Report

Forth Bridges Traffic Impact Assessment

Transport Scotland

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CH2MHILL®

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Contents

Section	1			Page
	Introd	uction		1-1
	1.1	Backgr	ound	1-1
	1.2	Locatio	on	1-1
	1.3	Metho	dology	1-1
	1.4		Structure	
	Policy	and Gui	dance Review	2-1
	2.1	Introdu	uction	2-1
	2.2	Policy.		2-1
		2.2.1	National Policy	2-1
		2.2.2	Cycling Action Plan for Scotland 2013 (CAPS)	2-1
		2.2.3	The National Walking Strategy	2-2
		2.2.4	Active Travel, Active Scotland	2-2
		2.2.5	Regional Policy	2-2
		2.2.6	Local Policy	2-3
	2.3	Guidar	rce	2-4
		2.3.1	National Guidance	2-4
	2.4	Summa	ary	2-4
	Apprai	sal of Ex	isting Conditions	3-1
	3.1	Introdu	uction	3-1
	3.2	South	Queensferry	3-1
		3.2.1	Sustainable Travel	3-1
		3.2.2	Vehicular Access	3-11
	3.3	North	Queensferry	3-12
		3.3.1	Sustainable Travel	3-12
		3.3.2	Vehicular Access	3-13
	3.4	Existing	g Traffic Data	3-13
		3.4.1	Network Rail Study Summary	3-15
		3.4.2	Effects of Forth Bridges Festival	3-16
	Visitor	Centres	/Attractions	4-1
	4.1	Site Lo	cations and Premises	4-1
		4.1.1	Site Location	4-1
		4.1.2	Prospective and Proposed Developments	4-1
	4.2	Sustair	able Travel	4-1
		4.2.1	Pedestrian and Cycle Access	4-1
		4.2.2	Public Transport Access	4-3
	4.3	Parkin	g	4-3
		4.3.1	Introduction	4-3
		4.3.2	Contact & Education Centre	4-3
		4.3.3	Network Rail Developments	4-4
	4.4	Forth E	Bridges as a Visitor Destination	4-5
		4.4.1	Waterborne Transport	4-5
	Trip G	eneratio	n	5-1
	5.1	Introdu	uction	5-1
	5.2	Deskto	p Assessment of Available Data	5-1
		5.2.1	Scenario 1: World Heritage Status	5-1
		5.2.2	Scenario 2: World Heritage Status plus South Queensferry Visitor Centre	5-2

Section				Page
		5.2.3	Scenario 3: World Heritage Status plus South Queensferry Visitor Centre p	lus
			Network Rail Visitor Attractions	5-6
		5.2.4	Summary of Estimated Additional Visitor Numbers	5-6
		5.2.5	Mode Share and Vehicle Occupancy	5-7
		5.2.6	Monthly/Weekly/Hourly Distribution of Annual Trips	5-11
	5.3	Netwo	rk Rail Study Summary of Trip Generation	5-17
		5.3.1	North Queensferry	5-17
		5.3.2	South Queensferry	5-18
	Trip Dis	stributio	on and Assignment	6-1
	6.1		uction	
	6.2	•	stribution	
	6.3	•	signment	
	6.4	Netwo	rk Rail Study Summary of Trip Distribution and Assignment	6-3
			avel Plan	
	7.1		uction	
	7.2		nd Targets	
		7.2.1	Introduction	
		7.2.2	Modal Share Targets	
	7.3	Travel	Plan Administration	
		7.3.1	Travel Plan Coordinator	
		7.3.2	Travel Plan Steering Group	
	7.4	Packag	e of Measures	
		7.4.1	Introduction	
		7.4.2	Information Provision	
		7.4.3	Walking and Cycling	
		7.4.4	Public Transport	
		7.4.5	Discouraging Single Occupancy Car Use	
	7.5		oring	
		7.5.1	Requirement for Monitoring	
		7.5.2	Types of Monitoring	
		7.5.3	Monitoring Framework	
		7.5.4	Indicators	
		7.5.5	Reviewing	
		7.5.6	Feedback	
	7.6	Summa	ary and Next Steps	
		7.6.1	Summary and Next Steps	7-4
		-	Assessment	
	8.1		uction	
		8.1.1	Vehicular Access	
	8.2		ment	
		8.2.1	Off-site Considerations for Scenario 2b and Scenario 2c	
		8.2.2	Scenario 2a	
		8.2.3	Scenario 2b	
		8.2.4	Scenario 2c	
		8.2.5	Summary	
		8.2.6	Theoretical Capacity	
	8.3		itted/Potential Developments	
		8.3.1	Ferrymuir Gait Residential Development (pending decision)	
		8.3.2	Agilent Development, Scotstoun Avenue Residential Development (application)	
			granted)	8-16

Section				Page
		8.3.3	Residential Development, Ferrymuir, South Queensferry (pending	
			consideration)	8-16
		8.3.4	Local Development Plan Housing Sites	8-17
		8.3.5	Conclusions	8-17
;	8.4	Parking	g Impacts	8-25
		8.4.1	On-site	8-25
		8.4.2	Off-site	8-25
	8.5	Netwo	rk Rail Study Summary of Impact Assessment	8-26
		8.5.1	North Queensferry	8-26
		8.5.2	South Queensferry	8-27
:	8.6	Signing	Strategy	8-27
9	Summa	ry and	Conclusions	9-1
	9.1	Summa	ary	9-1
	9.2	Conclusions		9-1
		9.2.1	Contact & Education Centre Site	
		9.2.2	Network Rail Developments	9-2
		9.2.3	Hub Concept	
		9.2.4	Other Committed/Potential Developments	
9	9.3	Next St	teps	

Appendices

A Off-street Parking Options

Introduction

1.1 Background

CH2M HILL was commissioned by Transport Scotland in May 2014 to undertake a traffic impact assessment to investigate the traffic impacts of establishing Visitor Centre's/Attractions to contribute to the promotion of the three Forth Bridges (including the Queensferry Crossing which is currently under construction) as a visitor attraction.

The study required an initial exercise of liaison with the client group, together with other stakeholders, to identify and gather relevant development information and thereby confirm the scoping requirements, fundamental parameters and scale of assessment required. The stakeholders included: The City of Edinburgh Council; Fife Council; Network Rail and their advisors Atkins; Queensferry Community Council; Visit Scotland; and the Forth Estuary Transport Authority (FETA).

The study included the investigation of traffic impacts based on consideration of the following scenarios:

- 1. World Heritage Site (WHS) status being granted;
- 2. World Heritage Site (WHS) status being granted plus a Visitor Centre and Attractions being developed at the Contact & Education Centre building (Traffic Scotland HQ and Queensferry Crossing Visitor Centre) adjacent to the FETA offices at the south end of the bridge; and
- 3. Scenarios 1 and 2 plus the development of the Network Rail proposals at the Rail Bridge.

Network Rail commissioned a study¹ to consider the transport options in relation to the Forth Bridge Experience proposals. This was published in draft form in December 2014 summarising: existing land uses; existing travel demand; and a trip generation forecast. Traffic flow and parking occupancy surveys and market research (undertaken by The Glamis Consultancy) were used to inform the assessment.

1.2 Location

For the purposes of this study the location of a prospective South Queensferry Visitor Centre has been considered to be at the current location of the Contact & Education Centre at South Queensferry. The Network Rail proposals consist of a visitor centre experience located on the north side of the bridge in the village of North Queensferry and a guided bridge walk experience on the south side of the bridge in South Queensferry. The locations of each are illustrated in Drawing 9001.

1.3 Methodology

As described in the foregoing section, discussions were held with Transport Scotland and a number of key stakeholders, and these discussions led to identification and collation of relevant information. This has enabled the approach to the study to be subsequently refined as summarised in the following tasks:

- 1. Liaise with Network Rail and their consultants to review the data gathered and the outputs of their assessment to inform the assessment of scenario 3 in this study.
- 2. Undertake an appraisal of the existing transport infrastructure in the vicinity of the development site(s), including an evaluation of accessibility issues and opportunities by all transport modes.
- 3. Undertake a review of current and relevant transport and transport planning policies.
- 4. Undertake traffic surveys at key locations in South Queensferry over a four week period the proposed sites have been chosen to avoid duplicating the sites being surveyed as part of the Network Rail study.
- 5. Determine the travel characteristics for the prospective and proposed developments taking cognisance of previous and ongoing studies undertaken for the site/in the vicinity and taking due consideration of the impact of the redistribution of traffic movements as a result of the opening of

¹ Forth Bridge Visitor Experience, Transport Impact Assessment, December 2014

the Queensferry Crossing. This will be a desk based study looking, for example, at: the potential impact on visitor numbers of the granting of WHS status; visitor numbers and mode share at other visitor destinations in Scotland; current studies being undertaken by Visit Scotland together with the market appraisals undertaken by Network Rail and Transport Scotland; and taking into consideration the outcomes from the ongoing Network Rail study.

- 6. Outline the likely transport facilities that will need to be incorporated into the layout and design of the prospective Visitor Centre that could be located at the Contact & Education Centre site giving appropriate consideration to car parking and access by sustainable transport modes together with cross Forth ferry travel.
- 7. Investigate the likely transport links required to accommodate the movement of visitors between the various elements of the proposals assuming the prospective Visitor Centre would act as a hub. This would take into account sustainable transport modes including: public transport (including Dalmeny Station); pedestrians; cyclists; and those with mobility impairments.
- 8. Consider the influence that car parking can have on travel choice. A car parking strategy will be developed, building on work undertaken for City of Edinburgh Council in 2013, to moderate its impact on the surrounding road network. The management of car use and parking will be explored. Parking provision is anticipated to be recommended with reference to current national and local policy guidance.
- 9. Develop a Framework Travel Plan as part of the study to illustrate a package of positive and complementary measures for the overall delivery of more sustainable travel patterns for the prospective development.
- 10. Consider the need to develop a signing strategy to reinforce the traffic management and parking solutions.

Considering the nature of the prospective and proposed developments, the traffic impacts have been assessed taking into consideration the seasonality impacts experienced in South Queensferry and North Queensferry.

It is not proposed to undertake a 'traditional' traffic impact assessment at this time to document the significance of any increases in traffic on the road network. It is envisaged that this will only be considered when preferred solutions have been developed with greater definition on visitor numbers and travel modes. Given the conceptual position of the proposals at this stage, it is proposed that the impact on traffic is determined from the studies undertaken to date and those ongoing to determine its potential significance.

During the Forth Bridges Forum update meeting, held in June 2014, various comments and queries were raised by attendees and these are summarised in Table 1.

Table 1: Summary of Forth Bridges Forum update meeting Comments/Queries

Comment/Query	Response		
Where will visitor numbers be derived from?	It was advised that visitor numbers will be drawn from: data collected at other Scottish visitor attractions; other bodies being consulted on the proposals e.g. Visit Scotland; and other recent/ongoing studies, including data being gathered by Visit Scotland and market appraisals undertaken by Network Rail and Transport Scotland.		
Will the traffic impact of other developments in the vicinity be considered as part of this study?	It was noted that other developments in the area will be considered as part of the assessment. Data will be sought from the City of Edinburgh Council and Transport Scotland.		

Comment/Query	Response	
With regard to traffic impact, will national models or local models be used?	It is not proposed to undertake any detailed junction modelling at this stage, although it is acknowledged that should the proposals become more defined then the assessment methodology may become more advanced.	
It was recommended that we speak to the City of Edinburgh Council to gather existing relevant traffic data.	It was noted that existing traffic data does exist and this will be requested to be included as part of this study.	
It was proposed that the assessment should consider using data collected during at least two events in 2014.	Transport Scotland confirmed that all data collected during events in 2014 will be forwarded to be considered as part of this study.	
The funding of any recommendations was raised many times.	It is acknowledged that this is an important aspect, although this is not the responsibility of CH2M HILL and will not be considered as part of this study.	

1.4 Report Structure

Following this introduction, the remainder of the report is structured as follows:

- Chapter 2 examines national, regional and local policy and guidance;
- Chapter 3 describes the existing conditions on the transport network;
- Chapter 4 summarises the prospective and proposed development;
- Chapter 5 outlines the trip generation assessment;
- Chapter 6 provides a summary of the trip distribution and assignment process;
- Chapter 7 presents the framework travel plan;
- Chapter 8 summarises the traffic impacts; and
- Chapter 9 provides a summary and the final conclusions from this Traffic Impact Assessment.



Policy and Guidance Review

2.1 Introduction

A review of the relevant transport planning policy has been undertaken and the study has been developed with reference to the extant guidance and policy, namely:

- The Scottish Government's National Transport Strategy;
- Scottish Planning Policy (the statement of the Scottish Government's policy on nationally important land use planning matters), published in June 2014;
- Planning Advice Note: Pan 75 Planning for Transport, published by the Scottish Executive in 2005;
- Cycling Action Plan for Scotland 2013, published by Transport Scotland in June 2013;
- The National Walking Strategy, published by The Scottish Government in 2014;
- Active Travel, Active Scotland (prepared by: Cycling Scotland; Living Streets Scotland; Paths for All; Sustrans Scotland; and Transform Scotland), published in May 2012;
- The South East Scotland Transport Partnership (SEStran) Regional Transport Strategy;
- The Fife Council Local Transport Strategy;
- The City of Edinburgh Council Local Transport Strategy;
- The City of Edinburgh Council Core Paths Plan, published in 2008;
- The City of Edinburgh Council Active Travel Action Plan published in September 2010; and
- Transport Assessment Guidance, published by Transport Scotland.

2.2 Policy

2.2.1 National Policy

The Scottish Government's National Transport Strategy (NTS) outlines the long-term future for transport in Scotland. It set five high level objectives. The objectives include building, enhancing, managing and maintaining transport services, infrastructure and networks; building and investing in public transport and other types of efficient and sustainable transport; connecting remote and disadvantaged communities and increasing the accessibility of the transport network; reducing accidents and enhancing the personal safety of pedestrians, drivers, passengers and staff; and making journey planning and ticketing easier and working to ensure smooth connection between different forms of transport. The NTS actively promotes measures that encourage more sustainable travel.

Scottish Planning Policy (SPP), the statement of the Scottish Government's policy on nationally important land use planning matters, states that 'planning can play an important role in improving connectivity and promoting more sustainable patterns of transport and travel as part of the transition to a low carbon economy'. It encourages support of development which 'optimise the use of existing infrastructure; reduce the need to travel; provide safe and convenient opportunities for walking and cycling for both active travel and recreation, and facilitate travel by public transport; enable the integration of transport modes; and facilitate freight movement by rail or water'. SPP is supported by Planning Advice Note 75 (PAN 75) that provides guidance for planning authorities, developers and others to carry out in their policy development, proposal assessment and project delivery. It aims to create greater awareness of how linkages between planning and transport can be managed.

2.2.2 Cycling Action Plan for Scotland 2013 (CAPS)

The updated CAPS is based on recommendations in the Cycling Scotland Progress Report on CAPS (November 2012), and aims to be as up-to-date and effective as possible. The document draws on the experience of delivery since 2010 and takes account of the contributions received from stakeholders during the refresh exercise in 2013. It sets out what more needs to be done and the delivery roles sought. Scotlish Government and Transport Scotland have obvious roles in providing resources and

showing leadership; local authorities, communities, public, private and third sectors all need to participate too.

There are a new set of 19 actions that outline partnership working to achieve the shared vision that, by 2020, 10% of everyday journeys taken in Scotland will be by bicycle. More detail is provided in the individual chapters and Annex A of the CAPS document.

2.2.3 The National Walking Strategy

The vision of the National Walking Strategy is 'A Scotland where everyone benefits from walking as part of their everyday journeys, enjoys walking in the outdoors and where places are well designed to encourage walking'. The three strategic aims are:

- Create a culture of walking where everyone walks more often as part of their everyday travel and for recreation and well-being;
- Better quality walking environments with attractive, well designed and managed built and natural spaces for everyone; and
- Enable easy, convenient and safe independent mobility for everyone.

2.2.4 Active Travel, Active Scotland

The report is aimed at key decision makers in all levels of government in Scotland and advocates a substantial increase in the investment in active travel (walking and cycling) in Scotland. The report creates a vision for Scotland and presents a number of inspiring case studies where investment in active travel (in terms of improved active travel infrastructure, facilities and behaviour change initiatives) has created better and more successful places. The report then details what is required to replicate this success in Scotland.

2.2.5 Regional Policy

The South East Scotland Transport Partnership (SEStran) is one of the seven statutory Regional Transport Partnerships (RTPs) which have been developed to provide a regional perspective on transport in Scotland. The purpose of the Regional Transport Strategy (RTS) is to clearly set out a framework for the future direction of investment in, and management of, transport in the SEStran area for the next 10 to 15 years (2008 – 2023). The two main aspects that form the basis of the RTS are: the sustainable development of the area in a less car dependent manner; and the widening of access for all areas and groups. The following is the RTS Vision Statement:

South East Scotland is a dynamic and growing area which aspires to become one of northern Europe's leading economic regions. Essential to this is the development of a transport system which enables businesses to function effectively, allows all groups in society to share in the region's success through high quality access to services and opportunities, respects the environment, and contributes to better health.

A set of RTS policies have been developed and the following policy refers to tourism:

Policy 22 – Support will be given to interventions which reinforce and strengthen the role of Edinburgh city centre and of other town centres, as centres of economic activity including retailing and tourism.

This and the other RTS policies act as a bridge between the RTS objectives and the type of action which is generally promoted by the RTS, which, in summary, sets out to deliver: improved connectivity; improved public transport; integration of land use and transport planning; encouragement and increased use of sustainable transport modes; a reduction in private car dependency; improved opportunities for people with mobility difficulties; reduction of greenhouse gas emissions; and improved road safety.

The South East Scotland Transport Partnership's (SEStran) Regional Transport Strategy (RTS) sets out a framework for the future direction of investment in, and management of, transport in the SEStran area for the next 10 to 15 years (2008 – 2023). The vision states that essential to South East Scotland becoming one of northern Europe's leading economic regions is 'the development of a transport system which enables businesses to function effectively, allows all groups in society to share in the region's success through high quality access to services and opportunities, respects the environment, and

contributes to better health'. The RTS sets out to deliver improved public transport, integration between land use and transport planning, 'Smarter Choices', encouragement of walking and cycling, access to a wide labour market for employers, a reduction in car dependency, improved accessibility for disadvantaged areas (to health services and employment opportunities), funding for rural transport, reduction of greenhouse gas emissions and improved road safety.

2.2.6 Local Policy

2.2.6.1 Fife Council

The Fife Council Local Transport Strategy (LTS) 2006 – 2026 sets the 5 year, 10 year and 20 year vision and objectives for transport delivery in Fife and aspires to 'develop an integrated and sustainable transport system, which is accessible to all'. Fife Council's vision is '... of an integrated and sustainable transport system which is accessible to all and contributes towards a strong economy, strong community and healthy environment.'

The objectives of the strategy have been categorised into two groups; Transport themes and Travel Choices. The 'Transport Themes' objectives comprise 'Access for All', 'Travel Safety', 'Changing Travel Habits', 'Management and Maintenance of Transport Infrastructure', 'Transport and Land Use Planning' and 'Integrated Transport Networks'.

The 'Travel Choices' objectives comprise 'Walking and Cycling', 'Passenger Transport', 'Freight Transport' and 'Cars, Motorcycles and Parking'.

2.2.6.2 The City of Edinburgh Council

The LTS is the framework for the development and delivery of the Council's transport plans and programmes. Edinburgh's LTS sets out the transport policies and actions that will contribute to the Council's vision of Edinburgh as a thriving, successful and sustainable capital city.

The separate 'Transport 2030 Vision' document sets out the Council's long term vision which is:

By 2030, Edinburgh's transport system will be one of the greenest, healthiest and most accessible in northern Europe.

Nine outcomes have been developed in support of the Transport 2030 vision and form the basis of the LTS. The outcomes are that Edinburgh's transport system should:

- Be green, reducing the impacts of transport on the environment, in particular playing its full part in reducing greenhouse gas emissions.
- Be healthy, promoting Active Travel, with streets appropriately designed for their functions, and
 with an emphasis on encouraging walking, cycling and public transport use and a high quality public
 realm; improving local air quality.
- Be accessible and connected locally, regionally and nationally to support the economy, with access to employment and education opportunities, and to the amenities and services we need.
- Be smart and efficient, providing reliable journey times for people, goods and services.
- Be part of a well-planned, physically accessible, sustainable city that reduces dependency on car travel, with a public transport system, walking and cycling conditions to be proud of.
- Be, and be perceived to be, safe, secure and comfortable, so that people feel able to move around by which ever mode they choose, whenever they wish.
- Be inclusive and integrated. Everyone should be able to get around the city regardless of income or disability.
- Be delivered through responsive, customer-focussed and innovative Council services, which are developed in consultation with the people who will use them, and engage with people from all walks of life, particularly the vulnerable or those potentially at risk of marginalisation.
- Be effectively maintained to enhance and maximise our assets; with well co-ordinated works and high quality materials.

Active travel is at the heart of The City of Edinburgh Council's (CEC's) transport vision and the core objective of the Active Travel Action Plan, published in 2010, is to increase the numbers of people in

Edinburgh walking and cycling, both as means of transport and for pleasure, and seeks to work towards its core objective by means including improving the city's walking and cycling infrastructure.

The Edinburgh Core Paths Plan was published in 2008 "to identify a system of routes that provides the community and visitors with reasonable non-motorised access throughout the local authority area. It should include paths suitable for all types of user including walkers, cyclists, horse-riders, those seeking access to inland water, and for people with varying abilities". This supports a number of other key plans, policies and strategies e.g. supporting the aims of Edinburgh's Local Transport Strategy. The vision of the Core Paths Plan is "To identify and promote a sustainable and safer Core Path system in Edinburgh, which encourages access for all within the city and to adjacent areas for recreation and work".

2.3 Guidance

2.3.1 National Guidance

The Scottish Government guidance, Transport Assessment Guidance (TAG), intends to help specify, assess, revise, implement, monitor and review the impacts that development will have on the transport system. The guidance presents an opportunity to deliver sustainable transport consistent with current policy. The guidance describes: the Transport Assessment process, scope and purpose; an outline of the level of assessment required; and considers how Travel Plans can be implemented.

2.4 Summary

It is imperative, based on the above review, that any future development must incorporate the means to allow the use of sustainable transport modes such as walking, cycling and public transport. Any full planning applications should support these national, regional and local transport objectives so as to reduce the demand for car based travel, enable travel demands to be met by a choice of modes and to manage the travel demands arising from the development in a sustainable manner.

Appraisal of Existing Conditions

3.1 Introduction

A site visit and desk based assessment have been undertaken to develop an understanding of the existing transport infrastructure in the vicinity of the prospective and proposed development sites, including an evaluation of accessibility issues and opportunities by all transport modes. The site visit was undertaken in August 2014. Information has also been obtained from the Network Rail study.

3.2 South Queensferry

3.2.1 Sustainable Travel

3.2.1.1 Pedestrian and Cycle Access

Pedestrian access in the vicinity of the Contact & Education Centre building consists of mainly footways that link with: the Forth Road Bridge to the west and north; to the B800 and A904 to the south via Ferrymuir Gait; and to the residential areas and town centre to the east of the site. To reach the Forth Road Bridge from the Contact & Education Centre is via:

- A shared footway/cycleway at the southern end of the car park, which is a continuation of the route to/from with the residential areas to the east of the site; or
- A stepped or ramped access from nearer the Forth Estuary Transport Authority (FETA) building at the western end of the car park.



Photo 1: Shared footway/cycleway at southern end of car park (looking east)



Photo 2: Shared footway/cycleway to/from Forth Road Bridge (looking south)



Photo 3: Stepped access to/from Contact & Education Centre



Photo 4: Ramp access to/from Contact & Education Centre and shared footway/cycleway to/from Forth Road Bridge (looking south)



Photo 5: Shared footway/cycleway to/from Forth Road Bridge (looking north)



Photo 6: Shared footway/cycleway to/from Forth Road Bridge and underpass (looking north)

The most direct pedestrian access to the B800 and A904 i.e. to the south, is via Ferrymuir Gait. This links to the residential areas to the west of the A90 and to the southeast of South Queensferry and to the Ferrymuir Retail Park.



Photo 7: Ferrymuir Gait to/from B800 and A904 (looking south)



Photo 8: Ferrymuir Gait to/from B800 and A904 (looking north)