

2 Need for the Scheme

2.1 Introduction

2.1.1 This chapter provides a description of the reasons the AWPR is considered necessary and how the scheme proposals have developed. This includes reference to previous work undertaken by Grampian Regional Council and NESTRANS, and recent work undertaken by the Scottish Executive, Aberdeen City Council and Aberdeenshire Council. A summary of existing traffic conditions in the locality of the proposed scheme is also provided.

2.2 Background

2.2.1 A peripheral route around Aberdeen was considered as early as the 1950s, with some consideration of potential routes in the 1970s and 1980s. However, serious consideration of the potential for a scheme did not commence until the 1990s when Grampian Regional Council (GRC) investigated potential improvements to reduce the high volumes of traffic using the A90 (known as A92 until it was renamed in the early 1990s) in the centre of Aberdeen, and to reduce the traffic congestion that the city experiences as a result of the volume of traffic using the A90 and its associated radial roads.

2.2.2 The North East of Scotland Transport Partnership (NESTRANS) was established in late 2001 to promote an integrated transport system for the North East of Scotland based on the results of an appraisal of transport proposals undertaken using the Scottish Transport Appraisal Guidance (STAG appraisal). The WPR was highlighted in the STAG appraisal as a key element in the integrated transportation strategy called the Modern Transport System (MTS).

2.2.3 The WPR component of the MTS was renamed the AWPR and in April 2003, the Scottish Ministers announced that the proposed scheme would be promoted by the Scottish Executive as a Trunk Road within a funding partnership of the Scottish Executive, Aberdeen City Council, and Aberdeenshire Council. Further traffic modelling and consideration of trunk road strategies and objectives; and consideration of the need and objectives of the proposed scheme as a component of the MTS was undertaken by the Scottish Executive as part of the assessment of potential route corridors. This led to the announcement by the Minister for Transport on 1 December 2005, of a preferred corridor for the proposed scheme within which it was considered that the objectives for the scheme could best be achieved.

2.2.4 Alternative corridors and routes considered for the proposed scheme are described in Chapter 3 (Alternatives Considered).

2.3 Modern Transport System (MTS)

2.3.1 The MTS is the transport strategy for North East Scotland developed by NESTRANS and establishes an integrated package of measures to improve the economy, accessibility, integration, safety and the environment. It draws on the Local Transport Strategies developed by Aberdeen City Council and Aberdeenshire Council in 2000 and the Scottish Executive's Sustainable Transport Study for Aberdeen completed in 1998.

2.3.2 The MTS was developed using the STAG appraisal methodology to establish outcomes, objectives and problems to be solved and then assess the ability of different transport proposals to address these outcomes, objectives and problems. Due to the size of the MTS STAG appraisal document, it is not reproduced in this ES. A summary of the MTS is provided below; the NESTRANS report 'Delivering a Modern Transport System for North East Scotland' (March 2003), which explains the strategy in more detail, is provided in Appendix A2.1.

Aberdeen Western Peripheral Route

Environmental Statement

Part A: The Scheme

Outcomes

- 2.3.3 The aim of the transport strategy for the area is described in the MTS-STAG appraisal as being to implement an MTS for the North East of Scotland which enables a more economically competitive, sustainable and socially inclusive society.
- 2.3.4 The MTS indicates that the route will improve access to National and European transport networks, reducing the peripherality of the area, and will also remove traffic from unsuitable roads in and around Aberdeen.

Objectives

- 2.3.5 The objectives developed for the MTS were grouped against the five criteria set by the Government as the benchmark against which proposals should be measured, namely environment, safety, economy, accessibility and integration. Two additional criteria of deliverability and acceptability were also added. The objectives from the MTS are listed below:

Table 2.1 – MTS Objectives

Criteria	Objective
Acceptability and Participation	<ul style="list-style-type: none"> The strategy will be developed through public participation and be endorsed by the Community.
Deliverability	<ul style="list-style-type: none"> The strategy will be achievable, both practically and financially, and demonstrate best value.
Environment	<ul style="list-style-type: none"> To develop a transport system which protects, enhances and promotes the natural, built and cultural heritage of the North East. To develop a transport system which protects non-renewable resources, and minimises the impact of transport on air quality, both locally and globally.
Safety (Safety, Accidents)	<ul style="list-style-type: none"> To reduce the number and severity of casualties involved in transport related accidents.
Safety (Safety, Security)	<ul style="list-style-type: none"> To provide a practical, healthy, safe and attractive transport system. To provide a secure travel environment which is safe from (and perceived to be safe from) intimidation and danger for all transport users and the wider community.
Economy (Economic Activity)	<ul style="list-style-type: none"> To deliver a transport system for the North East of Scotland which enhances the competitiveness of the area, its business sectors and constituent communities, and thereby supports the Scottish and UK economy. To reduce the impact of peripherality by improving external links to the North East by rail, road, sea and air.
Economy (Economic Benefits)	<ul style="list-style-type: none"> To enhance the efficiency of the transport networks. To ensure whole-life, long-term value of transport networks, in capital and running costs.
Integration (Transport Integration)	<ul style="list-style-type: none"> To enable efficient movements of people or goods, even when more than one mode is used, by integrating different modes of transport to provide seamless interchange and cross-modal synergies. To ensure integration of the North East into international transport systems.
Integration (Land Use Integration)	<ul style="list-style-type: none"> To integrate land use and transportation to ensure that transport networks serve development as efficiently as possible. To create a long-term sustainable framework of settlements in a hierarchy, by locating new homes, jobs and services in scale with each other and with the role and function of each settlement.
Integration (Policy Integration)	<ul style="list-style-type: none"> To consider transport when developing other policy initiatives, such as social inclusion, health, education and social care objectives.
Accessibility (Base Accessibility)	<ul style="list-style-type: none"> To reduce the impact of peripherality and improve the perception of accessibility of the North East of Scotland nationally and internationally. To provide communities with a choice of means of travel. To improve peoples access to jobs and employment.
Accessibility (Change in Severance)	<ul style="list-style-type: none"> To minimise traffic-induced severance on communities.

Aberdeen Western Peripheral Route
Environmental Statement
Part A: The Scheme

Problems

2.3.6 The main issues that the transport strategy sought to address were considered under the seven category headings used in the preparation of the MTS Objectives as listed above in Table 2.1. A North East Specific category was added to these seven categories in order to highlight the problems that were specific to the area. The MTS problems are listed in Table 2.2 below.

Table 2.2 – MTS Problems

Category	Problem
Acceptability and Participation	Public lack awareness of both local and national of wider transport issues. Public perception is that the strategies are anti-car whilst business perception is that the strategies are anti-lorry. Public feel that decisions are out of their hands. Lack of participation. Pro public transport policies are seen as boosting the profits of private companies.
Deliverability	Lack of transport investment and funding. Perceived Central Belt bias. Delivery of the MTS is not wholly within the powers of the local authorities. Strategic Rail Authority (SRA) and Railtrack for example need to be involved in delivery.
Environment	Impact of pollution from both noise and air quality on people's health and the environment. Continued use of non-renewable resources. Localised air quality problems, breaching national standards. Local impact on global problem of greenhouse gases affecting climate change.
Safety	Need to build upon successes in reducing accidents. Traffic management lacking in areas, safer roads required for all users. Vulnerable users feel their personal safety is at risk while travelling. Neighbourhoods lack security for walkers or cyclists, also at bus stops and stations.
Economy	Current transport network is limiting competitiveness; the North East is not competing on a level playing field due to congested links through Aberdeen to reach external markets. Peripherality of the North East, due to both the physical and the psychological distance to central Scotland, other U.K. countries and Europe. Poor communications affecting business efficiency.
Integration	Poor links between dispersed land uses. Poor linking of dispersed populated areas and land uses. Lack of access to open further development areas. Transport's limited integration with other policy areas, particularly land use and social inclusion.
Accessibility	Few transport alternatives for rural areas and towns, increasing dependence on cars. Infrequent transport services for rural areas and towns, leading to over use of cars. Access to jobs affected by mobility. Severance, perceived and physical, caused by inappropriate traffic and transport links through residential/ neighbourhood areas.
North East Specific	Infrastructure has failed to keep up with the rapid growth of industry leading to restricted availability of commercially viable industrial development sites and congestion on the existing road network. Existing trunk road network in the North East is inadequate, particularly for HGVs leading to the use of inappropriate routes including the city centre, residential areas and country roads. Central location of harbour attracts freight and passenger traffic through Aberdeen City Centre. Rural isles rely on Aberdeen for transfer of goods and passengers. Lack of rail structure in parts of the region. The nature of freight from the North East is often high volume minimum value goods leading to high transport costs. Polarised distribution of wealth throughout the region. Cost of travel in the North East. Physical constraints in Aberdeen City.

2.3.7 Once the MTS problems were identified, an assessment was carried out to establish whether all of the problems were addressed by the objectives. Assessments of the problems showed that, although the problems and objectives had been derived independently, every objective addressed at least one problem.

Aberdeen Western Peripheral Route

Environmental Statement

Part A: The Scheme

Options

- 2.3.8 Options for dealing with the problems and meeting the objectives were developed ranging from a do-minimum maintenance-only option to public transport based options and road building options extending to twelve potential options. This incorporated a number of options both with and without a WPR. The options were derived by grouping together different categories of potential improvements. Each category comprised a number of individual projects which are listed in Appendix A2.2. The groups used to build up the options tested are given in Table 2.3 below. The options derived by combining these groups are given in Table 2.4.

Aberdeen Western Peripheral Route
Environmental Statement
Part A: The Scheme

Table 2.3 – MTS Option Categories

Group Title	Category	Statement of Purpose
Do Minimum	Existing infrastructure maintenance	General maintenance is required to safely retain the current infrastructure for all modes of travel.
WPR	Western Peripheral Route (WPR)	The route is required to act both as a bypass and a distributor around the City between the A90 (T) to the north and south. It will provide access to the Park & Ride and rail freight transfer sites around the periphery of the City and improve access to National and European transport networks, reducing the peripherality of the area. It will remove traffic from unsuitable roads in and around Aberdeen. It is required to facilitate the implementation of other projects within the MTS and allow the most effective use of roadspace throughout the City.
Strategic Routes	Strategic Routes	Trunk Road improvements are required to provide a more consistent quality of route throughout the North East and, in conjunction with the Western Peripheral Route, to reduce the peripherality of the North East by improving access to National and European transport networks.
Roads	Urban Roads	Urban road upgrading is required to complete missing sections of dual carriageway and upgrade junctions to provide a more consistent quality of route and increase capacity. This would improve vehicular access and safety.
	Car Parks	Car park construction is required to provide parking facilities for vehicles, to accommodate increased demand should access be improved as a result of road network improvements.
Local Transport Issues – Public Transport Fund (PTF)	Bus Priorities	Bus priority measures are required to improve service reliability and journey times thus increasing accessibility and social inclusion and encouraging modal shift.
	Park and Ride	Park and Ride is required to improve access into and across the city centre and to provide a choice of travel mode and encourage an element of modal shift for those living on the periphery of the city and beyond who cannot all be served by scheduled buses due to dispersed population patterns.
	Cycling	Cycling measures are required to increase accessibility and encourage travel in a safe environment by this sustainable mode.
	Pedestrian Priorities	Pedestrian measures are required to increase accessibility and encourage travel in a safe environment by this sustainable mode. Safer street initiatives are required to improve safety of all road users, particularly the most vulnerable and to safeguard residential amenity.
	Crossrail	Crossrail is required to increase passenger rail services to/from and within the North East and provide further stations. This would improve access and make rail a more viable alternative, thus promoting passenger levels and encouraging modal shift.
Mass Transit	Mass Transit	Mass transit is required to provide light rail and guided bus way services and re-introduce former rail routes. This would provide access alternatives and encourage modal shift.
External Links	Strategic Rail	The strategic rail proposals are required to ensure the best possible railway infrastructure and train services by unblocking existing constraints on the North East rail network. This would increase accessibility and could encourage modal shift resulting in greater passenger numbers and freight transferral opportunities.
	Harbours	Improvement of harbour and shipping facilities is required to improve accessibility to/from the North East, reducing the peripherality of the area. This could increase passenger and freight transport options, employment opportunities and attract customers, companies and visitors to the area.
	Airport	Development of airport facilities is required to try and expand route options for all in the North East, reducing the peripherality of the area. This could boost business links and job accessibility and reduce the need and cost in travelling via other airports. Improved surface access opportunities would provide greater modal choice for travel to the airport.
Freight	Freight	Development of freight links is required to reduce the peripherality of the area by allowing access from the North East to national and international market places, which is currently limited by lack of infrastructure. The increased capacity for rail freight will allow more economic transferral of products and help minimise the adverse impact from Heavy Goods Vehicle through movements.
Public Transport	Public Transport Enhancements	Public transport enhancements are required to enhance the quality and attractiveness of travelling by public transport, with fare subsidies and new and additional frequency services provided to ensure an element of travel mode choice for those living on non-commercial routes. All elements are aimed at increasing social inclusion and encouraging modal shift.

Aberdeen Western Peripheral Route
Environmental Statement
Part A: The Scheme

Table 2.4 – MTS Options

Option	Option Categories
1	Do Minimum
2	Do Minimum, Public Transport Fund
3	Do Minimum, Public Transport Fund, Public Transport
4	Do Minimum, Public Transport Fund, External Links
5	Do Minimum, Public Transport Fund, External Links, Freight
6	Do Minimum, Public Transport Fund, External Links, Freight, Mass Transit
7	Do Minimum, Roads
8	Do Minimum, Public Transport Fund, Roads
9	Do Minimum, Public Transport Fund, Roads, WPR
10	Integrated Transport (Do minimum, WPR, Strategic Routes, Public Transport Fund, External Links, Freight)
11	Integrated Transport, Roads
12	All proposals

2.3.9 The results of the assessments enabled the number of options to be reduced to two: a public transport option and an integrated transport option. Further assessment of the two options included additional modelling and economic analysis using the Aberdeen Sub Area Model (ASAM) developed on behalf of NESTRANS by MVA Consultants. This further analysis indicated that the integrated transport system provided greater benefits. An Economic Activity and Location Impact (EALI) Assessment of the MTS was also undertaken on behalf of NESTRANS by the consultant Steer Davies Gleave. The main benefits identified in the assessment were in the following sectors:

- Oil and Gas exploration – recruitment;
- Oil and Gas services – recruitment;
- Fish – movement of goods;
- Paper – movement of goods;
- Retail – increasing customer base; and
- Hospitality – increasing customer base.

2.3.10 The overall assessment of the MTS and WPR in the EALI assessment is given in Table 2.5.

Table 2.5 – Summary of MTS EALI Assessment

Sector	Overall MTS Assessment	Overall WPR Assessment
Oil & Gas Exploration	Moderate impact	No impact
Oil Services	Moderate impact	Slight impact
Fish Processing	Slight impact	Moderate impact
Food Processing and Manufacture	Slight impact	Moderate impact
Paper	Slight impact	Moderate impact
Retail	Large impact	No impact
IT	Slight impact	No impact
Construction	Slight impact	Slight impact
Transportation	Slight impact	Moderate impact
Tourism	Large impact	Slight impact
Hotels	Large impact	Slight impact
Health	Large impact	No impact

Aberdeen Western Peripheral Route

Environmental Statement

Part A: The Scheme

Conclusion

2.3.11 The conclusion of these studies was that the integrated package of measures performed better than the other options in addressing the objectives and problems and demonstrated the need for providing the AWPR. This package of measures became incorporated as the MTS. The MTS comprises a range of transport measures for the North East of Scotland and includes the following:

- Aberdeen Western Peripheral Route;
- Strategic Roads;
- Park & Ride;
- Bus Priorities;
- Crossrail;
- Strategic Rail;
- Rail Freight;
- Airport/Access to Airport;
- Ports/Maritime Transport;
- Urban Environment;
- Cycling, Walking and Safety;
- Travel Plans/Travel Awareness; and
- Maintenance of Existing Network.

2.4 Strategic Transport Objectives

2.4.1 As described above, the scheme is being promoted as a trunk road and further traffic modelling and consideration of trunk road strategies and objectives was undertaken by the Scottish Executive as part of the assessment of potential route corridors. Further details regarding the consideration of potential route corridors is provided in Chapter 3 (Alternatives Considered) and in a separate Consolidation Assessment Report prepared by Transport Scotland. Strategic transport objectives are described in 'Scotland's Transport Future – Transport White Paper, June 2004' and are being implemented by Transport Scotland and also through development of a National Transport Strategy. These objectives include:

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

2.4.2 'Scotland's National Transport Strategy – A Consultation' was published in April 2006 and suggests a Vision, Aim and Goals for transport, which are being considered in the consultation process for the National Transport Strategy to support the above mentioned objectives.

Aberdeen Western Peripheral Route

Environmental Statement

Part A: The Scheme

- 2.4.3 The Vision of the National Transport Strategy is described as ‘An accessible Scotland with safe, integrated and reliable transport that supports economic growth, provides opportunities for all and is easy to use; a transport system that meets everyone’s needs, respects our environment and contributes to health; services recognised internationally for quality, technology and innovation, and for effective and well-maintained networks; a culture where fewer short journeys are made by car, where we favour public transport, walking and cycling because they are safe and sustainable, where transport providers and planners respond to the changing needs of businesses, communities and users, and where one ticket will get you anywhere’.
- 2.4.4 The Aim of the National Transport Strategy is described as ‘to promote economic growth, social inclusion, health and protection of our environment through a safe, integrated, effective and efficient transport system’.
- 2.4.5 The key transport Goals are described as:
- Facilitate economic growth – by ensuring that the right transport infrastructure and services are in place to enable economic growth on a socially and environmentally sustainable basis.
 - Promote accessibility – through linking up our transport networks and by ensuring that we consider transport issues when locating services and reduce the need to travel wherever possible; and by making sure that transport is physically accessible.
 - Promote choice and raise awareness of the need for change – through measures such as travel plans and behaviour change interventions.
 - Promote modal shift – by shifting the balance away from unsustainable growth in car use, particularly single-occupancy car use, and towards walking, cycling and public transport; by incorporating public transport considerations into the planning of land use (e.g. large retail, office and housing developments); and for freight through promoting the use of rail and shipping.
 - Promote new technologies and cleaner fuels – through ongoing support and encouragement to Scottish industry and motorists where it is appropriate.
 - Manage demand – by promoting the efficiency of our networks through demand management measures.
 - Reduce the need for travel – by providing local services on local walking and cycling networks and promoting the uptake of alternatives such as home working.
 - Promote road safety – through promotional campaigns and interventions with key groups.
- 2.4.6 The following principles underpin the National Transport Strategy:
- Investment should be targeted where the overall balance of impacts is positive, taking into account all five high-level objectives.
 - Transport should serve businesses, communities and individuals, and should address the transport requirements of different equalities groups.
 - Transport policy should seek to influence the behaviour of individuals and reward sustainable, physically active choices.
 - Delivery should take place at the most appropriate level – national, regional or local – and by the most appropriate agent.
 - We support partnership working between public sector agencies, the private and voluntary sectors.

Aberdeen Western Peripheral Route

Environmental Statement

Part A: The Scheme

2.5 Existing Traffic Conditions

- 2.5.1 The issues that the MTS aims to address listed in Table 2.2 include problems caused by the volume of traffic carried by the existing roads resulting from the layout of the road network and the journeys that drivers wish to take. The base year used to illustrate current traffic conditions is 2005 and traffic flows on the existing network provided from ASAM are shown on Figures 4.7a-c.
- 2.5.2 The existing trunk roads that pass through Aberdeen include the A90 from Stonehaven to Blackdog and the A96 from Inverurie to Haudagain Roundabout on Auchmill Road. The A90 is a dual carriageway between Stonehaven and Haudagain Roundabout, except at the existing Bridge of Dee, which is a single carriageway. The A90 between Haudagain Roundabout and Bridge of Don is a single carriageway road, and the A96 between Craibstone and Haudagain Roundabout is a dual carriageway.
- 2.5.3 Radial routes that provide access to and from Aberdeenshire include the A947 Aberdeen to Turriff Road, A944 Aberdeen to Westhill Road, A93 North Deeside Road and B9077 South Deeside Road. Whilst the A944 is a dual carriageway, the other radial routes are single carriageway roads, and all of these routes carry traffic into the city centre whether or not that is its final destination. In addition to these key radial routes, other local roads carry traffic which informally bypasses the main routes through Aberdeen. These include the B979 Netherley Road, Malcolm Road, the route from Peterculter to the A96, and the route from Bielside to Kingswells and Craibstone; all of which are poor quality single carriageway roads and are not suitable for the traffic volume and types they carry.
- 2.5.4 The MTS recognises that the existing roads and junctions are congested and cannot accommodate anticipated future traffic flows and proposes an integrated package of measures including the AWPR to address this and the other objectives and problems identified. The AWPR is described in more detail in Chapter 4 (The Proposed Scheme) including details of the traffic flows anticipated on the proposed scheme and existing roads once the AWPR and other MTS proposals are in place.