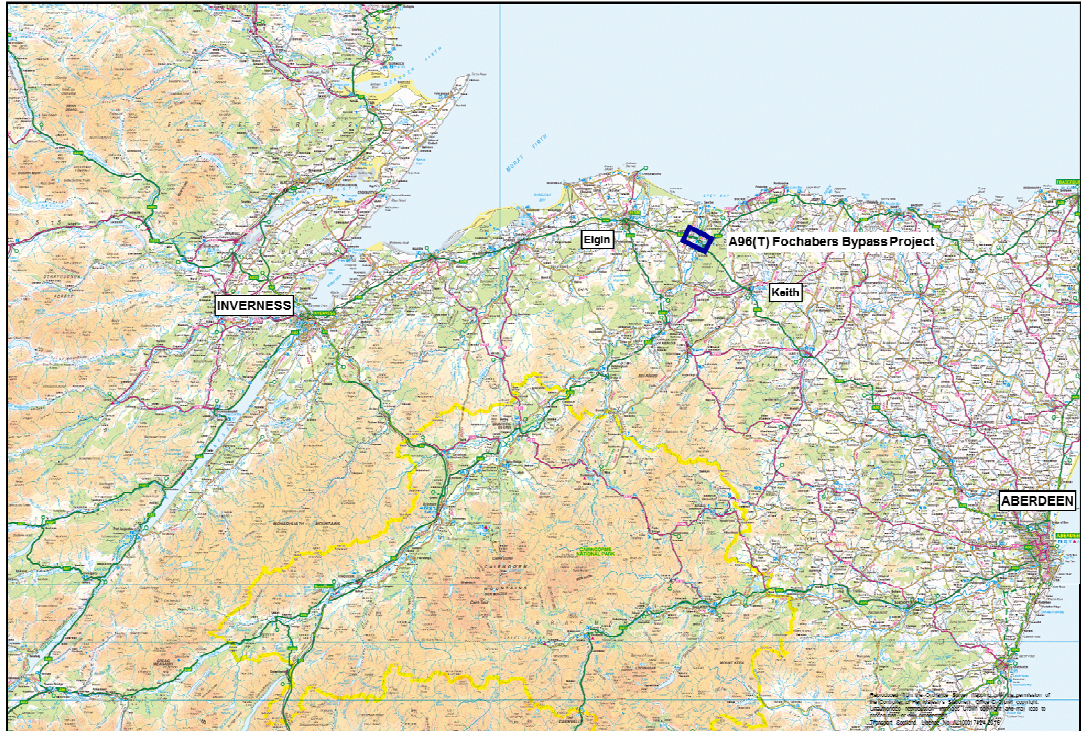
Key: S2 Single 2-Lane Carriageway
 DAL Differential Acceleration Lane
 CL Climbing Lane

The location of the A96(T) Fochabers & Mosstodloch Bypass scheme is presented in Figure 2.1.

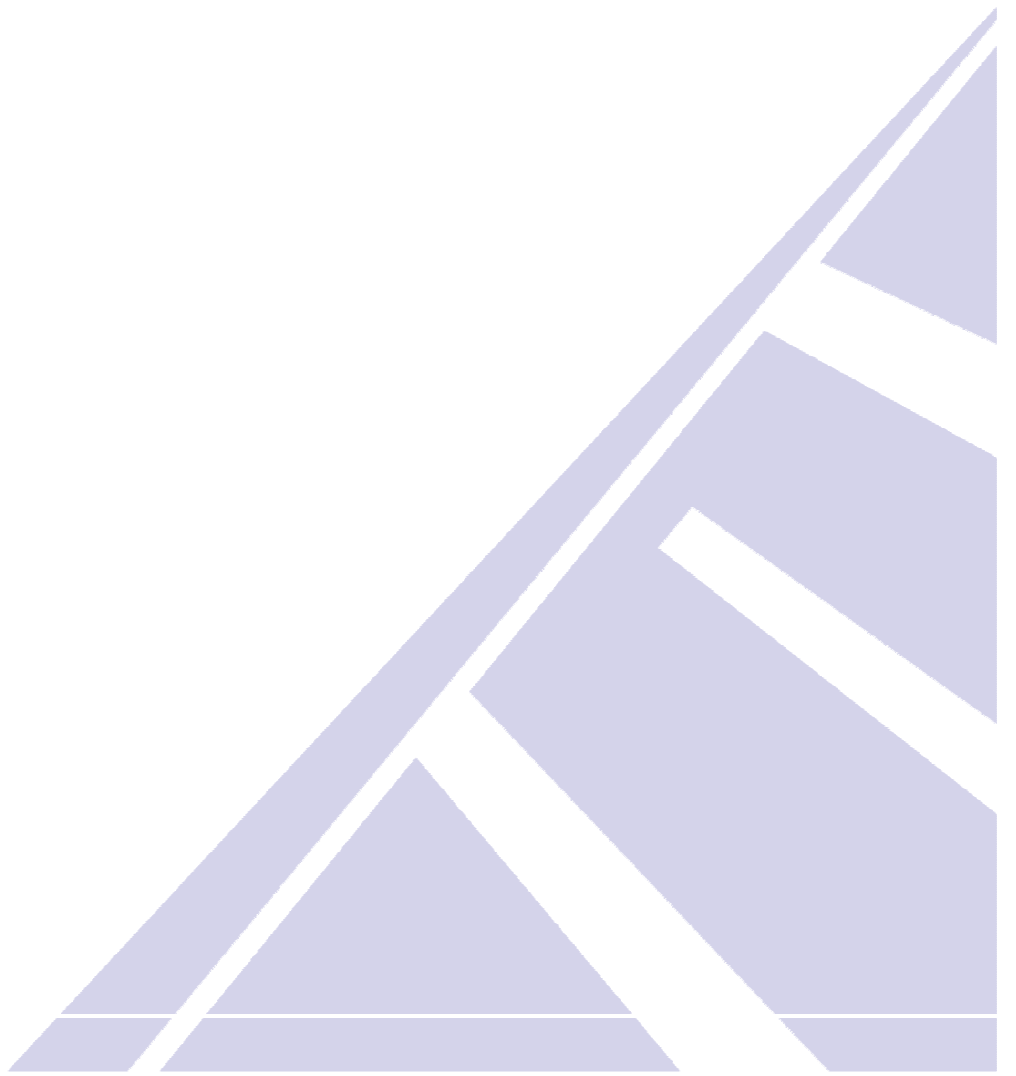
SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

Figure 2.1: Project Location Plan



DETAIL OF EVALUATION



SCOTTISH TRUNK ROAD INFRASTRUCTURE

PROJECT EVALUATION

TRANSPORT **SCOTLAND**

3 PROJECT EVALUATION

3.1 Introduction

Project Description

The A96(T) is approximately 160 km in length, and is located across Highland, Moray, Aberdeenshire and Aberdeen City Council areas. It is a key transportation corridor in the north of Scotland, linking the cities of Aberdeen and Inverness.

The project involved the construction of approximately 5.1 kilometres of new carriageway providing bypass of Mosstodloch and Fochabers, including four new roundabouts – Cowfords, Coul Brae, Spey Bay and Fochabers East.

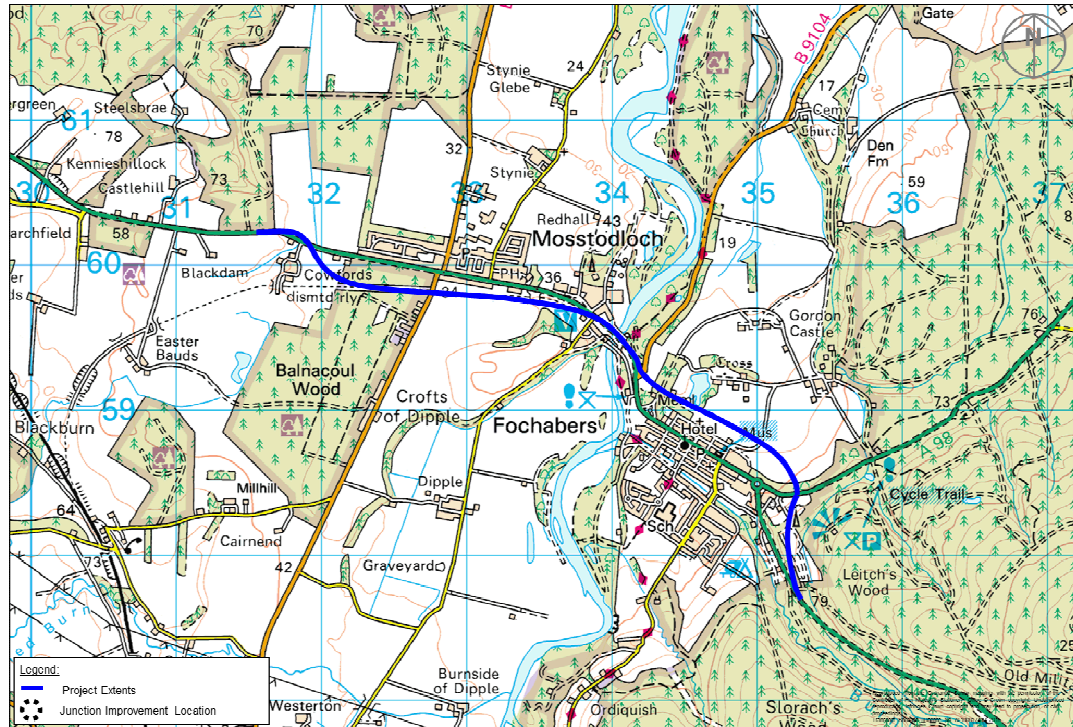
The 1.8 km section of carriageway between the Cowfords and Coul Brae Roundabouts, that forms the Mosstodloch bypass, is three lanes wide with overtaking lanes leading away from the roundabouts. Similarly, the 1.5 km section of carriageway between the Spey Bay and Fochabers East roundabouts, that forms the Fochabers bypass, is three lanes wide with overtaking lanes leading away from the roundabouts. The most easterly section of carriageway, which extends from the Fochabers East roundabout to Drumlachs (approximately 0.7 km long) is three lanes wide providing an extension to the eastbound climbing lane.

The general location of the project is shown in Figure 3.1.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT SCOTLAND

Figure 3.1: General Location Plan



The Mosstodloch bypass was completed in late September 2011 and the Fochabers bypass opened in January 2012 marking the completion of the project.

Rationale and mandate for the scheme

The project was implemented as part of a strategy for the A96(T) route which was developed to meet the aspirations of the six point plan for improvement of the A96(T) Inverness to Aberdeen Trunk Road.

The bypass of Fochabers was targeted principally to alleviate traffic noise and pollution by removing congestion and the relatively high traffic volumes that led to an increase of minor incidents and general loss of amenity within the town. The bypass of Mosstodloch was considered to address issues related principally to road safety brought about by the tendency for excessive speed within the village.

The decision to invest in the scheme was made by Transport Scotland in March 2008.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

Project Objectives

The objectives of the A96(T) Fochabers & Mosstodloch Bypass project were set as follows:

- Improve accessibility in the northeast of Scotland;
- Improve the movement of traffic on the A96 at Fochabers and Mosstodloch;
- Aid economic prosperity and development by reducing travel costs particularly for business and commercial traffic;
- Improve accessibility to existing and proposed business and commercial developments, including tourism and other service industries;
- Improve road safety on the A96 at Fochabers and Mosstodloch;
- Minimise the intrusion of roads and traffic on the communities and on the landscape at Fochabers and Mosstodloch; and
- Protect and improve the environment in Fochabers and Mosstodloch.

3.2 Evaluation Methodology

As set out in Section 2.1, this One Year After report presents the results of a One Year Evaluation of the A96(T) Fochabers & Mosstodloch Bypass project, focusing on:

- The operation of the scheme: how the scheme is operating (in terms of traffic and safety in particular); and
- Objectives: whether the scheme is on-track to achieving its objectives.

Furthermore, a process evaluation has been carried out, which considers how the project was implemented across the elements of project cost, programme and key processes. As commentary on this is included under other criteria (e.g. RSA process under Safety), the main aspects of process evaluation have been summarised above in the Executive Summary (Section 1 of this report).

This evaluation was supported by a site visit carried out in February 2014 and details relating to a review of the environment mitigation measures implemented for the project are presented in Appendix A. External stakeholder views and are presented throughout the report.

Further information on the methodology employed and data sources used to inform this 1YA Evaluation are presented in Appendix B.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT SCOTLAND

3.3 The operation of the scheme and process evaluation

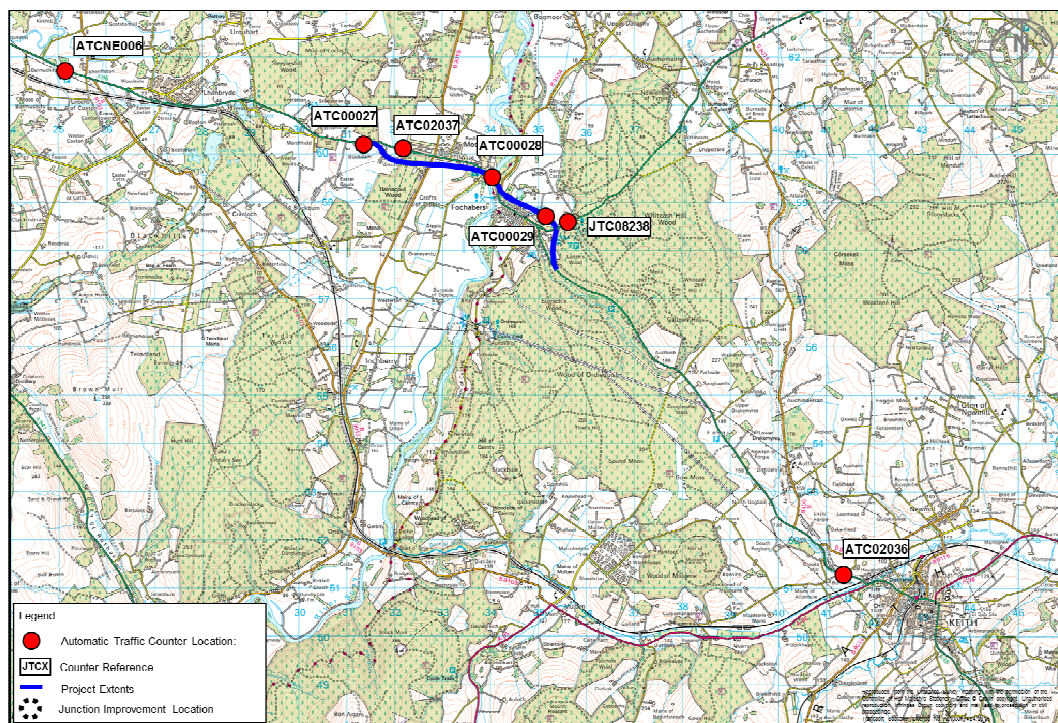
Network Traffic

The evaluation is supported by the consideration of pre and post opening comparison of operational indicators, which focuses on network traffic indicators including traffic volumes and travel times, presented in the following section.

Traffic Volumes

The locations of the Automatic Traffic Counters (ATC) within the study area are shown in Figure 3.2. As can be seen, no ATCs are located within Fochabers.

Figure 3.2: ATC Location Plan



Comparison Between Pre and Post Opening Traffic Flows

The Annual Average Daily Traffic (AADT) flows pre and post project opening within the vicinity of the project are presented in Table 3.1.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

Table 3.1: ATC Data

ATC Reference	AADT by Year					
	2007	2008	2009	2010	2011	2012
A96(T) approx. 8km west of Mosstodloch						
ATCNE006	n/a	16,689	16,408	16,212	15,961	16,254
A96(T) Mosstodloch Main Street						
ATC02037	14,467	14,326	13,993	13,709	n/a	1,436
A96(T) approx. 10km east of Fochabers						
ATC02036	6,327	6,278	6,309	6,033	5,839	6,445
A98(T) approx. 1km north-east of Fochabers						
JTC08238	6,505	6,419	6,528	6,378	5,957	6,134
A96(T) Mosstodloch Bypass						
ATC00027	-	-	-	-	-	12,509
A96(T) Speybridge						
ATC00028	-	-	-	-	-	15,134
A96(T) Fochabers Bypass						
ATC00029	-	-	-	-	-	10,964

A comparison between pre and post opening traffic volumes on the A96(T) within the vicinity of the scheme indicates that traffic flows in 2012 were approximately 400 vehicles per day (vpd) lower to the west of the project and 200 vpd higher to the east than 2008 flow levels.

On the bypassed section of the A96(T) within Mosstodloch, the comparison of pre and post opening traffic volumes indicates that traffic flows in 2012 were approximately 13,000 vpd (90%) lower than 2007 flow levels, indicating a significant reduction in traffic volumes within Mosstodloch.

Traffic flows in 2012 on the Speybridge and Fochabers Bypass were around 15,100 vpd and 11,000 vpd respectively, suggesting that traffic volumes of around 4,100 vpd travelled through Fochabers. On the assumption that traffic levels through Fochabers were similar to those through Mosstodloch, this is a significant reduction (approximately 71%) in traffic when compared against 2007 flow levels on the A96 of around 14,500 vpd.

Traffic volumes on the A96(T) between 2010 and 2013 were relatively stable although analysis of the long term trends in annual traffic flows suggest that the volume of traffic on this section of the A96(T) had been falling for a number of years prior to the opening of the project. This may be as a result of reductions in traffic volumes across the wider trunk road network due to the economic downturn experienced during the evaluation period.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

Comparison Between Predicted and Actual Traffic Flows

The opening year flow comparisons for the A96(T) Fochabers & Mosstodloch Bypass project are based on AADT flows from 2012 as this was the first full year of reliable traffic data available from Transport Scotland's traffic counters within the vicinity of the project.

As part of the project's appraisal, National Road Traffic Forecasts (NRTF) central traffic growth factors were applied to the 2001 base year traffic flows to derive opening and future modelled assessment year traffic flows.

Predicted traffic flows for 2012 have been derived by factoring the 2006 design year flows used in the economic assessment with NRTF central traffic growth factors.

A summary of the actual and predicted traffic data is shown in Table 3.2 below.

Table 3.2: Traffic Analysis Summary

ATC Ref	Actual AADT (2012)	Predicted AADT (2012)	% Difference (Predicted – Actual) / Actual
		Central	Central
A96(T) approx. 8km west of Mosstodloch			
ATCNE006	16,254	15,526	-4.5%
A96(T) Mosstodloch Main Street			
ATC02037	1,436	756	-47.4%
A96(T) approx. 10km east of Fochabers			
ATC02036	6,445	6,786	5.3%
A96(T) Mosstodloch Bypass			
ATC00027	12,509	14,770	18.1%
A96(T) Speybridge			
ATC00028	15,134	17,915	18.4%
A96(T) Fochabers Bypass			
ATC00029	10,964	13,511	23.2%

The comparison between predicted and actual AADT flows in Table 3.2 indicates that the predicted 2012 flows were between 18% and 23% greater than the observed 2012 flows on the bypass sections of the A96(T), and 47% lower than the observed 2012 flow on the bypassed A96 within Mosstodloch, under the central traffic forecast scenario.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

This comparison indicates that the level of traffic in Mosstodloch predicted to transfer onto the bypass has been overestimated (by approximately 700 vpd) and that traffic growth on the A96(T) has fallen significantly short of the assumed NRTF forecasts, it is recognised that there has been a general fall in traffic volumes across the wider trunk road network in recent years due to the economic downturn that may in part account for the difference.

Overtaking Opportunities

Pre-opening overtaking surveys were not carried out for this scheme, therefore, post-opening overtaking surveys have not been carried out in the absence of a comparable baseline.

However, it is reasonable to assume that, due to the nature of the project, (bypass of Fochabers and Mosstodloch with overtaking lanes leading away from the roundabouts), the number of unambiguous overtaking opportunities will have increased in both directions of travel as a direct result of the bypass.

Travel Times

Comparison Between Pre and Post Opening Journey Times

Pre-opening journey time surveys were carried out for the A96(T) Fochabers & Mosstodloch Bypass project in February 2001. Post opening journey time surveys were carried out in February 2014 to provide an indication of the changes in average journey times along the A96(T) within the vicinity of Fochabers and Mosstodloch.

The extents of the journey time survey routes are shown in Figure 3.3a and Figure 3.3b.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT SCOTLAND

Figure 3.3a: Pre Opening Journey Time Survey

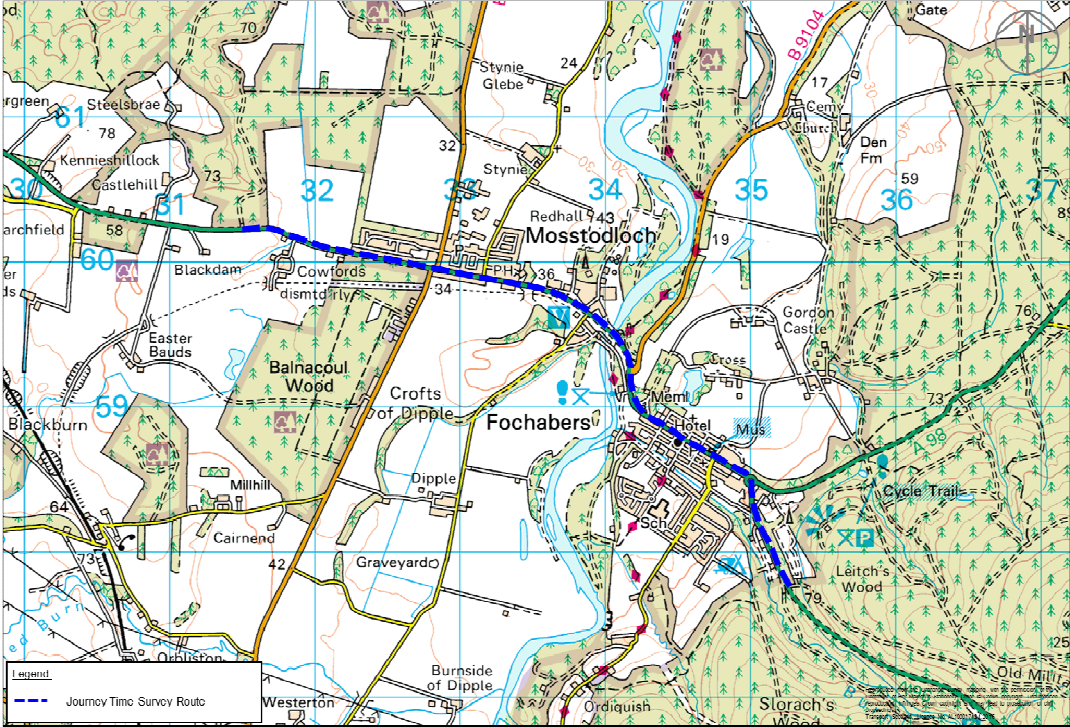
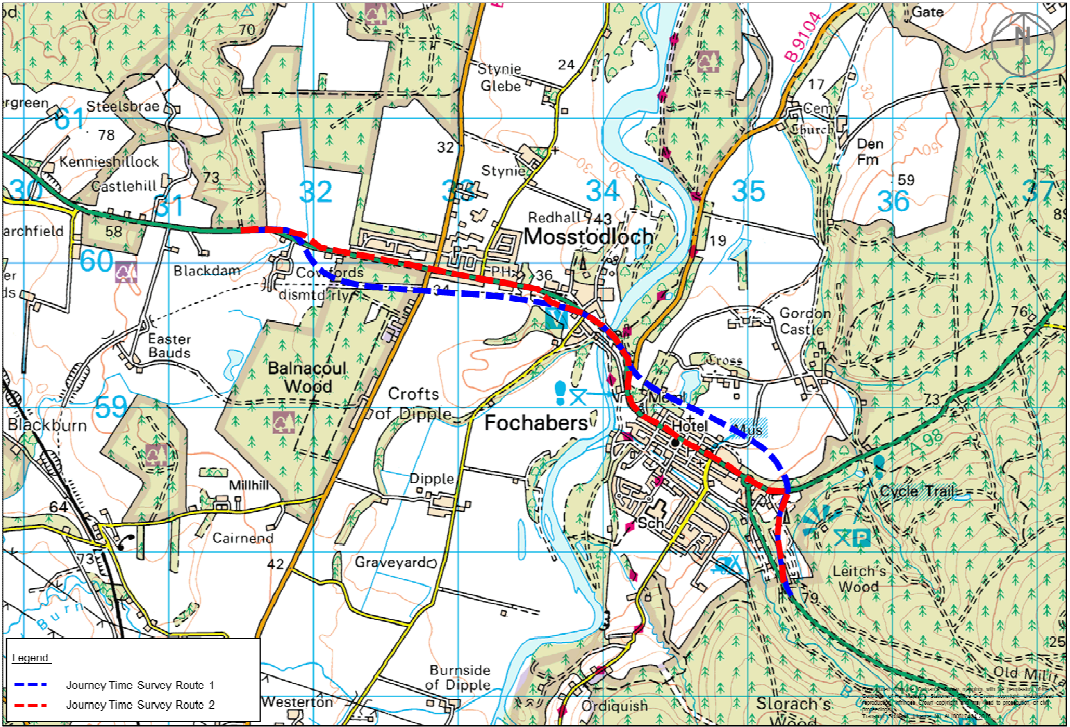


Figure 3.3b: Post Opening Journey Time Survey



SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

The average pre and post opening journey times along with the savings in travel time are shown in Tables 3.3a and 3.3b below.

Table 3.3a: Travel Time Data (A96(T) Bypass)

Direction	Average Journey Time		Time Savings (mins / secs)	% Saving
	Observed Pre Opening (2001)	Observed Post Opening (2014)		
Eastbound	5 mins 45 secs	5 mins 19 secs	26 secs	8%
Westbound	5 mins 37 secs	4 mins 56 secs	41 secs	12%

Table 3.3b: Travel Time Data (Bypassed A96 via Fochabers and Mosstodloch)

Direction	Average Journey Time		Time Savings (mins / secs)	% Saving
	Observed Pre Opening (2001)	Observed Post Opening (2014)		
Eastbound	5 mins 45 secs	7 mins 36 secs	- 1 min 51 secs	- 32%
Westbound	5 mins 37 secs	7 mins 24 secs	- 1 min 47 secs	- 32%

Examination of the pre and post opening journey times, presented in Tables 3.3a and 3.3b, indicates that following the opening of the scheme, average journey time savings for strategic traffic could be 26 seconds and 41 seconds in the eastbound and westbound directions of travel respectively.

Further examination of the pre and post opening journey times indicates that travel times using the bypassed A96 through Fochabers and Mosstodloch may have increased by up to approximately 2 minutes. This is in line with anecdotal evidence which suggests that, following opening of the bypass, an increase in parking within Fochabers can lead to additional delays. Users of the bypassed route will also experience delays at the junctions where the bypassed route ties into the A96(T) Bypass.

Comparison Between Predicted and Actual Travel Times

As the predicted journey time savings for 2006 are broadly similar with those predicted for 2021 on the bypass, the predicted 2006 journey time savings have been used as a proxy for the predicted journey time savings in 2014. The journey times collected post opening of the scheme in 2014 and available pre-opening data have been used to derive actual journey times savings, which have been compared with predictions.

The comparison of predicted and actual journey time savings are shown in Tables 3.4 below.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

Table 3.4: Predicted vs Actual Travel Time Summary

Direction	Average Journey Time		Comparison (mins / secs)
	Predicted Saving (2006)	Actual Saving (2014)	
2-Way	1 min 54 secs	34 secs	- 1 min 20 secs

The comparison between the available predicted and actual journey time savings presented in Table 3.4 indicates a predicted saving of approximately 2 minutes in both directions of travel following the opening of the scheme. This is in comparison to actual average 2-way savings of approximately 34 seconds derived from the observed journey times.

The main reason for the difference in journey time savings can be explained. Traffic conditions along the A96 were such that speed reduction measures through Mosstodloch were proposed at the time of the appraisal and were included in the economic analysis. As the measures, predicted to increase journey times by around 1½ minutes, were not in place when the pre-opening journey times surveys were carried out, the full extent of the journey time saving is not captured by the comparison of pre and post opening journey times.

Excluding the 1½ minutes associated with proposed speed restriction measures, which were not in place when the pre-opening journey times surveys were carried out, from the prediction gives a journey time saving that is consistent with the actual saving.

The scheme layout is configured with overtaking lanes leading away from the roundabouts, which differs from the Wide Single 2+1 carriageway layout modelled during the appraisal. As a result, it is likely that the actual journey times savings are marginally greater than would have otherwise been achieved.

Stakeholder Feedback

Stakeholders were invited to offer feedback on the A96(T) Fochabers & Mosstodloch Bypass scheme, in terms of its impact on journey times.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

There is some anecdotal evidence that journey times are significantly shorter and the objective to improve journey times has largely been achieved. Conversely a couple of local businesses noted that there was no apparent difference in travel time for staff travelling to work.



3.4 Environment

The following section provides a summary of the assessment of environmental mitigation measures proposed for the A96(T) Fochabers & Mosstodloch Bypass scheme. A fuller report is provided in Appendix A.

Review of Environmental Mitigation Measures

The environmental mitigation measures originally proposed for the A96(T) Fochabers & Mosstodloch Bypass project were obtained from the project's Environmental Statement (ES)¹. A review of the environmental mitigation measures was carried out in February 2014, as well as a review of the as-built scheme plans. Following this review a site visit was undertaken to establish whether or not the proposed mitigation measures as set out in the Schedule of Committed Mitigation within the ES had been implemented.

The ES for the scheme proposed mitigation measures to address impacts under the following criteria:

- Noise and Vibration
- Water Quality, Drainage and Flood Defence
- Biodiversity and Habitats
- Landscape and Visual Amenity
- Agriculture and Soils
- Cultural Heritage

A96 Fochabers & Mosstodloch Bypass Environmental Statement, Scott Wilson (2001)

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

- Physical Fitness

Findings

Much of the mitigation which was included within the ES has been implemented on site and is in good condition. Measures including the new footbridge constructed to provide access to Gordon Castle Estate and the gateway features at Mosstodloch and Fochabers have been carefully designed to remain sympathetic to the local character of the area and to be in-keeping with the historic setting which has been successfully achieved.

Extensive tree and hedge planting was carried out across the extents of the project area to mitigate for any loss of habitat in addition to the establishment of badger fencing along both sides of the carriageway which, in several areas, appears to have been extended beyond what was proposed in the ES.

Measures for pedestrians and cyclists were constructed as part of the scheme, providing access to both the bus stop located on the A96 and to the combined pedestrian / cyclist paths also constructed as part of the scheme. Shared use signs were provided at various locations along the new cycle paths.

The site inspection did, however, identify some potential issues relating to the condition of drains in some areas that had deteriorated where weed growth was evidenced and a lack of evidence of amenity planting at the gateway to Mosstodloch.

Noise and Air Quality

Given the lower volume of traffic observed on the bypass than was forecast, any localised increases in noise and air pollution are also likely to be lower than predicted.

A detailed examination of the project's impact on Noise and Air Quality will be undertaken in future evaluations.

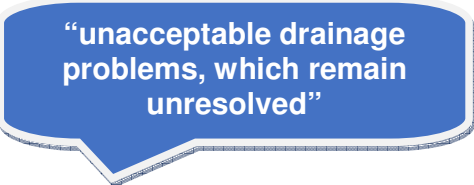
SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

Stakeholder Feedback

Stakeholders were invited to offer feedback on the A96(T) Fochabers & Mosstodloch bypass scheme, in terms of its impact on the environment.

A response received indicated that there were issues with regard to the traffic calming and resurfacing works at the west end of Mosstodloch which include “unacceptable drainage problems, which remain unresolved”. These are still under review and Transport Scotland is continuing to discuss the issues with the relevant organisations.



“unacceptable drainage
problems, which remain
unresolved”

Environment: Key Findings

The mitigation measures included within the ES that are relevant during operation have been implemented and seen to be in good condition. A considerable number of mitigation and enhancement measures have been put in place to protect and enhance the heritage and landscape value of the area. These have been completed to a high standard and work sympathetically with the existing environment.

Furthermore, supplementary features (such as the amenity area around the settlement pond and some planting) have been implemented in addition to those set out in the ES.

It is expected that over time the features implemented will weather, vegetation will grow and the scheme will assimilate even better into the surrounding landscape.

Key recommendations

It is recommended that construction of the permanent amphibian barrier between the bypass and Gordon Castle Lake should be confirmed and that planting of the wildflower / grassland measures has been carried out.

The impact on Noise and Vibration and Air Quality will be considered within future evaluations carried out for the project.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT SCOTLAND

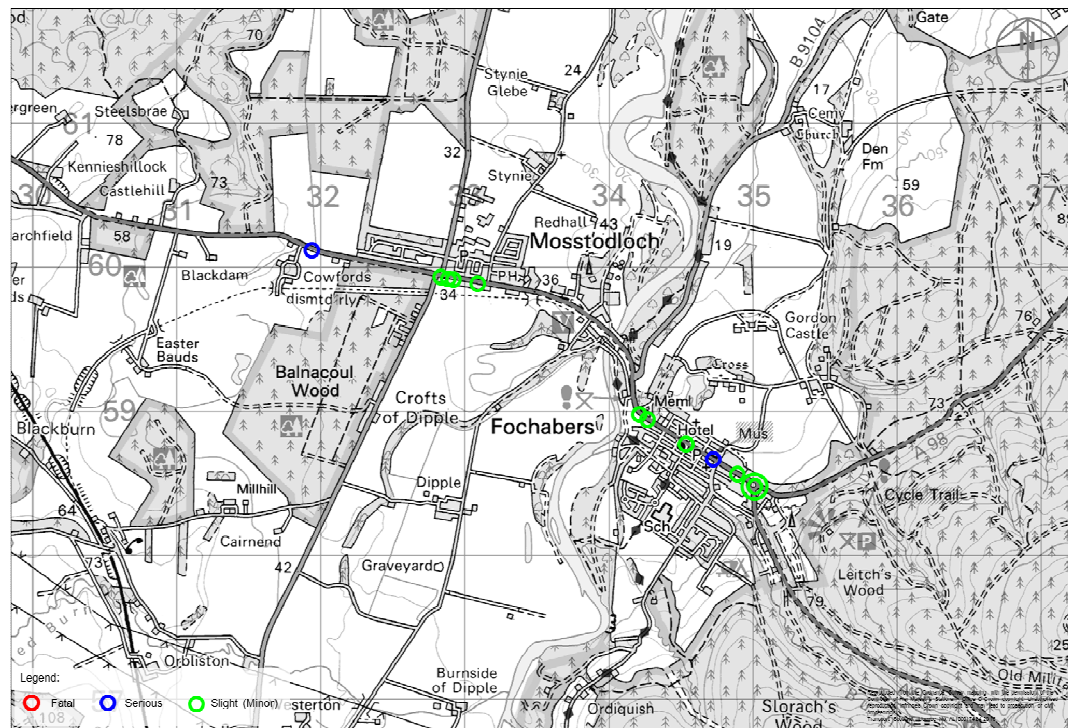
3.5 Safety

Accidents

Comparison Between Pre and Post Opening Personal Injury Accident Numbers

The locations and severities of accidents occurring within the vicinity of the A96(T) Fochabers & Mosstodloch Bypass project 3 years before and 1 year after project completion are shown in Figures 3.4a and 3.4b.

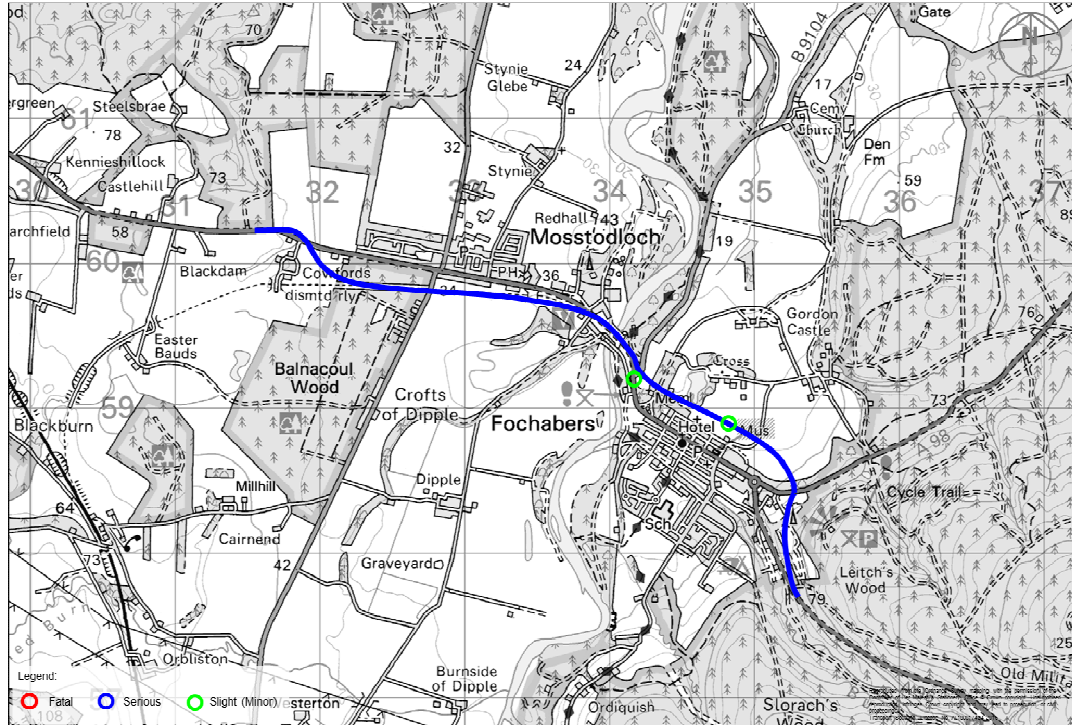
Figure 3.4a: 3 Years Before Opening Accidents



SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT SCOTLAND

Figure 3.4b: 1 Year After Opening Accidents



A summary of the personal injury accident data is shown in Table 3.5.

Table 3.5: Accident Data Summary

Period	Fatal	Serious	Slight	Total Accidents
3 Years Before				
A96(T)	0	2	10	12
1 Year After				
A96(T)	0	0	1	1
Bypassed A96(T)	0	0	1	1
Total	0	0	2	2

As can be seen from Table 3.5, two personal injury accidents (two slight) occurred in the 1 year period following the opening of the project in comparison to twelve personal injury accidents (two serious and ten slight) in the 3 years before opening, suggesting an improvement in road safety.

Road Safety Audits

The RSA process has been followed, with Stage 1, 2, 3 and 4 Audits carried out. The Stage 4 Audit was undertaken in August 2013.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

The Stage 4 RSA confirmed that two accidents, both of which resulted in slight injuries, had occurred on the new section of the A96(T) in the 1 year period following the opening of the project.


The RSA concluded that there did not appear to be any significant accident problem with the new sections of the A96(T) and that the two slight accidents were attributed to driver error.

Stakeholder Feedback

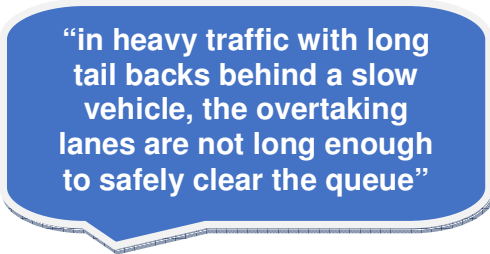
Stakeholders were invited to offer feedback on the A96(T) Fochabers & Mosstodloch bypass scheme, in terms of its impact on road safety.

One stakeholder indicated that while only two slight injury accidents had been reported on the new road, several damage-only accidents had been reported and concerns had been raised relating to the overtaking sections on the bypass.

Another stakeholder stated that “in heavy traffic with long tail backs behind a slow vehicle, the overtaking lanes are not long enough to safely clear the queue.” They also indicated that there are frequent reports of cars entering the chevron areas marking the end of the overtaking lanes. It was noted that drivers have been witnessed failing to comply with road signs and markings, overtaking for longer distances than allowed (by misjudgement or choice), therefore, potentially leading to conflict between eastbound and westbound vehicles in the 'no overtaking' section.



“concerns had been raised relating to the overtaking sections on the bypass”



“in heavy traffic with long tail backs behind a slow vehicle, the overtaking lanes are not long enough to safely clear the queue”

In response to the concerns raised, Transport Scotland has carried out a review of overtaking behaviour on the Fochabers and Mosstodloch bypass, which confirms that vehicles are crossing the white lining at the end of the overtaking lanes and provides an indication of the number and frequency of such manoeuvres.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

The review recommends that the road markings be revised to conform to current standards. This will be carried out as part of routine maintenance operations on the route. The lengths of the overtaking lanes comply with standard TSIA 37. The operation of the scheme will be reviewed again as part of the detailed evaluation.

Safety: Key Findings

An assessment of the 1 year post opening personal injury accidents and the findings from the Stage 4 RSA suggests that the A96(T) Fochabers & Mosstodloch Bypass project is operating safely.

Recommendations

Whilst there is no evidence to suggest that the road layout is having an adverse impact on road safety, the scheme should continue to be monitored and the white lining revised as part of a programme of updates for the route.

3.6 Economy

Transport Economic Efficiency

The comparisons between predicted and actual traffic flows and travel times, presented in Section 3.3, can be considered a proxy for whether the predicted economic benefits of the project are likely to be realised.

Comparison Between Predicted and Actual Traffic Flows

The comparison indicates that the predicted 2012 flows were up to 23% greater than the observed 2012 flows on the bypassed sections of the A96(T) within the vicinity of Fochabers & Mosstodloch.

Comparison Between Predicted and Actual Travel Times

The comparison of predicted and actual travel times indicates that the predicted journey time saving for strategic traffic is approximately 1 ½ minutes greater than the actual journey time saving. Excluding the 1½ minutes associated with the proposed speed reduction measures through Mosstodloch, which were not in place when the pre-opening journey times surveys were carried out, gives a journey time saving that is consistent with the actual saving.

Stakeholder Feedback

Stakeholders were invited to offer feedback on the A96(T) Fochabers & Mosstodloch bypass scheme, in terms of its impact on actual or perceived benefits to trade, customer experience, working pattern changes and any potential additional business opportunities.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

One response received stated that the consultation questions were disseminated to their members in the Northeast and they hadn't received any negative comments.

A response from a local stakeholder advised that "the improved access and the opportunity to erect signage to direct traffic has seen an increase in trade", which, in turn, has led to increased investment in the business with improved customer experience and some extended opening/working hours. It was acknowledged that the construction of the bypass has enabled land previously specified as greenbelt to be reclassified with planning permission being sought for (residential and commercial) development, which will also benefit the business.

It was also noted anecdotally by a local business that, shopkeepers in the area "have noticed an increase in trade of approximately 10%" against a backdrop of economic downturn.

"improved access and the opportunity to erect signage to direct traffic has seen an increase in trade "

"shopkeepers in the area have noticed an increase in trade of approximately 10%"

"construction of the bypass has enabled land previously specified as greenbelt to be reclassified with planning permission being sought for (residential and commercial) development"

Economy: Key Findings

Excluding the 1½ minutes associated with the proposed speed reduction measures through Mosstodloch, which were not in place when the pre-opening journey times surveys were carried out, actual journey time savings for strategic traffic are likely to be consistent with that predicted. However, a difference between predicted and actual AADT flows of this magnitude suggests that, should current trends in traffic volumes continue, the economic benefits of the project may have been overestimated in the short-term. This is likely due to external factors that could not have readily been foreseen at the time of assessment (the economic downturn and resulting decline in traffic flows).

Anecdotal evidence received from local businesses suggests that, following opening of the bypass, an increase in trade within Fochabers has been observed, indicating that the scheme may have contributed towards wider economic benefits not included within the project's assessment.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT SCOTLAND

3.7 Accessibility & Social Inclusion

Community Accessibility

Cycling Audit

A Stage 3 Cycle Audit was undertaken in February 2012. This considered the specific cycle facilities provided as part of the proposals, i.e. across the tie-ins at either end and at numerous crossover points.

The audit concentrated on the infrastructure provided as part of the scheme, including associated tie-ins, and did not assess existing infrastructure along the route. The main elements of the scheme subject to the audit were:

- The shared footway/cycleway at Cowfords Roundabout;
- The Rothes Road underpass;
- The crossings at Inchberry/Baxters, including underpass;
- The Spey Bay Toucan Crossing and associated shared use footway/cycleway;
- The Fochabers East underpass; and
- The Dramlachs underpass.

It was noted that the Inchberry underpass was not fully complete at the time of the audit, however, the audit did comment on what had been completed and how it was expected to operate.

The following issues, assessed as needing to be addressed, are to be co-ordinated with Moray Council:

- 'End of Route' sign to be provided at Cowfords tie-ins and poles to be relocated to match up with dropped kerbs; and
- Dropped kerb to be provided at Mosstodloch approach to facility at Baxters; and
- Dropped kerb to be provided opposite access to Gordon Castle as well as an end of route sign.

Stakeholder Feedback

Stakeholders were invited to offer feedback on the A96(T) Fochabers & Mosstodloch bypass scheme, in terms of its impact on cycling and walking within the vicinity of the scheme, in addition to any perceived changes in access to other local services.

One stakeholder noted the previous high level of cycling and walking between Fochabers and Mosstodloch which had been at least maintained, however, it was acknowledged that there was no evidence available to determine whether levels have increased.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

It was also noted that there have been changes to parking arrangements / behaviour within Fochabers and Mosstodloch following completion of the scheme, i.e. “with the removal of the through traffic (especially HGVs) there is an increased demand for parking at the shops in Fochabers”. Also, in Fochabers, “parents have begun parking on the High Street instead of going into the primary school grounds as they used to”.

A local business indicated that, following the opening of the scheme, it was now more difficult to drive through Fochabers as more vehicles park in the main street, however there is not the same volume of heavy vehicles going through.

A response from another local business indicated that, the majority of staff now use the bypass to travel to work rather than travel through the village. It was suggested that access to the local business in general is easier as a result of the bypass and the direct access provided.

It was also noted that following the opening of the scheme, traffic conditions within the village have improved significantly improving the environment for all. Furthermore, it was acknowledged that the scheme seems sufficiently designed for current traffic demand.

A local bus company was invited to offer feedback on the A96(T) Fochabers & Mosstodloch bypass scheme, in terms of its impact on public transport services and service frequency, in addition to any other perceived or actual benefits of the scheme.

The local bus company consulted noted that, while the bypass did not result in any changes to service timetables, service routes or patronage, the scheme was considered beneficial to its operations as, removal of traffic from Fochabers allow its services to go through the village easier. It was also noted that issues have been experienced with the current situation surrounding car parking within Fochabers.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

“the previous high level of cycling and walking between Fochabers and Mosstodloch had been at least maintained”

“with the removal of the through traffic (especially HGVs) there is an increased demand for parking at the shops in Fochabers”

“parents have begun parking on the High Street instead of going into the primary school grounds as they used to”

“following the opening of the scheme, it was now more difficult to drive through Fochabers as more vehicles park in the main street, however there is not the same volume of heavy vehicles going through”

“the scheme was considered beneficial to a local bus company’s operations as, removal of traffic from Fochabers allow its services to go through the village easier”

“the majority of staff now use the bypass to travel to work rather than travel through the village”

Accessibility & Social Inclusion: Key Findings

While no cycleway or footway was implemented as part of the project, improvements were made to cyclist and pedestrian facilities for active travel users where the scheme tied-in to the existing network.

Anecdotal evidence from local stakeholders indicated that the removal of strategic traffic from within Fochabers and Mosstodloch (including HGV traffic) has resulted in an improved environment for pedestrians and the community, more generally.

Local stakeholders also suggested that, as a result of the removal of strategic traffic from within Fochabers, an increase in demand for parking at the shops in Fochabers has been noted, suggesting that the scheme may have had a positive impact on local businesses.

SCOTTISH TRUNK ROAD INFRASTRUCTURE PROJECT EVALUATION

TRANSPORT **SCOTLAND**

Anecdotal evidence suggest that there has been no negative impact on public transport services within the vicinity of the project.

Recommendations

It should be confirmed whether the findings of the Stage 3 Cycle Audit have been addressed and that the cycle facilities provided at the scheme tie-ins to the existing network are operating satisfactorily.

3.8 Value for Money

Initial Indications

The economic appraisal results for the A96(T) Fochabers & Mosstodloch Bypass project predicted a Net Present Value (NPV) of £86.55m and Benefit to Cost Ratio (BCR) of 5.09 under the central traffic forecast scenario.

The NPV and BCR of the project may be lower than predicted at the time of assessment. Further analysis under the Value for Money and Cost to Government criteria will be undertaken at the three year after opening stage.

Value for Money: Key Findings

Although the NPV and BCR are unlikely to be as great as predicted at the time of assessment as a consequence of the combined effect of reduced traffic levels as a result of the economic downturn and higher than predicted out-turn costs, it is judged that the project will continue to provide benefits to road users.

3.9 Progress Towards Achieving Objectives

An initial indication of how the project is progressing towards achieving its objectives is based on the pre-opening data available, supplemented by post opening data collected as part of the evaluation.

Initial Indications

A summary of the evaluation, providing an indication of how the A96(T) Fochabers & Mosstodloch Bypass project is progressing towards achieving its objectives, is presented in Table 3.6.

SCOTTISH TRUNK ROAD INFRASTRUCTURE **PROJECT EVALUATION**

TRANSPORT **SCOTLAND**

Table 3.6: Progress Towards Achieving Objectives

Objective	Commentary	Progress
Improve accessibility in the northeast of Scotland	The reduction in average journey times for strategic traffic using the A96(T) Fochabers & Mosstodloch Bypass support the conclusion that the project has contributed towards an improvement in accessibility within the northeast of Scotland.	+ve
Improve the movement of traffic on the A96 at Fochabers and Mosstodloch	<p>The bypass removes the need for traffic to travel through Fochabers and Mosstodloch and, as a result, strategic traffic on the A96(T) is subjected to lower levels of congestion, reducing average journey times.</p> <p>The provision of a bypass incorporating overtaking opportunities is judged to help reduce platooning, contributing towards a reduction in journey times and journey time variability.</p>	+ve
Aid economic prosperity and development by reducing travel costs particularly for business and commercial traffic	<p>The project reduces journey times for strategic traffic, providing travel cost benefits to transport users, which is expected to help encourage economic development within northeast Scotland and the wider area.</p> <p>It is likely that the project will benefit commercial and tourist traffic which may result in wider economic benefits.</p>	+ve
Improve accessibility to existing and proposed business and commercial developments, including tourism and other service industries	<p>The A96(T) Fochabers & Mosstodloch Bypass supports economic development in northeast Scotland and within both the local and wider area.</p> <p>The project provides improved access to employment and leisure / tourist facilities within the local area and throughout northeast Scotland as a result of reduced and more reliable journey times.</p> <p>Anecdotal evidence from local stakeholders indicated that, as a result of the removal of strategic traffic from within Fochabers, an increase in the demand for parking has been noted, suggesting that the scheme may have had a positive</p>	+ve

SCOTTISH TRUNK ROAD INFRASTRUCTURE **PROJECT EVALUATION**

TRANSPORT **SCOTLAND**

Objective	Commentary	Progress
	impact on local businesses within Fochabers.	
Improve road safety on the A96 at Fochabers and Mosstodloch	<p>Police Scotland have raised concerns over driver behaviour on the overtaking sections of the bypass.</p> <p>An assessment of the 1 year post opening personal injury accidents and a review of the Stage 4 RSA report, suggests that the A96(T) Fochabers & Mosstodloch Bypass project is operating safely.</p>	+ve
Minimise the intrusion of roads and traffic on the communities and on the landscape at Fochabers and Mosstodloch	Environmental and landscaping measures have been implemented to help the project fit within the existing open landscape.	+ve
Protect and improve the environment in Fochabers and Mosstodloch	Whilst it cannot be confirmed that there has been an improvement to the environment, the majority of measures committed within the Environmental Statement are in place and observations have confirmed that additional measures have been implemented. A few potential issues have been identified, however, these are not considered to have had a material detrimental impact on the general integration of the project into its surroundings.	= / +ve

- Key:
- +ve Initial indication(s) that objective may be achieved
 - = Progress towards achievement of objective cannot be confirmed
 - Initial indication(s) that objective may not be achieved

Appendix A: Environment

DRAFT

A ENVIRONMENT

This section provides details of the 1-year after evaluation undertaken for the Environment criterion in the Scottish Trunk Road Infrastructure Project Evaluations (STRIPE). The 1-year after evaluation includes a 'high level' assessment of the environmental impacts of the project (where possible), a review of whether the environmental mitigation measures proposed in the project's Environmental Statement (ES) have been implemented (commenting on their success where possible) and a check of whether specific requirements of the appraisal process have been met.

The environmental mitigation measures originally proposed for A96 Fochabers and Mosstodloch Bypass were obtained from the project's ES, originally produced in October 2001. A review of these environmental mitigation measures was carried out in February 2014. Following this review, a site visit was undertaken to establish whether or not the proposed mitigation measures as set out in the Schedule of Commitments within the ES had been implemented.

A.1 NOISE AND VIBRATION

Noise modelling carried out to inform the ES determined those properties on and close to the original A96 in both Fochabers and Mosstodloch were expected to experience a decrease in external noise levels and those properties close to the new bypass were expected to experience an increase. A review of available noise survey / monitoring data shall be undertaken as part of the future detailed evaluation to confirm whether noise levels at affected receptors are higher or lower than those experienced prior to construction and how these compare predictions in the ES.

"Low noise" surfacing materials have been used to reduce noise impacts for locally sensitive receptors as included in the mitigation requirements described in the ES.

Further noise mitigation for Gordon Chapel in Fochabers involved the installation of a new double glazing system to protect the existing stained glass windows and reduce noise levels. This has been completed and a visit inside the Chapel confirmed that noise from the bypass was not conspicuous and noise levels were certainly less than those experienced outside. Furthermore, the new glazing is sympathetic to the aesthetics of the original stained glass windows, particularly from the inside of the building.

Further to the mitigation outlined in the original ES, a willow-clad acoustic barrier (see Figure 1) has been constructed along either side of the carriageway at Fochabers and a curved wall constructed from reclaimed brick has been erected adjacent to the Gordon Castle Lake to improve noise reduction at its south end. Both of these measures were proposed as part of the re-examination of the mitigation strategy for the bypass between Gordon Castle Main Estate Driveway and the realigned Gordon Castle Farm Road. This requirement was set out by the Scottish Ministers when they issued the decision to proceed with the bypass in March 2005.



Figure 1 – willow-clad acoustic barrier

A number of earthworks embankments were also proposed to reduce the impact of traffic noise and these have been constructed.

The ES concluded that properties directly adjacent to the original A96 will experience reductions in vibration nuisance of approximately 15-23%, whilst only two properties, Gordon Chapel and West Lodge will experience a small vibration increase of between 1-4%. No mitigation was specified in the ES for vibration impacts.

A.2 GLOBAL AND LOCAL AIR QUALITY

The ES determined that localised air quality would improve within Fochabers and Mosstodloch along the route of the original A96. Air quality is expected to deteriorate slightly along the northern edge of Fochabers but pollution levels will remain well within current legislative requirements.

Given this, no mitigation measures to reduce the impact upon global or local air quality were identified outside the construction period. The bypass itself can be classed as an enhancement measure for the properties along the original A96 route. Air quality was not assessed as part of this review.

A.3 WATER QUALITY, DRAINAGE AND FLOOD DEFENCE

There are a number of watercourses in and around the project area, including River Spey, designated a Special Area of Conservation (SAC), supporting a major spawning population of Atlantic salmon; Black Burn which discharges into the Spey; Dipple Burn which also runs into the Spey and the Burn of Fochabers from which a 'take-off' supplies a small reservoir and is used to feed flow the Lake in the Gordon Castle Estate.

The ES concluded that overall the bypass will have a slight beneficial effect on the quality of road runoff discharges due to the inclusion of drainage pollution protection measures in the scheme design. This is key due to the need to protect the River Spey SAC that could have connectivity within the scheme.

Primary treatment of surface runoff was to be carried out by filtration through inclusion of filter drains along the length of the scheme in the road verges. This review confirmed these had been installed, though it is noted that the condition of the drains in some areas had deteriorated and weed growth was evident (see Figure 2).



Figure 2 – filter drain with weed growth

Secondary treatment of surface water runoff was to be carried out through the use of a settlement pond. This review confirmed this had also been established directly adjacent to Spey Bay roundabout.

A.4 GEOLOGY

Assessments undertaken as part of the ES determined that no mitigation measures were necessary for the construction or operation of the scheme with regards to geology. No issues relating to geology were identified during the environmental mitigation measures review.

A.5 BIODIVERSITY AND HABITATS

The ES concluded that the impact to most habitats and species within the project area, (which includes protected species such as red squirrels, badgers, otters, Atlantic salmon, sea lamprey, bats, newts and a host of bird species, toads and frogs) would be neutral or slightly adverse. Most affected would be nesting birds with the loss of suitable nesting habitat due to the scheme. The review confirms that planting had been carried out to ensure that the habitat loss was only temporary. However as this review was completed during the winter period, it has not been possible to comment on the wildflowers / grassland planting measures, only the tree and hedge planting. In the case of the River Spey, slightly beneficial impacts were predicted as drainage proposals such as the filter drains will lead to slight improvement in water quality. Extensive tree and hedge planting (Refer to Figure 3) was noted during the review and has been carried out across the project area to mitigate for any loss of habitat. The RSPB confirmed that it did not anticipate any major impact on birds as a result of the bypass construction. Indeed the amount and sensitive design of the tree and hedge planting appears to have been greater than that outlined in the ES, which may be considered as a benefit or enhancement to biodiversity,



Figure 3 – hedge and tree planting

Badger fencing has been established, along both sides of the carriageway, in several areas and appears to have been extended beyond what was first proposed in the ES. It comprised a close mesh, buried into the ground, with the posts on the carriageway side (Refer to Figure 4).



Figure 4 – installation of badger fencing

Whilst it was not possible to confirm, during the site visit, whether the proposed 200m long amphibian barrier between the bypass and Gordon Castle Lake had been constructed, a review of the permanent fencing as-built drawings has confirmed that an amphibian barrier was installed.

A.6 LANDSCAPE & VISUAL AMENITY

Mitigation measures recommended within the ES for landscape and visual effects included substantial tree planting throughout, both additional and to existing tree belts; amenity planting at gateways to Fochabers and Mosstodloch; hedge planting; re-grading of ground to agricultural use and earth shaping.

All of these measures have been implemented throughout the scheme, including a variety of sizes of trees (e.g. whips, standards etc.) for structural diversity though there was a lack of evidence of amenity planting at the gateway to Mosstodloch. As this review was carried out only one year on and during the winter period, wildflowers would not be evident and planting will not yet have had time to mature.

Gateway features at Mosstodloch and Fochabers have also been created. This includes installation of public art created by renowned Scottish sculptor Andy Scott. Other enhancements include a series of turf-topped stone walls, and an amenity park planting and seating at the settlement pond area that is additional to the ES proposals. As mentioned above, the design and finish of the noise barriers (curved reclaimed brick wall and willow-clad) have been carefully chosen to reduce visual impacts (Refer to Figure 5).



Figure 5 – gateway feature and turf topped wall at the entrance into Fochabers

Overall a considerable amount of landscape and visual impact mitigation and enhancement measures have been successfully implemented for this sensitive site and the scheme works very well within the wider landscape of the area. Hedge planting has been successful and ties in the existing beech hedge featured throughout the local area. Tree planting has been carried out where appropriate whilst leaving open views south at Mosstodloch and across the Estate to Gordon Castle Farm at Fochabers. These measures, along with those discussed in Cultural Heritage below, have been finished to a very high standard and work together sympathetically with the existing landscape and enhance the local character of the area.

It is expected over time that the landscaping and visual amenity measures will weather and natural regeneration will allow further assimilation into the wider landscape.

A.7 AGRICULTURE AND SOILS

Assessments undertaken as part of the ES determined that limited mitigation was necessary for the operation of the scheme. This included minimising land take and re-grading and returning land to agricultural use which has been carried out at the locations identified in the ES.

A.8 CULTURAL HERITAGE

Given the location of the scheme, in a Conservation Area by the historical town of Fochabers, a number of mitigation measures were identified in the ES to protect and enhance existing cultural heritage.

Of note in the area are the main Gateway and Lodges (A-listed) to Gordon Castle Estate, Gordon Chapel (A-listed) and the original Estate walls (B-listed).

A new footbridge, crossing the bypass, has been built following the alignment of the Main Gateway to the estate and has been clad in sandstone (Refer to Figure 6). This matches the colour and size of the stone used on the Main Gateway and lodges and creates a striking feature whilst remaining sympathetic to the local character of the area. The wooden fencing was replaced by black metal fencing leading up the slope to the wing walls of the new footbridge, to be more in-keeping with the historic setting.



Figure 6 – new footbridge

The stained glass windows of the 19th Century Gordon Chapel were made by the historic Arts and Crafts Movement's William Morris and Company and mitigation within the ES required these be removed and restored during construction. On completion the windows were returned and double glazing installed to protect the windows and reduce the noise impact of the bypass (Refer to Figure 7). On brief inspection this restoration appears to have been carried out sympathetically and noise reduction appears to have been successful (see Noise and Vibration above).



Figure 7 – restored stain glass window at Gordon Chapel

The ES stated the original Estate wall at various locations was to be reconstructed and extended. This has been undertaken and runs well into the existing wall, and finished to a high standard. The wall has a turf top which is a traditional means of protection and is very appropriate for the location (see Figure 8).



Figure 8 – reconstructed estate wall

Evaluation of any measures taken to address potential loss of archaeological remains in the area were not part of this review.

A.9 PHYSICAL FITNESS

As set out in the ES, five underpasses for pedestrians and cyclists have been included as part of the scheme. These provide access both to the A96 bus stop and the combined pedestrian/cyclist paths also constructed as part of the scheme. The new cycle paths had shared use signs at various locations (as can be seen in Figure 9).



Figure 9 – pedestrian and cyclist access

The new footbridge ensures access between Fochabers and the Gordon Castle Lake, relieving severance.

Public access to the settlement pond used for secondary treatment and spillage containment has also been provided, and an amenity park area established around the pond which is additional to the requirements of the original ES (see Figure 10).



Figure 10 – amenity park area by settlement pond

A.10 LAND USE

Limited mitigation was required to alleviate any adverse effects on land use and, other than confirming agricultural land was re-instated, did not form part of this review.

A.11 VEHICLE TRAVELLERS

Assessments undertaken as part of the ES determined that limited mitigation measures were necessary for the operation of the scheme. Other measures observed and as detailed above including hedge and tree planting, re-grading of cuttings and embankments, construction of false crests, use of local materials and retaining open views where appropriate would improve 'the view from the road'.

Environment: Conclusion

The mitigation measures included within the ES that are relevant during operation have been implemented and seen to be in good condition. It is noted that it was not possible during the review to confirm whether the permanent amphibian barrier had been constructed, and it was the wrong time of year to be able to confirm some of the wildflower / grassland measures.

A considerable number of mitigation and enhancements measures have been put in place to protect and enhance the high heritage and landscape value of the area. These have been completed to a high standard and work sympathetically with the existing environment. Furthermore, some new features (such as the amenity area around the settlement pond and some planting) have been implemented in addition to those set out in the Environmental Statement.

Also, it is expected that over time the features will weather, vegetation will grow and the scheme will assimilate even better into the surrounding landscape.

DRAFT

Appendix B: Methodology and Data Sources

B METHODOLOGY AND DATA SOURCES

B.1 OVERVIEW

The project presented in this report has been evaluated against its objectives and the following criteria, where applicable, to support the evaluation:

- Environment;
- Safety;
- Economy;
- Integration;
- Accessibility & Social Inclusion;
- Costs to Government; and
- Value for Money.

As the evaluation focuses on impacts relating to the project's objectives, evaluations against all of the above criteria may not be undertaken for all projects. The evaluation is supported by the consideration of network traffic indicators, including traffic volumes, overtaking opportunities and travel times, as presented in the following section.

B.2 NETWORK TRAFFIC INDICATORS

Traffic Volumes

Comparison Between Pre and Post Opening Traffic Flows

A comparison of traffic flows pre and post opening has been undertaken for all projects to provide an indication of the impact that the project has had on traffic volumes. The amount of traffic data presented is dependent upon the complexity of the project. The comparison can also serve as a proxy for the effect that the project has had on noise and air quality.

Comparison Between Predicted and Actual Traffic Flows

A comparison of predicted and actual opening year traffic flows has been undertaken for all projects to confirm the accuracy of predictions during the project's preparation. The comparison can also serve as a proxy for whether the predicted benefits of the project are likely to be realised.

Depending on the nature of the traffic modelling undertaken to assess the project, the predicted traffic flow is either derived by:

- factoring the base year or the predicted opening year, design network flows to the actual opening year using National Road Traffic Forecast (NRTF) growth factors; or
- extrapolating from, or interpolating between, the modelled assessment year, design network flows.

The difference between the actual traffic flow and the predictions has been calculated and expressed as a percentage of the actual flow. A threshold of +/-20% is generally accepted by Transport Scotland as being a reasonable range for future year forecast traffic flow comparisons.

The amount of traffic data presented is dependent upon the complexity of the project. The comparison can also serve as a proxy for the likely impact of the project on noise and air quality.

Data Sources

Predicted Traffic Flows	Obtained/derived from the traffic/economic modelling undertaken to support the pre-tender economic assessment.
Actual Traffic Flows	Obtained from automatic traffic counters in the vicinity of the project/study area.

Overtaking Opportunities

Post Opening Overtaking Opportunities

Where no overtaking information is available, the impact of providing increased overtaking opportunities has been based on the evaluation of other projects with a comparable standard of carriageway in the same geographic region for which overtaking surveys have been carried out.

Anecdotal, qualitative evidence from stakeholders has also been gathered, where available.

Data Sources

Post Opening Overtaking Conditions	Judged from post opening survey information for other projects.
------------------------------------	-----------------------------------------------------------------

Travel Times

Comparison Between Pre and Post Opening Travel Times

A comparison between pre and post opening travel times has been carried out for projects where the change in travel times cannot be judged based on other projects of a similar nature for which an evaluation has been undertaken.

Comparison Between Predicted and Actual Travel Times

A comparison between predicted and actual opening travel times has been carried out for projects where predicted and post opening travel time information is readily available.

Data Sources

Pre Opening Travel Times	Confirmed through pre opening survey information collected to support the project's economic assessment.
Post Opening Travel Times	Confirmed through post opening survey information.
Predicted Travel Times	Obtained from the pre-tender economic assessment undertaken during the project's preparation.

B.3 ENVIRONMENTAL

Mitigation Measures

A review of the environmental mitigation measures implemented during construction has been undertaken for all projects to establish whether or not the measures proposed during the project's preparation have been introduced and to provide comment on their success. The mitigation measures implemented were confirmed through site visits.

Data Sources

Proposed Mitigation Measures	Presented in the Environmental Statement produced during the project's preparation.
Implemented	Confirmed through site visit.

Mitigation
Measures

Noise and Air Quality

A comparison of traffic flows pre and post opening has been used as a proxy for the potential impact of the project on noise and air quality.

B.4 SAFETY

Accidents

Comparison Between Pre and Post Opening Personal Injury Accident Numbers

A comparison of the personal injury accident numbers pre and post opening has been undertaken for all projects to provide an early indication of whether the project is operating safely.

The number of personal injury accidents for the 3 years within the vicinity of the project prior to opening has been compared with the observed number of personal injury accidents for the project in its first year of operation. The comparison shall be updated to include the observed number of accidents in the three year period after opening when the accident data is available.

It is important to realise that road infrastructure projects normally take a minimum of 5 to 7 years to plan prior to the commencement of construction. Many proposed road projects are derived from safety concerns such as fatal and serious accidents and often, these are treated in terms of Accident Investigation and Prevention work prior to planning the permanent solution. The comparison between 3 year pre and post opening accidents, therefore, only demonstrate the minimum road safety improvement derived from the project.

Where the influence of a trunk road improvement project has a significant impact on the local road network, it may be appropriate to extend the scope of the accident analysis.

Road Safety Audits

Road Safety Audit (RSA) reports have been reviewed for all projects, where available, to confirm whether there is any evidence that the project is not operating safely and where recommendations have been made for ameliorative measures, if appropriate.

Data Sources

Personal Injury Accident Numbers	Obtained from the STATS19 data collection system.
Safety Issues	Detailed within RSA reports produced following audits carried out 1 year after project opening.

B.5 ECONOMY

Transport Economic Efficiency

A comparison between predicted and actual traffic flows and/or travel times has been undertaken for all projects as a proxy for whether the predicted benefits of the project are likely to be realised.

A comparison which returns a positive traffic flow difference in an uncongested situation indicates that the economic benefits of the project may have been over predicted as fewer vehicles will actually accrue journey time savings than predicted. Similarly, the economic benefits of a project may also be over predicted where actual travel times are greater (i.e. speeds lower) than predicted.

Conversely, where the comparison returns a negative traffic flow difference or actual travel times are less (i.e. speeds higher) than predicted, the economic benefits of the project may have been under predicted.

Commentary on the impact of the project on local economic development has been provided where anecdotal feedback is available.

B.6 INTEGRATION

Commentary on Transport Integration and Policy Integration is provided for projects that have specific objectives relating to the Integration criterion. In this instance, no scheme objectives related to integration and this criteria has therefore not been assessed.

B.7 ACCESSIBILITY & SOCIAL INCLUSION

Commentary on Community Accessibility has been provided for projects that have specific objectives relating to the Accessibility & Social Inclusion criterion, supported by anecdotal evidence where available.

Data Sources

Provision for Non-motorised Users	Confirmed through site visits.
Cycling Provisions	Detailed within the Cycle Audit report produced during the project's preparation.

B.8 VALUE FOR MONEY

Initial Indications

Based on the evaluation of economic benefits and project costs outlined in sections 2.5 and 2.8 respectively, a judgement in terms of the potential impact on the projects' value for money has been made.

The value for money of a project is considered to be greater than predicted where the economic benefits have been under predicted and the project costs over predicted. Conversely, the value for money of a project is considered to be lower than predicted where the economic benefits have been over predicted and the project costs under predicted.

Where both the economic benefits and project cost have been under predicted or over predicted, a judgement has been made with regards to the likely overall impact on value for money.

Data Sources

Predicted NPV and BCR	Obtained from the pre-tender economic assessment undertaken during the project's preparation.
-----------------------	-----------------------------------------------------------------------------------------------

B.9 ACHIEVEMENT OF OBJECTIVES

Initial Indications

The evaluation includes an indication of how the project is progressing towards achieving its objectives. Where specific indicators to measure the project's performance against its objectives have not been developed, an indication of how the project is progressing towards achieving its objectives is based on the pre opening data available, supplemented by post opening data collected as part of the evaluation.

Data Sources

Objectives	Confirmed from reported Environmental Statements or Route Action Plan, where applicable.
-------------------	-------------------------------------------------------------------------------------------------
