

STRATEGIC TRANSPORT PLANNING IN SCOTLAND – IS THERE SUCH A THING?

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1. INTRODUCTION

Strategic transport planning is highly relevant in Scotland today. The establishment of Transport Scotland accompanied by the devolution of rail powers and the publication of the National Transport Strategy (NTS) provide an exciting opportunity and framework for planning longer term strategic transport investment.

The Strategic Transport Projects Review (STPR) will consider the interventions required in the national strategic transport network between 2012 and 2022 that will make a significant contribution towards the NTS and the Government's Purpose of Sustainable Economic Growth. But is the STPR unique?

This paper considers the national studies of the last two decades, undertaken by the central government: the Trunk and Key Principal Road Network Review 1989–92; Travel Choices for Scotland – Strategic Roads Review – 1997–99; and the Scottish [rail] Planning Assessment 2005–06.

The research methodology involved a literature review of, mainly, the final reports of the studies and discussions with key players from, variously, the client and consultant teams.

Following this introductory chapter, the paper is laid out as follows:

Chapter 2 provides a brief review of the approach to strategic transport planning prior to the studies covered in this paper.

Chapter 3 to 6 consider each of the four studies in chronological order covering the questions of Context, Methodology, and Output.

Chapter 7 compares and contrasts the four studies around a series of issues: Economic Growth, Political Landscape, Environmental Issues, Stakeholder Involvement, and Appraisal Methodologies.

Chapter 8 concludes the paper and provides lessons and challenges for the future for strategic transport studies.

Table 1 provides an overview of political and transport related events in Scotland over the last 30 years. The studies to be considered in this paper are highlighted against this wider context. The context will be expanded upon at relevant points in this paper.

ACRONYMS

SPA – Scottish [rail] Planning Assessment

SRR – Strategic Roads Review

STAG – Scottish Transport Appraisal Guidance

STPR – Strategic Transport Projects Review

TELMoS – Transport, Economic, Land-use Model of Scotland

TKPRNR – Trunk and Key Principal Road Network Review

TMfS – Transport Model for Scotland

Table 1 – Scottish political and transport timeline 1978 to 2008

Year	Elections	Policy	Studies
1978			
1979	UK Conservative		
1980		Roads in Scotland 1980	
1981			
1982			
1983	UK Conservative		
1984		Roads (Scotland) Act 1984 Scotrail brand established Policy for Scottish Roads 1984	
1985			
1986			
1987	UK Conservative		
1988			
1989		Roads Directorate established within the Scottish Office Development Department UK White Paper – ‘Roads for Prosperity’	
1990			
1991			
1992	UK Conservative	Roads, Traffic & Safety 1992, March	Trunk and key principal road network review 1989-92
1993			
1994		Rail privatisation	
1995			
1996		Trunk Road Review	
1997 Feb		Keeping Scotland Moving - A Scottish Transport Green Paper	
May	UK Labour		
Sept	Referendum 11/9		
1998			
1999	Scotland – Labour/ Lib Dem coalition	Travel Choices for Scotland – White Paper	Travel Choices for Scotland - Strategic Roads Review - 1997-1999
2000			
2001	UK – Labour		
2002			
2003	Scotland – Labour/ Lib Dem coalition	Scottish Transport Appraisal Guidance	
2004			
2005	UK – Labour	Transport (Scotland) Act 2005 Railways Act 2005 – <i>rail devolution</i>	
2006		National Transport Strategy	Scottish [rail] Planning Assessment 2005-2006
2007	Scotland – SNP		
2008			Strategic Transport Projects Review 2006-2008

2. EARLIER APPROACH

Prior to the studies considered in this paper, the equivalent role of directing investment in the trunk road network was provided through a series of White Papers presented to the Westminster Parliament by the Secretary of State for Scotland. An example of this is the 1981 White Paper 'Roads in Scotland, Report for 1980'¹. The White Papers presented both Government policy and the trunk road programme for subsequent years. The approach taken was one of considering the operation of the network to determine the locations which required attention. The last of the white paper approach was the document 'Policy for Scottish Roads, 1984'². It laid out objectives of 'provide quick, safe travel for road users; to provide good accessibility to all parts of Scotland...; and to minimise the intrusion of roads and traffic...'. Scheme appraisal entailed mainly cost-benefit analysis using NESAs³ to ensure value for money. In addition the following factors were considered: complexity of engineering problems, public reaction, land availability, affordability and environmental factors. The outcome of the document was a list of schemes categorised as short, medium or long term. As a starting point for this paper, Figure 1 shows the Scottish trunk road network at the end of 1983

On the rail network, prior to the devolution of rail powers to Scotland in 2005, the extent of the physical network had remained relatively unchanged since the rationalisation of the 'Beeching Review'⁴ in the 1960s. The services were also run independently of the Scottish government.

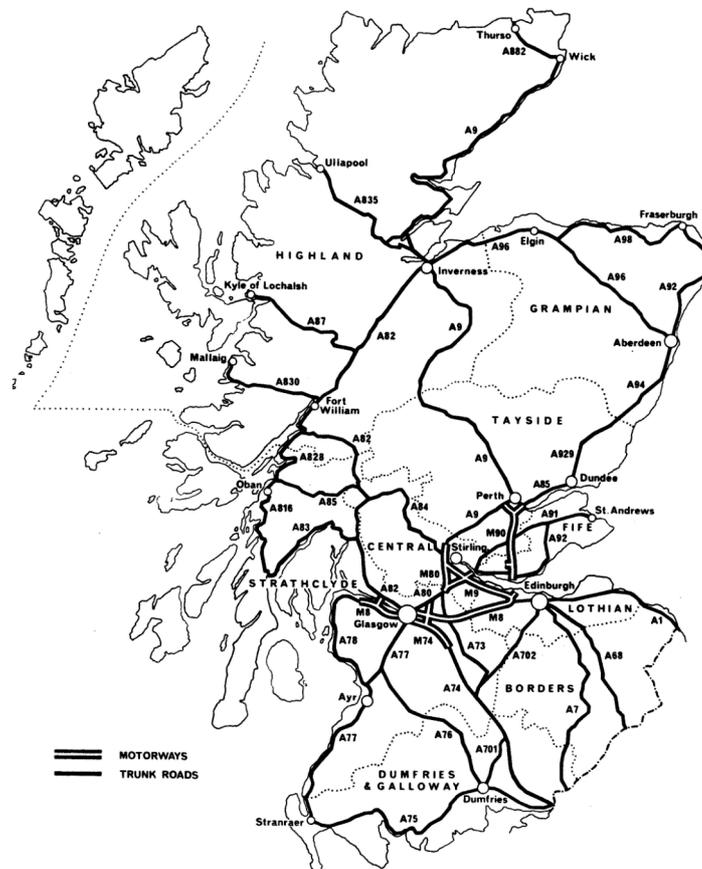


Figure 1 – Scottish Trunk Road Network 31 December 1983²

3. TRUNK AND KEY PRINCIPAL ROAD NETWORK REVIEW – 1989-92

3.1 TKPRNR Context

The TKPRNR was announced by the Secretary of State for Scotland in the Westminster parliament on the 18 May 1989. He noted that no such review had been carried out for some time. The study team made up of Dougall Baillie Associates, SIAS Limited and W.A. Fairhurst and Partners was appointed in October and the study commenced with the Inception Report in January 1990.

Political landscape at the time was being shaped by the 1989 UK White Paper 'Roads for Prosperity' stating the importance of road building and laying out a large number of road schemes across England. Within Scotland the backdrop to the study was provided by the significant road building effort of upgrading the A74 to motorway promised in the 1987 Conservative election manifesto.

The study's focus was on road but it also considered how developments in other modes would impact the road network; it did note that the Government had an intention to encourage the switch from road to rail of passengers and freight and did consider it briefly.

The Government's stated objectives for roads as articulated in the study are as follows:

- to provide quick and reliable inter urban road links.
- to provide good accessibility to all parts of Scotland where significant economic activity (including tourism) is carried on or could be expected to develop.
- to improve road safety and contribute towards the Government's overall target of reducing road casualties by a third by the year 2000 from the average level of the first half of the 1980s, with particular emphasis on reducing fatal and serious casualties.
- to minimise the intrusion of roads and on the environment by improved design of new works, and by sensitive management of the road network.
- to use the limited resources available as effectively as possible to achieve good value for money for both tax payers and transport users.

The nuances of these objectives can be seen to change during the study period but these were stated in 'Roads, Traffic and Safety 1992'⁵ which was informed by and published towards the end of the TKPRNR process. A notable example of this is the addition of the emphasis on reliability rather than just improving journey time.

3.2 TKPRNR Methodology

The review was structured around a series of 5 topics, which are summarised below:

Topic 1 – Traffic Patterns

It was acknowledged that at the time, traffic and network characteristic data was available but not in a consistent or accessible format. This topic involved the collection of this base information and the development of the framework of the Scottish Strategic Roads Database to store it. Having gathered all the information it was analysed to consider trends and issues across the network and then to forecast future trends.

Topic 2 – Identification of Stress Points

A series of criteria were developed under the headings of: Traffic Operations; Accidents; Economic Planning; and Environmental. Each was sub-divided and considered either quantitatively or qualitatively. A complete list of the stress point criteria and sub-headings used are shown in Table 2. In addition an examination of overtaking opportunities on single-carriageway roads was undertaken. The stress point criteria framework was used both in the formulation and subsequent in the appraisal of interventions.

Topic 3 – Central Scotland Traffic Model

This topic involved the development and calibration of a Central Scotland Traffic Model using a significantly enhanced version of the NESA software. This was then used to test the schemes and strategies emerging from the stress point analysis.

Topic 4 – Engineering Considerations for Further Forth Crossing

This topic focussed solely on determining options, and examining the environmental and engineering considerations for a further road crossing of the River Forth.

Topic 5 – Examination of Past and Forward Major Road Programmes

This final topic firstly examined the effects of past trunk and local roads programmes over the last thirty years and then moved on to conclude the review by making recommendations on future roads infrastructure requirements to cater for the longer term needs of Scotland which was taken to be the next 20 years, until around 2010.

Table 2 – TKPRNR – Stress Point Criteria and Sub-headings

Criterion	Sub-Heading
1. Traffic Operations	(a) Flow Composition
	(b) Geometric Standard
	(c) Level of Service
	(d) Average Journey Time
2. Accidents	(a) Number of Accidents and Accident Rates
	(b) Severity
	(c) Road User
3. Economic Planning	(a) Development Opportunities/Constraints National Planning Guideline Sites SDA Sites Sites Notified to Secretary of State Key Regional Sites
4. Environmental	(a) Social Community Severance
	(b) Cultural Heritage Ancient Monuments Listed Buildings National Trust Properties Conservation areas
	(c) Ecological Sites of Special Scientific Interest Listed Wildlife Sites National Nature Reserves
	(d) Landscape National Scenic Areas
	(e) Other Areas Designated by Local Authority e.g. Regional Park.

As can be seen, the TKPRNR commission did have a wide scope but it was not exhaustive, for example though main roads within urban areas were modelled, only interventions on roads outwith urban areas were considered by the review. It was deemed that the issues within urban areas were best examined by specific studies, a number of which were ongoing at the time.

The main consultation on the review was undertaken with the then regional councils who had extensive input into the development of the network analysis and who also received progress reports throughout the review. Other stakeholders were also included such as the Freight Transport Association, the Scottish Development Agency and Scotrail.

As noted above, in Topic 2 a wide range of stress indicators were used in the review. A challenge the review facing was the difficulty in combining the various qualitative and quantitative indicators into an overall index of stress. Therefore a 'sifting' exercise was undertaken to categorise them under

heading such as 'strategically significant', 'local issues on strategic routes' and 'local problem'.

Following this initial sifting, some 70 schemes were selected for detailed review grouped under: Major Strategic Route Options; Key Strategic Route Schemes; and Other Strategic Schemes.

As well as possible future schemes the review also reconsidered the schemes that were in the current roads programme but had not yet been committed.

3.3 TKPRNR Outcome

An executive summary of the review was published in March 1992 and the Final Report of the study was completed December 1993. The emerging outputs of the review informed the policy document 'Roads, Traffic and Safety 1992'⁵.

The review generally considered the schemes already in the existing programme to have merit and that they should be taken forward. Recommendations were made for future schemes in existing programme to be committed to. The final series of recommendations were schemes that should be included in future programmes under the Major, Key and Other categorisation mentioned above. These schemes were tested under a series of time based investment portfolios considering how best the recommended schemes should be phased.

Consideration of rail concluded that even a major expansion of capacity would still be within the level of assumptions underlying the National Road Traffic Forecasts⁶ used for forecasting traffic growth in the review.

For transport planning in Scotland one of the key legacies of the TKPRNR was the development of Central Scotland Traffic Model, which evolved into the Transport Model for Scotland⁷. Another important legacy was the creation of the Scottish Strategic Roads Database, which was the basis for the Scottish Road Traffic Database used today⁸.

4. STRATEGIC ROADS REVIEW – 1997-1999

4.1 SRR Context

Following the UK election of the Labour Party in May 1997, all future road-building plans were put on hold. This can be clearly seen in Figure 2: after 1997 there is sudden drop in the length of trunk road construction per year in Scotland. On the 19 June 1997 the Scottish Strategic Roads Review was announced in the Westminster Parliament. The intention of this was to provide a “thorough examination of our rationale for new roads construction.”⁹ This was to be done by reappraising all the schemes that were currently under consideration.

The Review progressed through a time of political change in Scotland with the devolution referendum in September 1997 and then the establishment of the Scottish Parliament in July 1999. The review was published by the Scottish Executive Development Department in November 1999.

The review considered only roads but, flowing from the Integrated Transport White Paper Travel Choices for Scotland, did acknowledge that trunk road improvements must be viewed in the context of ‘encouraging sensible road usage... while promoting reliable, more sustainable and attractive alternatives.’¹⁰

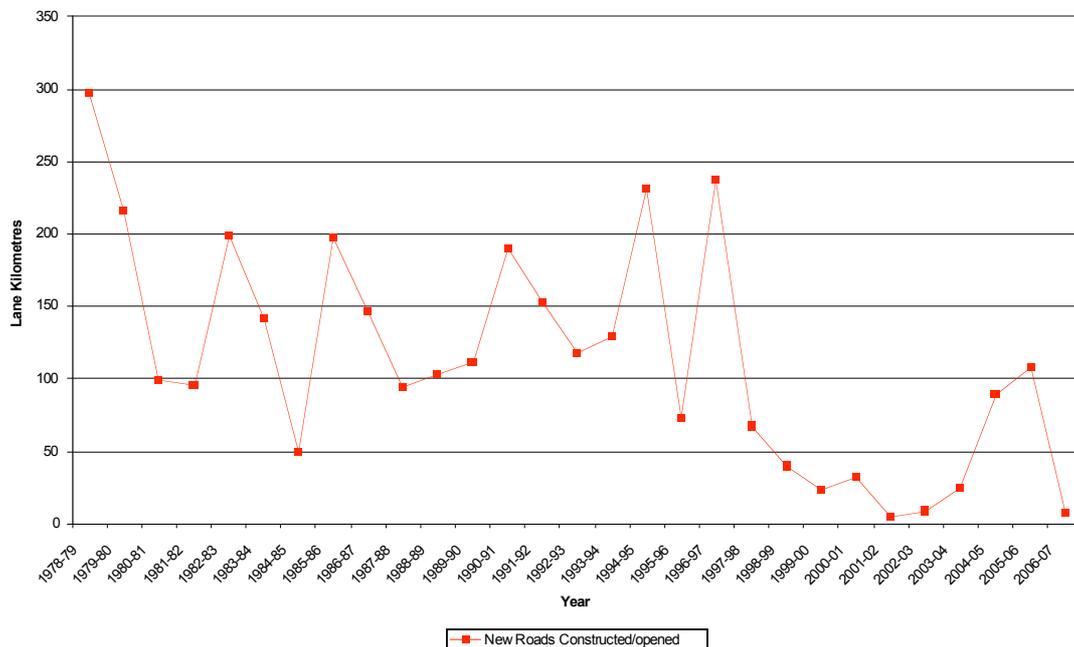


Figure 2 – New trunk road construction 1978-2007¹¹ (Clearly showing the drop off after 1997)

4.2 SRR Methodology

The review presents a hierarchy for intervening in the trunk road network, firstly maintaining it in a sound condition, secondly to ensure it is used in most effective way possible before lastly considering major new schemes.

Before the review considers the major schemes in detail, it highlighted the importance of first maintaining the network in a sound condition through timely repairs and reconstruction. It then moved on to consider how it can be ensured the network is being used in most effective way possible, through the National Driver Information and Control System providing real time information on the network and the minor improvements through the Route Action Plan programme. Also noted is the use of the Scottish Road Traffic Database ⁸ to analyse junction stress points and identify low cost capacity enhances such as geometry changes, traffic signals, ramp metering etc. Improving safety on the road network is presented as a key priority in the report.

The major scheme review considered 15 trunk road schemes that were in the major scheme preparation pool and only 2 non-trunk schemes that had potential strategic significance, the M74 Northern Extension and the A8000.

Travel Choices for Scotland highlighted the 5 criteria of economy; safety; environmental impact; accessibility; and integration. A key element of the SRR was to develop a framework for applying these criteria to scheme appraisal. Initial proposals for the framework were subject to an extensive consultation exercise (with 73 responses) from which the New Appraisal Methodology was developed.

The resulting appraisal framework criteria and sub-criteria are shown in Table 3. Each sub-criteria was then appraised either quantitatively or qualitatively and then converted into seven point scale from large negative through neutral to large positive. In addition monetised measures were prepared in terms of Present Value of Costs, Present Value of Benefits, Net Present Value and the Benefit:Cost Ratio. All this information was presented in an Appraisal Summary Table.

The New Appraisal Methodology framework was then applied to the 17 schemes under review. The scheme appraisal was undertaken as 2 stage process, the first being undertaken individually by various external consultants who had been involved in the scheme development and the second stage being run internally by project managers within the Scottish Executive Development Department.

In preparing the monetised measures, different transport modelling tools were used for different schemes as appropriate, for example some used NESAs ³ and others TRIPS/CSTM ⁷.

In addition to the consultation on the development of the New Appraisal Methodology, the SRR utilised 'Felt-fair' panels to scrutinise all the Appraisal

Summary Tables prior to finalisation. The panels were made of representatives of various divisions within the Development Department and the wider Scottish Executive. The Scottish Environmental Protection Agency, Historic Scotland and Scottish Natural Heritage were also included.

Table 3 – SRR – Appraisal Criteria and Sub-Criteria

Criterion	Sub-Criteria / Policy Area
1. Integration	(a) Integrated Transport
	(b) Land Use Planning
	(c) Social Inclusion
	(d) Local Economic Development
2. Economy	(a) Journey Times
	(b) Vehicle Operating Costs
	(c) Journey Time Reliability
3. Safety	(a) Personal Injury Accidents
4. Environment	(a) Noise & Vibration
	(b) Global Air Quality
	(c) Water
	(d) Landscape (Geology, Ecology, Visual Impacts, Agriculture, Heritage, Landscape Character)
5. Accessibility	(a) Pedestrians and Cyclists
	(b) Community Severance
	(c) Public Transport

4.3 SRR Outcome

The key legacy of the SRR was the development of the New Appraisal Methodology. The SRR noted that the appraisal was designed primarily for trunk road assessment but noted a longer-term aspiration for it to be developed so it could be applied across different transport modes. This goal was reached with the publication of the Scottish Transport Appraisal Guidance in 2003¹².

The SRR report presented the Appraisal Summary Tables for all 17 major schemes to the Scottish Executive as decision makers. Subsequently 'The Strategic Roads Review – Scheme Decisions'¹³ was published determining which schemes should move forward to construction, which should not be pursued further, and various categories in between.

A number of schemes were referred to further analysis in the multi-modal 'Central Scotland Transport Corridor Studies' looking in detail at the M80 Steps to Haggs, A8 Baillieston to Newhouse and M74 Northern Extension.

5. SCOTTISH [RAIL] PLANNING ASSESSMENT – 2005-2006

5.1 SPA Context

The SPA was commissioned by the then Strategic Rail Authority in April 2005 on behalf of themselves and the then Scottish Executive. Arup Consultants were appointed to do the work and as the study progressed, with the end of the Strategic Rail Authority and the devolution of rail powers, the client changed to just be the Scottish Executive / Transport Scotland.

Rather than the other bespoke studies considered in this paper, the SPA was one of a set of Regional Planning Assessments carried out across the UK following a consistent methodological framework.

While the SPA considered only the rail network, its aim was stated as an attempt 'to align [medium and long term] rail planning with [Scottish] priorities and objectives [in relevant spatial and economic strategies] to avoid rail being too focussed on its own internal objectives.'

5.2 SPA Methodology

The study did not undertake any detailed demand forecasting or detailed appraisal and instead focussed on identifying priorities for intervention.

The SPA used the standard Railway Planning Framework, which is laid out sequentially below:

Baselining

This stage considered the existing situation for the rail network in Scotland, how well rail is currently performing and issues such as what markets are currently being served by rail.

Drivers of Change

This stage considered the future situation for rail in terms of committed rail infrastructure schemes and forecast changes in population and employment using structure plans.

Issues & Objectives

In this stage objectives were developed in terms of areas that rail has a positive contribution to make and areas where rail may be regarded as weaker such as: Support plan-led growth; Achieve more sustainable patterns of freight movement; and Provide competitive links between the Central Belt and other Scottish cities. These objectives were used to lead the subsequent work on the SPA. Issues were then identified that could affect the delivery of the stated objectives.

Option Generation

Options were then generated that could potentially overcome the issues identified in the previous stage. Various sources for interventions were used

including internal optioneering sessions of the Arup team and through consultation with stakeholders including First Scotrail and Local Authorities. This initial 'long list' of interventions was subject to a qualitative sifting process covering high level criteria such as cost, deliverability, likely business case. Some packaging of interventions was also undertaken.

Assessment

Following the sifting, the interventions left in the 'short list' were taken forward more detailed assessment. The unique feature of the Scottish SPA was the adoption of the Part 1 of STAG as the basis for the assessment stage appraisal summary tables. The criteria considered in the assessment are shown in Table 4.

Table 4 – SPA – Appraisal Summary Table Criteria

Criterion	Sub-Criteria
1. Indicative Financial Impact	(a) Capital Costs
	(b) Operating Costs
	(c) Revenue
	(d) Third Party Funding
	(e) Cost to Public Sector
2. Planning Objectives	(a) Links with planning objectives
	(b) Rationale for shortlisting
3. Implementability	(a) Technical
	(b) Operational
	(c) Financial
	(d) Public
4. Government Objectives	(a) Environment
	(b) Safety
	(c) Economy
	(d) Access/ Social Inclusion
	(e) Integration

The appraisal was undertaken qualitatively. For the Government Objectives criteria, the seven point scale from large negative through neutral to large positive was used.

Conclusions & Outputs

This final stage of the framework is covered below.

5.3 SPA Outcome

The conclusions of the assessment were delivered in two strands, firstly generic issues across the whole of Scotland, such as strengthening peak time services, improving integration with other modes and small scale, incremental capacity improvements and geographical interventions grouped around areas including Edinburgh – Glasgow routes, other urban routes and rural routes.

The Appraisal Summary Tables were presented for all of the interventions considered.

Subsequently the findings of the SPA fed into the National Transport Strategy's associated policy document Scotland's Railways and also into Network Rail's Route Utilisation Strategy and Scottish Ministers' High Level Output Specification ¹⁴.

6. STRATEGIC TRANSPORT PROJECTS REVIEW – 2006-2008

6.1 STPR Context

The STPR was announced as part of the partnership agreement which formed the Labour and Liberal Democrat coalition for the Scottish Executive after the 2003 election. The intention was to *“ensure that our future transport system is well planned and delivered by: Before 2007, beginning work on the next 10 year Transport Plan and, as part of that process, conducting a strategic projects review for all transport modes...”*¹⁵

In 2006 Jacobs Consultancy and Faber Maunsell were appointed by the recently established Transport Scotland to undertake the review.

The review was to cover the land-based transport needs across all modes and recommend a prioritised list of interventions to be delivered between 2012 and 2022 that would make a significant contribution towards the 3 Key Strategic Outcomes of the National Transport Strategy, namely: Improved journey times and connections; Reduced emissions; and Improved quality, affordability and accessibility¹⁶.

The Scottish Government administration changed in May 2007 from a Labour/Liberal Democrat coalition to an SNP minority. This strengthened the STPR's policy framework as it was recognised that the National Transport Strategy was a good articulation of the Government's overall Purpose of Sustainable Economic Growth¹⁷.

6.2 STPR Methodology

The STPR was undertaken in a series of work packages, as follows:

Assess existing, and forecast future, conditions on the strategic transport network

The first task in this work packages was to identify the national strategic transport network. This was done by identifying the functional characteristics of such a network, such as: the links to the four largest cities, links to international gateways and links to areas economic activity. This task resulted in the geographical scope of the STPR being 20 land-based corridors as well as the 'Urban Networks' of Aberdeen, Dundee, Edinburgh and Glasgow and 'Strategic Nodes' of Inverness and Perth, as shown in Figure 3.

The performance of the network was then assessed for both the existing and future year of 2022. The main tool used was TMfS / TELMoS⁷. This allowed current and future constraints and issues on the network to be identified.

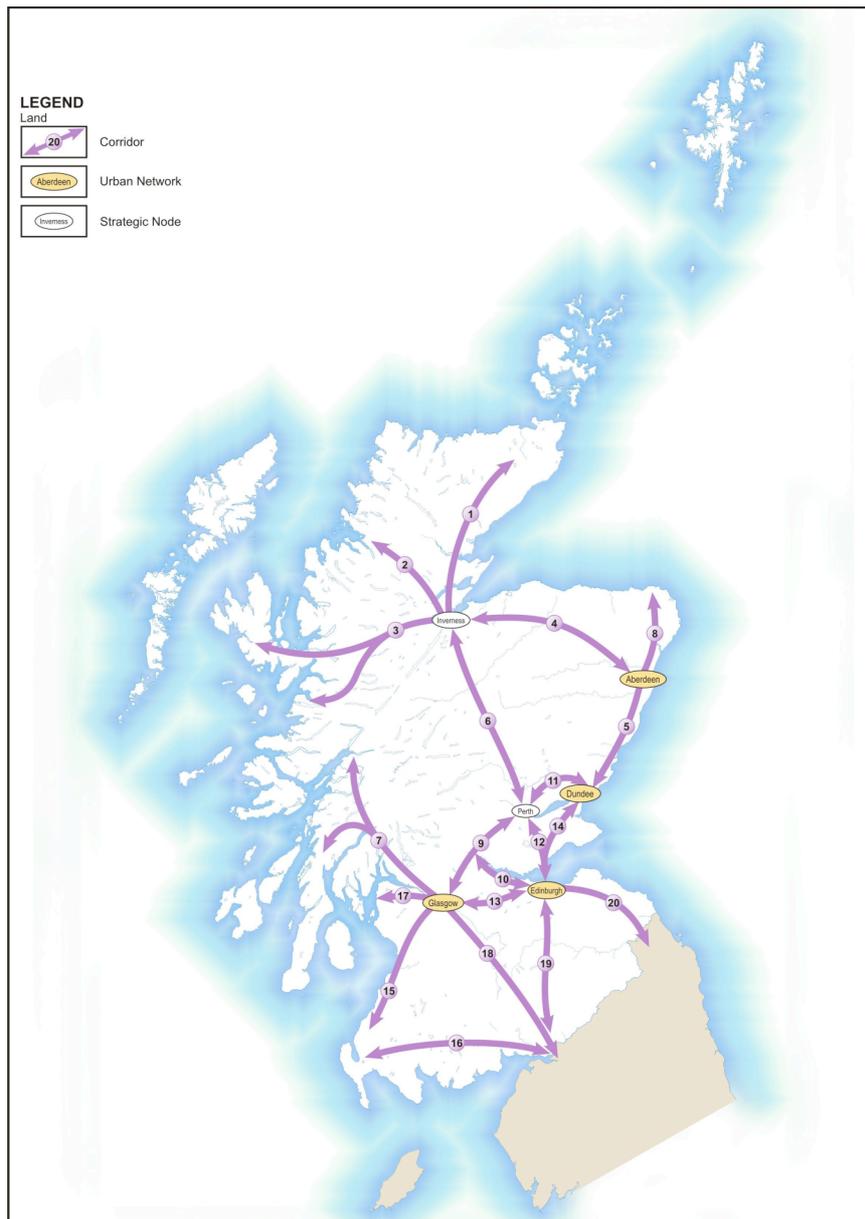


Figure 3 – Provisional Network to be considered in the STPR

Determine expectations for network performance and identify gaps and shortfalls

As noted above, the overall objective of the STPR was support the delivery of the Government’s Purpose of sustainable economic growth and the National Transport Strategy’s Key Strategic Outcomes. These high level expectations were then used to develop national objectives which could be used, in conjunction with the evidence gathered in the previous work package, to develop specific objectives for each Urban Network, Strategic Node and Corridor.

Identify potential interventions and sift options

For each Urban Network, Strategic Node and Corridor, in light of the specific objectives described above, possible interventions were developed to meet these objectives. A sifting process ensured that the interventions, or

packages of interventions, were making a significant contribution towards meeting the objectives. This initial option development made use of various sources and the sifting was undertaken purely qualitatively.

An investment hierarchy, similar to the SRR, was used to guide the intervention development process: firstly maintaining and safely operating existing assets; secondly making better use of existing capacity; and thirdly promoting targeted infrastructure improvements.

Appraise candidate interventions

The interventions identified in the previous work package were then subject to more detailed appraisal. The appraisal process used the methodology laid out in STAG. The criteria used in the STPR are shown in Table 5.

Table 5 – STPR– Appraisal Summary Table Criteria

Criterion	Sub-criteria
1. STPR Planning Objectives	As developed for each urban network, strategic node and corridor.
2. Government's Purpose	Sustainable Economic Growth
2. Key Strategic Outcomes	(a) Improve Journey Time and Connections
	(b) Reduce Emissions
	(c) Improve Quality, Affordability & Accessibility
3. STAG Criteria	(a) Environment
	(b) Economy
	(c) Accessibility & Social Inclusion
	(d) Integration
	(e) Safety
4. Implementability	(a) Technical
	(b) Operational
	(c) Public
5. Government's Strategic Objectives	(a) Safer & Stronger
	(b) Smarter
	(c) Wealthier & Fairer
	(d) Greener
	(e) Healthier
5. Cost to Government	

This appraisal will be reported in a series of Appraisal Summary Tables and then the findings will be presented in the Draft Investment Portfolio.

Strategic Environmental Assessment of Plan Development

Throughout the development STPR, a Strategic Environment Assessment has been undertaken to ensure environmental issues were taken account of.

6.3 STPR Outcome

At this stage, it is not possible to be definitive about the main STPR outcomes beyond that its findings will be reported to Scottish Ministers as a Draft Investment Portfolio in the summer of 2008 and subsequently an Indicative Transport Investment Plan will be published.

The STPR also included a fast-tracked study focussing on the Forth Replacement Crossing which reported in December 2007 and a decision was made to proceed with a multi-modal replacement Forth bridge.

7. ISSUES

Following the individual review of studies, various cross-cutting issues became apparent. These are discussed here:

7.1 Economic Growth

All the studies highlight the importance of transport in supporting economic growth. The Policy for Scottish Roads 1984 stated that 'an adequate road system is essential to the economic.. function of the country'². It also lays out the objective of providing good accessibility particularly to areas of significant economic activity. This is carried forward as an objective for the appraisal in the TKPRNR.

The SRR includes a chapter on the subject of Trunk Roads and the Economy which expands on the headline statement that 'transport is vital to the economic well-being of Scotland'. The aim of the SPA is to align rail policy with spatial and economic strategies, which at the time was the Framework for Economic Development, which notes 'An efficient transport infrastructure is an essential feature of a competitive economy' and 'Improvements in the transport infrastructure have the potential to promote economic growth'¹⁸.

The STPR is seeking to deliver on the key policy document The Government Economic Strategy that states very clearly that the Purpose of the Government, and hence the STPR, is 'sustainable economic growth', furthermore it highlights that 'An efficient transport system is one of the key enablers for enhancing productivity and delivering faster, more sustainable growth.'¹⁷

Overall it can be seen that economic growth is a fundamental reason for the investment in transport through all the studies and that this has strengthened further by the Government Economic Strategy.

7.2 Political Landscape

Strategic transport planning is, by its very nature, a long term process, which is most straightforward within a fixed policy framework to allow objectives to be confirmed and delivered. The reality is political change and all the studies have been subject to changes, small or large, in the political landscape, which have the potential to create uncertainty in the wider policy framework.

During the TKPRNR a UK election was held, which saw the incumbent Conservative administration re-elected. This changed little for the TKPRNR aside for minor adjustments to the objectives and reinforced the ongoing commitment to upgrading the M74.

The SRR was directly caused by a change in administration at Westminster in 1997 from Conservative to Labour and the moratorium on new road construction. A further significant change during the SRR period was Scottish

devolution; the study was announced in Westminster but delivered by Holyrood.

The SPA was also undertaken at a time of change in the rail industry, it was commissioned by the Strategic Rail Authority which no longer existed when it was published and it was published by Transport Scotland following its establishment and the devolution of rail powers.

Finally during the STPR process there was a change in administration at Holyrood from the Labour/Liberal Democrat coalition to the SNP minority and the subsequent refocusing of policy.

7.3 Environmental Issues

The TKPRNR did attempt to take account of environmental issues noting that they were of increasing importance and scheme appraisal and were likely to become even more so. Environmental issues were brought in qualitatively through the stress point analysis. As the study progressed it was noted that environmental issues were challenging to deal with at the strategic level rather than at the scheme specific level and particularly that no quantitative framework was available. The output of the study in terms of environmental issues focused on local environmental quality issues such as community severance, noise and local air quality.

The SRR and the development of the New Appraisal Methodology allowed environmental issues to be considered in a clearer framework based broadly on the wide range of environment criteria used in trunk road scheme environmental impact assessment at the time. The output of the SRR had a particular focus on environmental management in terms of the existing trunk road network and new road design and construction.

The SPA appraisal summary tables included Environment and qualitatively scoring the interventions on the seven point scale, mainly based on the assumption that increasing rail patronage was a positive for the environment.

The STPR takes significant account of environmental issues throughout the process. The high level policy drivers for the process in terms of the Government's Purpose of *Sustainable Economic Growth* and the National Transport Strategy's Key Strategic Outcome of *Reduced Emissions* embed environmental issues into the objective setting process. Environmental issues are considered in the appraisal process through the STAG Environment criteria. As an additional check, throughout the STPR process the statutorily required Strategic Environmental Assessment has been ongoing ensuring environmental issues have been taken account of; this will be subject to a statutory public consultation exercise.

As can be seen, environmental issues have been taken account of in all the studies considered in this paper but as they have moved forward chronically consideration of environmental issues have been strengthened both by the refinement of appraisal tools and the statutory basis supporting them.

7.4 Stakeholder Involvement

Involving stakeholders is an important part of any strategic transport planning study which should lead to more robust outcomes. The four studies have consistently made use of consultation with various bodies to perform various functions.

The TKPRNR worked very closely with the then Regional Councils, both Roads and Planning Departments, to ensure the technical work was robust at the local/regional and hence national level. The TKPRNR also undertook a more general consultation with various national bodies such as Freight Transport Association, the Scottish Development Agency and Scotrail. Within the SRR, as covered above, the development of the New Appraisal Methodology was subject to an extensive consultation.

The stakeholder involvement in the main SRR process was more focussed on the 'Felt-fair' panels mainly made up of representative from the within the Scottish Executive though the Scottish Environmental Protection Agency, Historic Scotland and Scottish Natural Heritage were also included.

The SPA included stakeholders such as First Scotrail and Local Authorities in the option generation process and took account of the regional dimension through the use of structure plans forecasts.

The STPR involved stakeholders through five reference groups: Planning; Enterprise, business and freight; Environmental; Public transport and mobility groups; and Regional Transport Partnerships. This allowed a wide range of interests to be involved in the process in a managed way. The inclusion of the newly established Regional Transport Partnerships usefully facilitated geographical specific input into the process.

The four studies have involved stakeholders in different ways showing that there is no 'one size fits approach' but that the involvement must be tailoring to the study in hand. The involvement of the regional transport bodies is a useful way to ensure the local/regional issues are reflected in the process without the consultation becoming unmanageable.

7.5 Appraisal Methodologies

The four studies provide an interesting insight in the development of appraisal methodologies, in particular the evolution of multi-criteria appraisal frameworks. Even the development of Policy for Scottish Roads, 1984 took some account of criteria beyond just economic cost-benefit analysis.

The TKPRNR was the first strategic study, at least in a Scottish context, to develop a recognisable framework for appraisal in terms of the stress point criteria shown in Table 2. This framework was used both for the formulation of interventions and the appraisal. The study acknowledged that one of the challenges with the framework was the difficulty of combining the results to

provide a clear 'winner'. These early attempts at a framework are another key legacy of the TKPRNR.

The SRR involved the development of the New Appraisal Methodology which for the first time laid out the five criteria of Integration, Economy, Safety, Environment and Accessibility which were taken directly from the Integrated Transport White Paper Travel Choices for Scotland, see Table 3. The SRR also was the first to report its findings in Appraisal Summary Tables featuring all the criteria rather than trying to combine into one result. This allowed decision makers the opportunity to make decisions across the range of criteria. The SRR New Appraisal Methodology was only slightly amended to become the Scottish Transport Appraisal Guidance (STAG), published in 2003¹².

The SPA used the Railway Planning Framework for the overall process and STAG framework as the basis for appraisal which was the first time STAG had been applied to a national study.

The STPR work package process was developed to be explicitly consistent with process in STAG which includes the appraisal stage. The STPR is the first time STAG has been used in a multi-modal national study. The STPR has also taken account of the work emerging on the STAG refresh¹².

8. CONCLUSIONS

This paper set out to answer the question of whether there is such a thing as strategic transport planning in Scotland. Through examining the four studies it has shown that Scotland has a robust history in strategic transport planning and is continuing this legacy with the STPR.

It has been remarkable to see the consistency between the four studies in issues such terms of the underlying importance of economic growth and the principles of the overall processes and appraisal methodologies used.

The development of the tools available in such studies was very interesting to follow, such as the creation of the Central Scotland Traffic Model as part of the TKPRNR which was used for some schemes in the SRR and has now become the multi-modal Transport Model for Scotland being used in the STPR.

The development of the appraisal methodology through the four studies has been instructive from the first real attempts at multi-criteria assessment in the TKPRNR to the formulation and use of the New Appraisal Methodology in the SRR which laid the foundation for STAG. Then the first use of STAG in a national study in the SPA and finally the use of STAG on a national multi-modal study in the STPR.

Environmental issues stand out as one area that has significantly increased in prominence in the studies both in terms of policy and the strengthening of environmental appraisal frameworks. STPR has risen to this challenge and fully integrated environmental issues throughout the process.

The establishment of Transport Scotland as a delivery Agency of the Scottish Government with responsibility for both road and rail does provide a unique opportunity. This opportunity has been seized with the undertaking of the STPR which can, in some ways, be seen as a fulfilment of the previous studies considered here. The tools and framework have been developed that will allow the STPR (and future repeats of the STPR) to deliver on the Government's purpose of Sustainable Economic Growth.

9. Notes

1. Scottish Development Department, (September 1981) *Roads in Scotland, Report for 1980*.
2. Scottish Development Department (July 1984) *Policy for Scottish Roads, 1984*.
3. The NESA (Network Evaluation from Survey and Assignment) software was developed by SIAS Limited in 1978 on behalf of, the then, Scottish Office and is still used today for operational and economic assessment. See www.sias.com/ng/NESA/NESA.htm for more information.
4. British Railways Board, (1963) *The Reshaping of British Railways*.
5. Scottish Office. (March 1992) *Roads, Traffic & Safety 1992*
6. The TKPRNR used the National Road Traffic Forecasts (NRTF) for forecasting future traffic growth. More information on the current NRTF can be found on www.dft.gov.uk
7. The Central Scotland Traffic Model developed as part of the TKPRNR evolved into Central Scotland Transport Model and then into the Transport Model for Scotland (TMfS). TELMoS is an economic and land-use model which is used as an input to TMfS. For more information see www.tmfs.org.uk
8. SRTDb, Scottish Road Traffic Database, see www.transportscotland.gov.uk/road/traffic-count for more information.
9. Hansard 19 Jun 1997 Columns WA 136 and 137.
10. Secretary of State for Scotland, (July 1998) *Travel Choices for Scotland – The Scottish Integrated Transport White Paper*.
11. Figures from Table 5.3 of *Scottish Transport Statistics Editions 5, 10, 17 & 26*.
12. The Scottish Transport Appraisal Guidance (STAG) was published by the Scottish Executive in September 2003, based on the work on the New Appraisal Methodology developed in the SRR. The Scottish Government through Transport Scotland are currently undertaking a 'refresh' process to refine the guidance. For more information see www.transportscotland.gov.uk/stag.
13. Scottish Executive. (1999) *The Strategic Roads Review – Scheme Decisions*.
14. For more information see RUS on www.networkrail.co.uk/aspx/4449.aspx/
Scotland's Railways & HLOS on www.transportscotland.gov.uk/reports/publications-and-guidance/rail
15. Scottish Executive. (2003) *A Partnership for a Better Scotland: Partnership Agreement*.
16. Scottish Executive. (December 2006) *National Transport Strategy*.
17. Scottish Government. (November 2007) *The Government Economic Strategy*.
18. Scottish Executive. (June 2000) *Framework for Economic Development in Scotland*.

10. Bibliography

The documents listed list here are the key sources used for the four studies and are the sources for any unreferenced quotes for the respective studies.

Arup Consultants. (December 2006) *Scottish Planning Assessment Part 1.*

Arup Consultants. (October 2005) *Scottish Planning Assessment Part 2.*

Dougall Baillie Associates, SIAS Limited, W.A. Fairhurst & Partners. (December 1993) *The Trunk and Key Principal Road Network Review, Final Technical Report.*

Scottish Executive Development Department. (November 1999) *Travel Choices for Scotland – Strategic Roads Review.*

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Transport Scotland (2006) *Strategic Transport Projects Review – the Brief,*
For more information on the STPR see www.transportscotland.gov.uk/stpr.

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