Shaping our FUTURE

Regional Strategic Transport Network Transport Plan 2015






Department for Regional Development
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Comber Bypass Stage II

Foreword

I am pleased to present this Transport Plan for Northern Ireland's Regional Strategic Transport Network (the RSTN). The Transport Plan is firmly founded in the Regional Transportation Strategy (RTS), which was endorsed by the Northern Ireland Assembly in July 2002. Using the funding levels envisaged by the RTS, I believe this Transport Plan represents a balanced approach to meeting Northern Ireland's strategic transport needs over the next 10 years, making a vital contribution to the social and economic development of the region.

The RSTN was defined in the Regional Development Strategy, which described it as the main transport framework of the region that connects all the main centers of economic and social activity, and the major public transport hubs. This Transport Plan addresses in more detail how the network will be developed and maintained across a range of modes – bus, rail and roads - to enhance accessibility on an integrated basis for all users and to improve access to regional gateways and cross-border links.

This Transport Plan has been developed with the benefit of extensive consultation, and I wish to thank all those representatives and stakeholders who have contributed to its development, particularly those who have responded to the various stages of consultation including participation in the Working Conference in Cookstown.

The RSTN Transport Plan was developed using the funding levels envisaged in the Regional Transportation Strategy. As it was being finalised, the Government issued for public consultation a draft Investment Strategy for Northern Ireland 2015 (ISNI), with a closing date for comments of 31 March 2005.

If the draft Investment Strategy is confirmed later this year, it would propose significantly increased investment on the RSTN. The main proposal would be increased investment in major road improvements on the RSTN towards the end of the Plan Period, but further work would be needed to determine the details of the proposed enhanced programme.

Therefore, rather than defer the RSTN Transport Plan until ISNI is finalised, I have decided to publish it now, with the intention of reviewing those aspects that are affected by ISNI once the final Strategy is known. This will allow my Department to maintain the momentum on delivering the wide-ranging measures currently proposed for the RSTN.

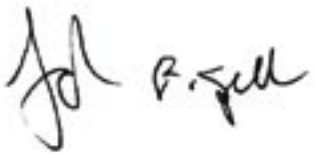
In any event, the implementation of ISNI will, like the RSTN TP, depend on the necessary resources, both capital and current, being made available

through successive annual budget processes. These will determine the scale and pace at which subsequent ISNI projects will be delivered.

The challenge for all involved in transportation throughout the region is now to press on with the implementation of the Transport Plan on a measure-by-measure basis, subject of course to detailed economic appraisals, relevant statutory processes and the availability of funding.

I now look forward to delivery of the RSTN Transport Plan proposals, which will help to provide an improved regional transport system serving all areas of Northern Ireland.

Accordingly, it gives me great pleasure to adopt the RSTN Transport Plan 2015.



Rt Hon John Spellar MP

Minister for Regional Development

Table of Contents

Foreword

Executive Summary

1 Introduction

1.1 Overview
1.2 The Regional Development Strategy
1.3 Transportation and the RDS
1.4 Extent of the RSTN
1.5 The Regional Transportation Strategy
1.6 RTS Areas and Transport Plans
1.7 Transport Plans and the Accessible Transport Strategy

2 Regional Strategic Transport Network Transport Plan

2.1 Objectives of the Plan
2.2 Methodology
2.3 Guiding Principles of Plan Development
2.4 The Plan Period (2002-2015)
2.5 Funding of the RSTN TP

3 Walking and Cycling

3.1 Introduction
3.2 Traffic Calming
3.3 Making it Easier to Walk
3.4 Making it Easier to Cycle
3.5 Proposed Investment – Walking and Cycling Measures

4 Public Transport

4.1 Background
4.2 A New Start for Public Transport in Northern Ireland
4.3 Rural Transport
4.4 Concessionary Fares
4.5 Public Transport Information
4.6 Bus Measures
4.7 Proposed Investment – Bus Measures
4.8 Rail Measures
4.9 Proposed Investment – Rail Measures

5 Highways

5.1 Strategic Road Improvements
5.2 Road Maintenance (Structural)
5.3 Routine Maintenance
5.4 Local Transport and Safety Measures
5.5 Bridge Strengthening
5.6 Street Lighting
5.7 Proposed Investment – Highway Measures

6 Outcomes, Targets, Monitoring and Review

6.1 Introduction
6.2 Outcomes
6.3 Targets and monitoring
6.4 Review

ANNEX A: Appraisal Summary Table for the Overall RSTN TP

ANNEX B: Supporting Analyses

B1.0 Supporting Analyses
B1.1 Introduction
B2.0 Affordability and Financial Sustainability
B2.1 Introduction
B3.0 Practicality and Acceptability
B3.1 Introduction
B3.2 Practicality
B3.3 Public Acceptability
B4.0 Distribution and Equity
B4.1 Distribution (including New TSN)
B4.2 Equity

ANNEX C: Strategic Planning Guidelines

ANNEX D: Northern Ireland Strategic Transport Model (NISTRM)

ANNEX E: Glossary Of Terms

Executive Summary

Background

The Regional Strategic Transport Network Transport Plan 2015 (which for short will be called the RSTN TP or the Plan) has been prepared by the Department for Regional Development. The Plan is based on the guidance set out in the Regional Development Strategy (RDS) and the Regional Transportation Strategy (RTS).

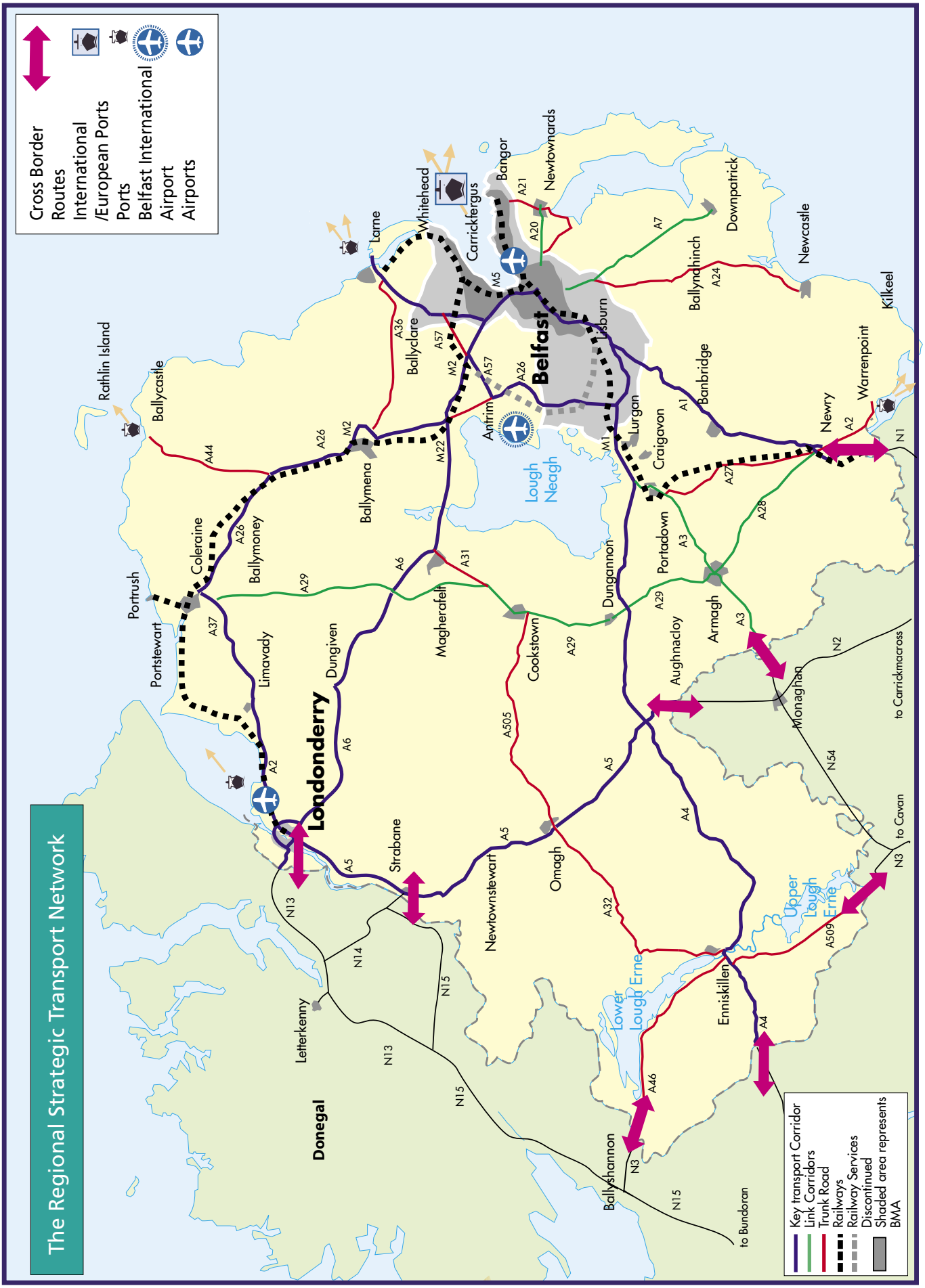
The RSTN of Northern Ireland comprises the complete rail network, five Key Transport Corridors (KTCs), four Link Corridors, the Belfast Metropolitan Transport Corridors and the remainder of the trunk road network (see figure overleaf). The Plan consists of proposals for the maintenance, management and development of this transport network up to the end of 2015.

The Plan takes a realistic view of the scale of possible investment by closely following the funding levels envisaged in the RTS, which have been extrapolated to match the longer period of the RSTN TP. The costs of the various measures are estimated at 2002 prices.

The RSTN TP presents a number of key outcomes compared against a benchmark of the situation in 2001. To monitor the implementation of the Plan these outcomes have been converted into targets, which the Plan is expected to achieve.

The Plan proposals will be progressed on a measure-by-measure basis subject to:

- detailed economic appraisal;
- clearing the relevant statutory procedures such as environmental assessment, planning and land acquisition (each of which may require public inquiries); and
- the availability of funds through the normal budgetary processes.


The Regional Strategic Transport Network
Cross Border Routes
International /European Ports
Ports
Belfast International Airport
Airports
Londonderry
Belfast
Donegal
Lough Neagh
Upper Lough Erne
Lower Lough Erne
Rathlin Island
Ballycastle
Larne
Whitehead
Carrickfergus
Bangor
Newtownards
Portrush
Portstewart
Coleraine
Ballymoney
Limavady
Dungiven
Ballymena
Ballyclare
Antrim
Lisburn
Magherafelt
Cookstown
Dungannon
Lurgan
Craigavon
Banbridge
Portadown
Armagh
Newry
Warrenpoint
Kilkeel
Ballynahinch
Downpatrick
Newcastle
Strabane
Newtownstewart
Omagh
Aughnacloy
Monaghan
Letterkenny
Enniskillen
Ballyshannon
to Carrickmacross
to Cavan
to Bundoran
Key transport Corridor
Link Corridors
Trunk Road
Railways
Railway Services Discontinued
Shaded area represents BMA

Objectives

The objectives of the RSTN TP are:

- to support the Spatial Development Strategy in the RDS based on hubs, corridors and gateways;
- to develop and maintain the RSTN to enhance accessibility on an integrated basis for all users, including freight;
- to examine access to regional gateways and cross border links with an emphasis on improving connections from the 5 key transport and 4 link corridors;
- to contribute appropriately to the RTS targets;
- to conform to the relevant expenditure by mode envisaged in the RTS, or in a few cases present a case for a different approach;
- to set out plans for short, medium and longer-term proposals taking account of the RTS budget profile;
- to identify a set of targets, performance indicators and other outputs that can be used to measure progress against strategic objectives; and
- to provide input into local development plans prepared by DoE Planning Service.

Plan Elements

The measures in the RSTN TP fall into the following categories:

- walk/cycle;
- bus;
- rail; and
- highways.

Walking and Cycling

In most cases it is preferable to provide for walking and cycling away from the heavily trafficked routes of the RSTN, as walking and cycling are better suited to other, less busy parts of the network. However, the RSTN TP proposes the following measures to support walking and cycling.

Traffic calming in the form of gateway features on the approach to towns and villages has proved to be effective in improving driver behaviour and reducing traffic speeds and is therefore beneficial to both walking and cycling. Further gateway features are proposed over the Plan period.

The Plan proposes new and improved footways and crossing facilities where a need has been identified, especially where linking to bus and rail services.

New cycling facilities are proposed where a need has been identified, especially where linking to bus and rail services or to the National Cycle Network.

The RSTN TP envisages an investment of £7.4m for Walking and Cycling initiatives over the Plan period.

Bus

It is proposed to review and improve inter-urban bus and coach services (previously referred to as the Goldliner Network) in line with meeting the RTS objective to provide a minimum of hourly services on those KTCs that do not have rail services.

A programme of bus purchase grants will assist Translink to renew its stage carriage fleet. The aim is to reduce the average age of buses and coaches operating services on the RSTN and to provide higher standards of comfort and accessibility. By 2015 Translink aims to make their services on the RSTN fully accessible to people with disabilities through the introduction of accessible vehicles and the necessary accessible infrastructure. The Department will encourage private operators on the network to provide similar standards of accessibility. The Public Service Vehicle Accessibility Regulations require all scheduled bus and coach services to be fully accessible by 2017 and 2022 respectively.

Though improvements to bus stations in general are part of the remit of the Sub-Regional Transport Plan (SRTP), the improvements required at key stations are expected to be taken forward in parallel with the implementation of the improved inter-urban bus and coach services.

Other proposals that are being actively considered include the following new or enhanced facilities:

- passenger interchange sites at principal nodes[1] in the network outside the urban areas;
- accessible docking points (bus stops designed to ensure that ramps or lifts on accessible coaches can be deployed); and
- rescheduling bus services to call at the park and share sites being provided on the RSTN.

Consideration will be given to the extension of real-time passenger information to the inter-urban bus and coach network. This will inform waiting passengers of the actual bus arrival time.

Bus services will also benefit from highway improvements throughout the RSTN, helping to provide predictable and efficient journey times for passengers.

[1]Principal nodes represent key intersections along the RSTN between the KTCs, Link Corridors and trunk roads

The Concessionary Fares Scheme continues to provide assistance towards travel by vulnerable groups in our society. Concessionary fares are available to eligible passengers on both bus and rail journeys on the RSTN. The Scheme was extended in April 2004 to provide half fare travel to four new groups of people with disabilities.

The RSTN TP envisages an investment of £81.4m in Bus initiatives over the Plan period.

Rail

Translink has already received 10 of the 23 new trains on order, the first of which entered passenger service on 24 November 2004. These trains are fully compliant with the Rail Vehicle Accessibility Regulations (NI) 2001. Complementary access improvements are being made to railway stations to meet the requirements of the Disability Discrimination Act 1995.

The Belfast to Bangor track relay was completed in 2002. The relay of the track from Bleach Green to Whitehead, which completes the work envisaged in the Railways Task Force Consolidation, is programmed to commence in Spring 2005.

This Plan summarises proposed rail initiatives within the Belfast Metropolitan Area, (presented in detail in the Belfast Metropolitan Transport Plan, BMTP). These measures include improving access to and facilities at rail stations, increasing service frequencies by up to 50% within the BMA and providing new or relocated stations.

Outside the BMA a new rail station is proposed in or near Templepatrick. In addition, proposals are being considered for a new station at Newry and a refurbishment of the existing station at Portadown.

The Plan also considers Park and Ride opportunities at rail stations and it is proposed to provide over 1000 additional parking spaces at 12 locations on the rail network.

It is anticipated that future rail timetables will be clock-face operations (departure times at the same minute past the hour, every hour eg 8:20; 9:20; 10:20; 11:20 etc) and presented using a simplified hub and spoke arrangement (rail services on a number of lines centred on one station eg. Bangor, Portadown and Larne services centred on Great Victoria Street). Other proposed service enhancements will involve better passenger information, and new signalling and ticketing technology.

The line between Antrim and Knockmore junction has been closed to regular service since June 2003. It is being maintained for diversionary purposes although its role and usage will be continually reviewed.

The RTS accepted that the long-term future of services north of Ballymena

and Whitehead would depend on the success of the rolling stock, infrastructure and timetable improvements. However due to the need for significant safety-led investment now, the Minister for Regional Development initiated a review of these services by a group comprising DRD Officials and Senior Management within Translink (the Railways Review Group). Following consultation on the report of the RRG, funding has been secured over the next three years to maintain the condition of the lesser used lines network so as to avoid deterioration in existing services.

Drawing on the figures in the Regional Transportation Strategy, the RSTN TP would envisage an investment of £704.2m in Rail initiatives over the Plan period.

Highways

The RSTN carries around 37% of road traffic movements in Northern Ireland, so it is vital to the social and economic development of the country.

Maintenance of the surfaces and structures of the road network (structural maintenance) is important to allow the RSTN to carry this heavy traffic, and to preserve this valuable national asset. Though the RTS identified some funding for this purpose, subsequent structural assessments demonstrate that a significantly higher level of expenditure is required.

Amongst other Local Transport and Safety Measures (Collision Remedial schemes, Conventional Traffic Management, Minor Improvement Schemes, Improved Travel Information) the Plan contains proposals for additional Park and Share sites that promote higher car occupancy and improved access to public transport. Five new sites providing approximately 300 car parking spaces are proposed over the next three years. Dependent on the success of these a further eight sites are under consideration for the later stages of the Plan period.

Further measures are proposed to enhance the existing level of travel information provided through the internet and by telephone information services, electronic driver information signs and via the media. The plan includes proposals for the extension of motorway control facilities, closed circuit television (CCTV) traffic monitoring cameras, and the provision of automatic incident detection on key routes and route journey time information.

The RTS identified a significant uplift in major highway improvements, aimed mainly at removing bottlenecks from the existing strategic network. Since the beginning of the Plan period the following Strategic Road Improvements (SRIs) have been completed:

- A5 Newtownstewart Bypass;
- A5 Strabane Bypass (Stage II);
- A2 Limavady Bypass;
- A21 Comber Bypass (Stage II);
- A8 Larne Road Roundabouts;
- A1 Rathfriland Road flyover, Banbridge;
- A6 Toome Bypass;
- A8 Larne Road dualling, Doagh Rd – Hillhead Rd; and
- M1 Blacks Road to Stockman's Lane widening.

Construction on the following schemes is ongoing:

- A8 Ballynure Link Road;
- A1 Underpass at Hillsborough Road, Dromore;
- A5 Omagh Throughpass - Stage III;
- A1 Loughbrickland - Beech Hill (upgrade to dual carriageway); and
- A1 Newry - Dundalk Cross Border Link (upgrade to dual carriageway, Northern Ireland section of scheme).

A number of priority schemes to improve the KTCs are in the Roads Service Preparation Pool, which means they are being worked up and taken through the statutory procedures of environmental assessment, planning approval and land acquisition for implementation in the next 5 years or so. These are:

- M1 / Westlink improvements;
- M2 Sandyknowes to Greencastle (Widening to 3 lanes);
- M2 Crosskennan - slip roads at Antrim Hospital;
- A1 Beechill - Cloghogue (upgrade to dual carriageway);
- A1 Grade-separated junctions (Hillsborough, Banbridge, Loughbrickland, and Dromore);
- A2 Skeoge Link (or equivalent), Londonderry;
- A4 Dungannon – Ballygawley (upgrade to dual carriageway);
- A4 Annaghilla, near Augher (realignment and climbing lane);
- A5 Tullyvar, near Ballygawley (realignment and climbing lane); and
- A6 Randalstown - Castledawson Roundabout (upgrade to dual carriageway).

Appraisal work (based on the Government's five key criteria: environment, safety, economy, accessibility, integration) was undertaken to identify further SRIs for inclusion in the RSTN TP.

The RSTN TP proposes that the following new schemes should be added to the Preparation Pool, for construction in the next 5 years or so (subject to detailed appraisal, clearing the statutory procedures, having a satisfactory economic appraisal and the availability of finance at the time):

- M2/A26 Ballee Road East, Ballymena (new alignment under Larne Road roundabout);
- A2 Broadbridge, near Londonderry (upgrade to dual carriageway);
- A3 Armagh North and West Link (single carriageway link road);
- A4 Henry Street/Sligo Road (junction improvement);
- A5 Strabane Bypass Stage III (single carriageway bypass);
- A20 Frederick Street Link, Newtownards (single carriageway link road);
- A29 Carland Bridge, nr. Dungannon (realignment);
- A32 Cherrymount Link, Enniskillen (single carriageway link road); and
- A514 Crescent Link, Londonderry (completion of dual carriageway).

The Plan also proposes that the following additional major highway schemes should commence later in the Plan period (subject to detailed appraisal, clearing the statutory procedures, having a satisfactory economic appraisal and the availability of finance at the time). These schemes should be added to the 10 year Forward Planning Schedule.

- A2 Buncrana Road – widening (Pennyburn – Skeoge Link);
- A2 Buncrana Road – widening (Skeoge Link – border);
- A5/N14 Strabane-Lifford Link;
- A6 Dungiven Bypass;
- A24 Ballynahinch By-Pass;
- A26 Glarryford – A44 Junction (upgrade to dual carriageway);
- A28 Armagh East Link;
- A29 Cookstown Eastern Distributor; and
- A31 Magherafelt Bypass.

Over 50 wide single 2 + 1 schemes are proposed across the RSTN over the Plan period. These schemes provide 2 lanes in one direction and 1 lane in the other direction and greatly improve the level of service on single carriageway roads as well as the provision of safer overtaking opportunities.

Some of the proposed SRI schemes facilitate development proposals; these will only be brought forward on the basis that the developer will contribute in full or in substantial part.

The RSTN TP envisages an investment of £769.5m in Highway initiatives over the Plan period.

The availability to the Government of the former Maze Prison and adjacent Long Kesh army base in the Lisburn City Council area followed the publication of the RDS. Proposals for the regeneration of this substantial site - 360 acres in total - are being considered by a consultation panel appointed by Minister Ian Pearson. Following receipt and consideration of this report, decisions will be taken forward by the site owners, the Office of the First Minister and Deputy First Minister (OFMDFM). The needs of both the strategic transport infrastructure in and around the M1/A1 Sprucefield junction as well as the Maze/Long Kesh development will be taken into account in any emerging development proposal. Any resultant infrastructure plans will be additional to the proposals in this document.

It is clear that, by the end of the Plan period, traffic flows on all KTCs will have increased significantly, and the construction of further sections of dual carriageway (beyond those already proposed in this Plan) would be warranted. Therefore, in the latter part of the Plan period it will be necessary to plan the dualling of further sections of KTCs for implementation after 2015, subject of course to economic appraisals and budgetary decisions by Ministers at that time.

Assumed Funding

In total, the RSTN TP envisages an investment of £1567.6m across all modes over the period of the Plan.

This is consistent with the proposed RTS funding (extrapolated to 2015) for the RSTN. The RSTN TP measures and investment by mode are summarised in the table overleaf.

As the Plan was being finalised, the Government issued for public consultation a draft Investment Strategy for Northern Ireland 2015 (ISNI), with a closing date for comments of 31 March 2005. If the draft Investment Strategy is confirmed later in 2005, it would propose significantly increased investment, particularly in major road improvements towards the end of the Plan period, for the RSTN. Further work would, however, be needed to determine the details of the proposed enhanced improvement programme. Once the final outcome of ISNI is known, the aspects of the Plan that are affected by ISNI will be reviewed. In any event, the implementation of ISNI will, like the RSTN TP, depend on the necessary resources, both capital and current, being made available through successive annual budget processes. These will determine the scale and pace at which the projects in ISNI will be delivered.

RSTN TP 2015 - Measures and Investment by Mode			
	RSTN TP 2015	Proposed Investment (£million)	
Walking and Cycling	**Traffic calming** • Gateway features to towns and villages.	Traffic calming	£5.9
	Making it easier to walk • New footways and improved crossing facilities on the RSTN (controlled pedestrian crossings, refuges, footbridges) where appropriate; • Improved pedestrian facilities at signalised junctions; • Improved facilities for people with disabilities; • Resurfaced footways providing more even surfaces making walking easier; • Strategic footway links to complete networks of walking routes; • Improved footways and crossing facilities linking to both bus and rail services (including signage, new links and street lighting); and • Improved waiting facilities at bus stops to encourage the use of bus services.	Walking	£0.7
	Making it easier to cycle • Cycle provision on the RSTN where a specific need has been identified; • Provision of Toucan Crossings at appropriate locations on the RSTN to provide safe crossing facilities for cyclists; • Improvement of access to the National Cycle Network from the RSTN (signage from rail stations/ strategic bus stations to NCN routes) • Improved provision for cyclists in the vicinity of both bus and rail services (signage, cycle lockers, covered parking); and • Provision to carry bicycles on trains.	Cycling	£0.8
		TOTAL	£7.4

	RSTN TP 2015	Proposed Investment (£million)	
Public Transport	**Bus** Implementation of the following initiatives:		
	Concessionary Fares • Continued provision of free and half fare travel to vulnerable groups.	Concessionary fares	£6.2
	Inter-urban service enhancements • Increased service frequencies on the RSTN.	Inter-urban service enhancement	£10.0
	Bus Grant Programme • Purchase of vehicles.	Bus Grant Programme	£24.8
	Improved Bus Infrastructure • New or enhanced bus stations, passenger interchanges, accessible bus stops.	Bus stations improvements Enhanced facilities for buses	£14.3 £0.4
	Fuel Duty Rebate • Continued use of FDR to assist provision of approved stage carriage services.	Fuel Duty Rebate	£18.4
	Public Transport Information • Application of modern technology to provide passengers with increased service standards: real time information, integrated ticketing systems, integrated timetable information. • Bus priority measures where appropriate on the RSTN.	Public Transport Information Other NITHCo Costs	£5.5 £1.8
		TOTAL	£81.4

	RSTN TP 2015	Proposed Investment (£million)	
Public Transport	**Rail** Implementation of the following initiatives:		
	Railways Task Force Consolidation (RTF) • Purchase of 23 new trains • Track relay – Bleach Green to Whitehead • Install Train Protection Warning System.	RTF Consolidation	£129.0
	Improve Infrastructure • Maintain lesser-used lines (RRG Option 2) • Infrastructure Renewal	Retain Existing Rail Network Infrastructure Maintenance Other Railway Capital* (*Reflects expanded baselines in Budget 2004)	£17.0 £38.1 £87.8
	Improve Rolling Stock • Replace Rolling Stock • Provide new trains • Enhance Rail Capacity • Increasing service frequencies on all routes within BMA (up to 50%)	Rolling Maintenance Replace of Castle Class Rolling Stock Provide New Trains Enhance Rail Capacity Additional Enterprise Services	£53.1 £11.4 £9.6M £24.4M £5.0
	Improvements to Railway Stations • Providing new or relocated stations (West Lisburn, Jordanstown, City Airport/Tillysburn) • Improving access to and facilities at railway stations • Park & Ride (over 1000 additional parking spaces at 12 locations on the rail network)	Rail Station Improvements (BMA) Rail Station Improvements (OUA)	£9.5M £13.4M
	Revenue Subsidy • Concessionary Fares • Public Service Obligation (PSO) • Other NITHC costs	Concessionary Fares PSO Funding Other NITHC Costs	£25.4M £275M £5.5M
		TOTAL	£704.2

	RSTN TP 2015	Proposed Investment (£million)
Highways	**Strategic Road Improvement / Wide Single Carriageways** The schemes listed below include a measure of over programming to allow for potential delays in the progress of schemes clearing Statutory Procedures. This may be partially offset if the optimism bias included in scheme estimates is not fully realised. **Strategic Road Improvements - completed** • A5 Newtownstewart Bypass; • A5 Strabane Bypass (Stage II); • A2 Limavady Bypass; • A21 Comber Bypass (Stage II); • A8 Larne Road Roundabouts; • A1/ Rathfriland Road flyover junction; • A6 Toome Bypass; • A8 Larne Road dualling; and • M1 Blacks Road to Stockman's Lane widening. **Strategic Road Improvements – under construction** • A8 Ballynure Link Road • A1 Underpass at Hillsborough Road, Dromore; • A5 Omagh Throughpass - Stage III; • A1 Loughbrickland - Beech Hill (upgrade to dual carriageway); and • A1 Newry - Dundalk Cross Border Link (upgrade to dual carriageway, NI section of scheme). **Strategic Road Improvements – Preparation Pool** • M1 / Westlink improvements; • M2 Sandyknowes to Greencastle (Widening); • M2 Crosskennan - slip roads at Antrim Hospital; • A1 Beechill - Cloghogue (upgrade to dual carriageway); • A1 Grade-separated junctions (Hillsborough, Banbridge, Loughbrickland, Dromore); • A2 Skeoge Link (or equivalent), Londonderry; • A4 Dungannon – Ballygawley (upgrade to dual carriageway); • A4 Annaghilla, near Augher (realignment); • A5 Tullyvar, near Ballygawley (realignment); and • A6 M22 - Castledawson Roundabout (upgrade to dual carriageway).	Strategic Road Improvements £529.4

	RSTN TP 2015	Proposed Investment (£million)
Highways	**Strategic Road Improvements – To be entered into the Preparation Pool** • M2/A26 Ballee Road East, Ballymena (new alignment under Larne Road roundabout); • A2 Broadbridge, near Londonderry (upgrade to dual carriageway); • A4 Henry Street/Sligo Road; • A5 Strabane Bypass Stage III; • A3 Armagh North and West Link; • A20 Frederick Street Link, Newtownards; • A29 Carland Bridge, nr. Dungannon (realignment); • A32 Cherrymount Link, Enniskillen; and • A514 Crescent Link, Londonderry (completion of dual carriageway). **Strategic Road Improvements – Forward Planning Schedule** • A2 Buncrana Road widening (Skeoge - Border); • A2 Buncrana Road widening (Pennyburn Roundabout - Skeoge Link section); • A5/N14 Strabane-Lifford Link; • A6 Dungiven Bypass; • A24 Ballynahinch By-Pass; • A26 Glarryford – A44 Junction (upgrade to dual carriageway) • A28 Armagh East Link; • A29 Cookstown Eastern Distributor; and • A31 Magherafelt Bypass. **Wide single carriageways** • Provision of overtaking opportunities at over 50 locations through out the RSTN.	

	RSTN TP 2015	Proposed Investment (£million)	
Highways	**Structural maintenance (including Routine Maintenance)** • On going structural maintenance working towards agreed targets.	Roads Maintenance (Structural)	£55.7
	• On going routine maintenance programmes.	Routine Maintenance	£26.5
	Local Transport and Safety Measures **Collision Remedial Schemes** • Treatment of identified collision remedial sites contributing towards NI Road Safety Strategy 2002-12 casualty reduction targets.	Collision Remedial Schemes	£17.6
	Conventional Traffic management and Network Development Schemes	Network Development Schemes	£5.2
	• Provision of junctions improvements, minor realignments and carriageway widening to improve the safety and efficiency of the RSTN.	Conventional Traffic Management	£14.2
	Park & Share	Park and Share	£5.4*
	• Provision of an additional 5 Park & Share sites with a further 8 under consideration.		
	Improved Travel Information • Pre-trip information - continued provision of up to date travel information on traffic conditions. • On-trip information - On going programme extending the motorway control system providing electronic driver information signs on the RSTN .	Improved Travel Information	£5.5
	Bridge Strengthening • On going bridge strengthening programme for structures on the RSTN.	Bridge Strengthening	£50.0
	Street Lighting • On going programme to upgrade street lighting stock.	Street Lighting Capital Programme	£7.4
		Network Management Costs	£52.7
		TOTAL	£769.5
	RSTN TP 2015 TOTAL		£1567.6m**

* Including funding for car park maintenance

** Including £5.1m for research, monitoring and review adjusted for Plan extension

A1 Rathfriland Road Grade Separated Junction

1 Introduction

1.1 Overview

1.1.1 The Regional Strategic Transport Network Transport Plan (RSTN TP) was prepared within the framework established by the Regional Development Strategy (RDS) and the associated Regional Transportation Strategy (RTS). The vision for transportation contained within the RDS as quoted from the RTS is:

"To have a modern, sustainable, safe transportation system which benefits society, the economy and the environment and which actively contributes to social inclusion and everyone's quality of life".

1.1.2 The purpose of the RSTN TP is to plan the maintenance, management and development of Northern Ireland's Strategic Transport Network in accordance with the strategic direction and underlying principles of the RTS.

1.2 The Regional Development Strategy

1.2.1 The Regional Development Strategy: Shaping Our Future set out to guide the future development of Northern Ireland to 2025 and help meet the needs of a fast growing region with a population approaching 2 million.

1.2.2 The RDS presents a Spatial Development Strategy (SDS) to guide the physical development of the Region to 2025. The SDS is a framework based on urban hubs and clusters, key and link transport corridors and the main regional gateways of ports and airports. The RDS identifies the Regional Strategic Transport Network (RSTN) as the skeletal transport framework of the region that connects all the main centres of economic and social activity and the major public transport hubs.

1.3 Transportation and the RDS

1.3.1 The RDS recognises that the provision of a sustainable, integrated transport system that facilitates the rapid, efficient, predictable and safe movement of both people and goods is a key factor in achieving its vision for the region.

1.3.2 The RDS presents four Strategic Planning Guidelines (SPGs) that outline long-term policy direction with regard to developing a Regional Transportation System. The four transport-related Strategic Planning Guidelines are mentioned below, but are covered in more detail in Annex C.

- **SPG-TRAN 1: To develop a Regional Strategic Transport Network based on key transport corridors, to enhance accessibility to regional facilities and services (SPG-TRAN 2-4).**
- **SPG-TRAN 2: To extend travel choice for all sections of the community by enhancing public transport.**
- **SPG-TRAN 3: To integrate land use and transportation.**
- **SPG-TRAN 4: To change the regional travel culture and contribute to healthier lifestyles.**

1.4 Extent of the RSTN

1.4.1 As described in SPG-TRAN 1, a major theme of the RDS with regard to transportation is the development of the RSTN, the strategic transport framework of the region that incorporates 5% of the road network, which carries around 37% of total vehicle travel, and all the rail system. The RSTN is shown in Figure 1.1.

The road element of the RSTN comprises:

- 5 Key Transport Corridors (KTCs);
- 4 Link Corridors;
- the Belfast Metropolitan Transport Corridors; and
- the remainder of the trunk road network.

1.4.2 The KTCs are the top tier of the Region's long distance routes connecting the cities and main towns to the major regional gateways and the Belfast Metropolitan Area (BMA) and they are:

- the **Eastern Seaboard Corridor** – road and rail links between BMA and Dublin and northward to Larne, improving access to Warrenpoint and Rosslare;
- the **North Western Corridor** – links the BMA to Londonderry, strengthening access to Belfast International Airport;
- the **Northern Corridor** – links the BMA to Antrim, Ballymena, Ballymoney, Coleraine, Limavady and Londonderry by road and rail;
- the **Western Corridor** – links west of Lough Neagh between Donegal, Londonderry, Strabane, Omagh, Monaghan and Dublin; and
- the **South Western Corridor** – links the BMA to Craigavon, the Fermanagh Lakelands, the Sperrins and to important cross-border routes.

1.4.3 The KTCs incorporate the Trans European Network within Northern Ireland, recognising the importance of these routes within the region.

The 4 Link Corridors are:

- **A28/A29** – Linking Newry, Armagh, Dungannon, Cookstown, Maghera to Coleraine;
- **A3** – Linking Portadown, Armagh to Monaghan;
- **A20** – Linking the BMA to Newtownards; and
- **A7** – Linking the BMA to Downpatrick.

The remaining Trunk Roads are:

- **A2**: Newry – Warrenpoint;
- **A2/A24** Newcastle – Carryduff
- **A21/ A22**: Belfast-Comber-Newtownards-Bangor;
- **A26**: Killead - Antrim;
- **A27**: Portadown – Newry
- **A31**: Moneymore – Castledawson;
- **A32**: Omagh-Enniskillen;
- **A36**: Ballymena-Larne;
- **A44**: A26 Junction – Ballycastle;
- **A46**: Enniskillen – Belleek;
- **A57**: M2 Junction5 Ballynure; and
- **A509**: Enniskillen – Border at Aghalane.

1.4.4 The sections of the RSTN within the BMA have been defined as Metropolitan Transport Corridors (MTCs) within the Belfast Metropolitan Transport Plan (BMTP) development process. Proposals for the development of the MTCs are presented in the BMTP (see section 1.6) and only those proposals that are on the rail and motorway network are listed in this Plan.

1.5 The Regional Transportation Strategy

1.5.1 An integral feature of the RDS was the requirement to produce a Regional Transportation Strategy (RTS). The RTS for Northern Ireland 2002-2012 is a "daughter document" of the RDS. On 3 July 2002 the Assembly unanimously approved the strategic direction and underlying principles of the RTS.

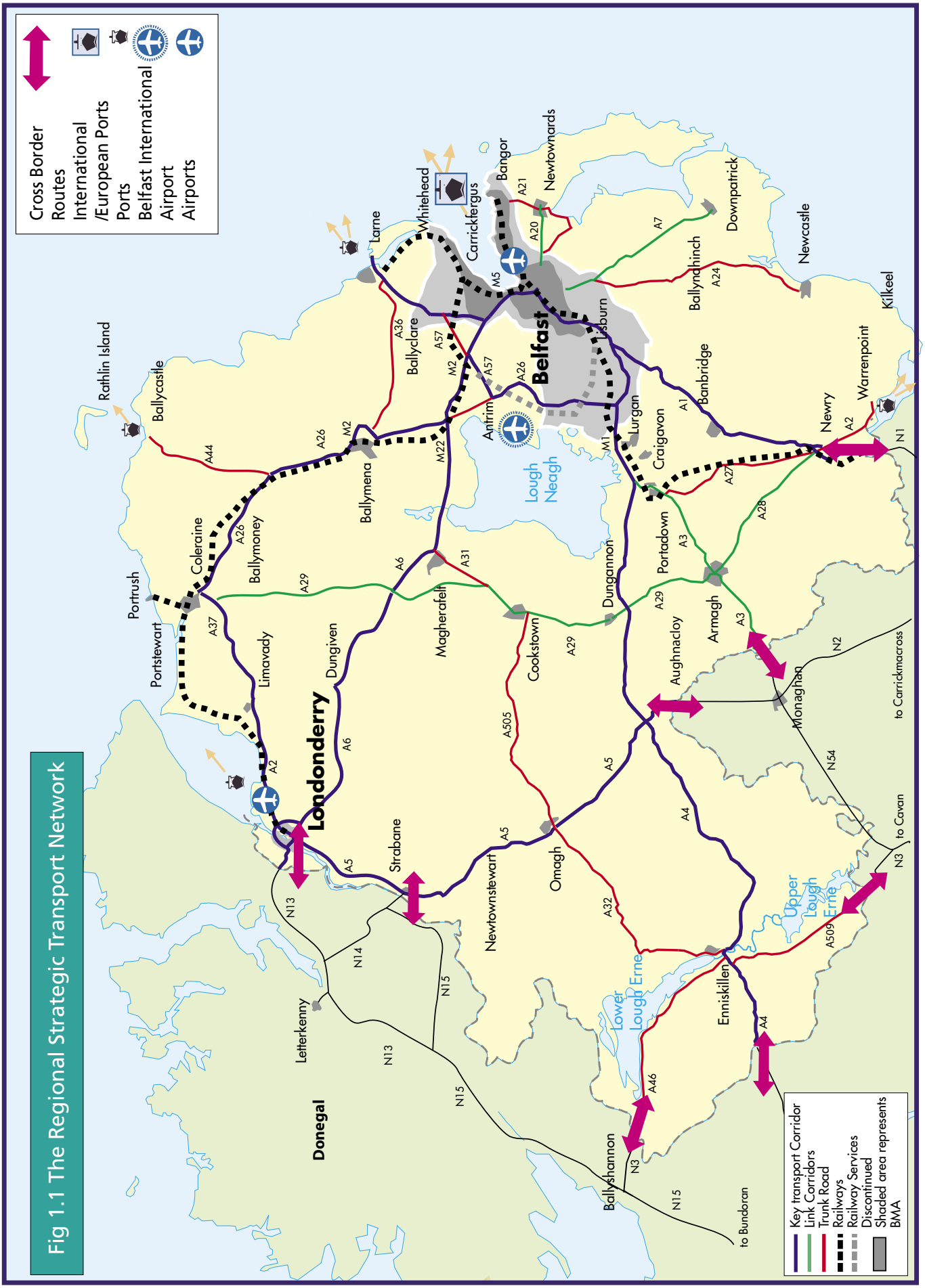


Fig 1.1 The Regional Strategic Transport Network

1.5.2 The overall development of the RTS was based on the Guidance on the Methodology for Multi-Modal Studies (GOMMMS), an objective-led approach to seeking solutions to transport-related problems. GOMMMS establishes five objectives specifically for transport:

- Environment;
- Safety;
- Economy;
- Accessibility; and
- Integration.

1.5.3 Following extensive consultation on transportation issues facing the region an understanding was formed of the current constraints of the transportation system and requirements for future growth in line with the RDS. By comparing perceived problems to potential solutions a comprehensive list of potential transportation initiatives was drawn up. These initiatives were grouped across four modes of transport namely:

- walk/ cycle;
- bus;
- rail; and
- highways.

1.5.4 The impacts of each of the potential initiatives against the five transport objectives were presented in Appraisal Summary Tables. These helped identify the best performing initiatives and the preparation of initial levels of modal funding.

1.5.5 Extensive consultation on the Proposed RTS was undertaken, through which the following main findings were identified:

- the proposed split by 'area' and mode was generally accepted;
- many consultees argued that the Strategy should adopt a funding level significantly above that originally proposed;
- there were strong demands for more Strategic Road Improvements to support the economic well being of the region and enhanced public transport proposals in the Belfast Area; and
- there was a call for demand management measures to be applied in Belfast if these could provide a net benefit to the whole community.

1.5.6 Following consultation and further development of GOMMMS related Supporting Analyses ('practicality and public acceptability', 'distribution and equity' and 'affordability and financial sustainability'), the proposed RTS was supplemented by a number of additional initiatives that led to an overall funding requirement for the Strategy of £3500m.

1.6 RTS Areas and Transport Plans

1.6.1 The transport initiatives detailed in the RTS are presented across 4 'areas' comprising:

- the Regional Strategic Transport Network (RSTN);
- the Belfast Metropolitan Area (BMA), comprising the six District Council areas of Belfast, Carrickfergus, Castlereagh, Lisburn, Newtownabbey and North Down;
- Other Urban Areas (collectively those towns described as main or local hubs in the RDS and other towns outside the BMA with a population greater than 5000); and
- Rural Area – the remainder of Northern Ireland.

1.6.2 Delivery of the detailed content of the Strategy across all 'areas' is being progressed through three Transport Plans, which will inform emerging Development Plans prepared by DoE Planning Service (these outline detailed policies and specific proposals for the development and use of land in Northern Ireland). Further linkage between the Transport Plans and Development Plans is provided in the form of Planning Policy Statements (PPS). PPS 13 (Transportation and Land Use) sets out the strategic policy relating to the integration of transportation and land use whilst PPS 3 (Access, Movement and Parking) sets out detailed operational policy.

The three Transport Plans are:

- the Regional Strategic Transport Network Transport Plan (RSTN TP) – covering the RSTN;
- the Belfast Metropolitan Transport Plan (BMTP) – covering the BMA. The BMTP was published in November 2004; and
- the Sub-Regional Transport Plan (SRTP) – covering the Other Urban and Rural Areas. The SRTP will deal with the main transportation issues of the towns and cities outside the BMA (defined as the main and local hubs in the RDS*) and the rural areas. It is expected that the SRTP will be published by 2006.

*The RDS identified Londonderry as the regional city and transport hub of the North West. The SRTP will deal with local transportation measures within the Derry City Council area. However the RSTN TP is the appropriate Plan to consider strategic inter-urban and cross-border transportation links and the roles of gateway cities and towns, including the important needs of the North West.

1.6.3 Where they have land use implications, the specific initiatives presented in each Transport Plan will be input into the relevant Development Plan and be subject to scrutiny through the Development Plan inquiry process. Figure 1.2 presents the linkages between the RDS and the RTS in terms of principal land use/ transportation planning interactions.

1.6.4 The RTS presents details of the proposed levels of funding across all four transport modes for each of the 'areas' covered by the Transport Plans. Each Plan is expected to conform to its proposed expenditure levels outlined in the RTS or present an acceptable case for any non-compliance.

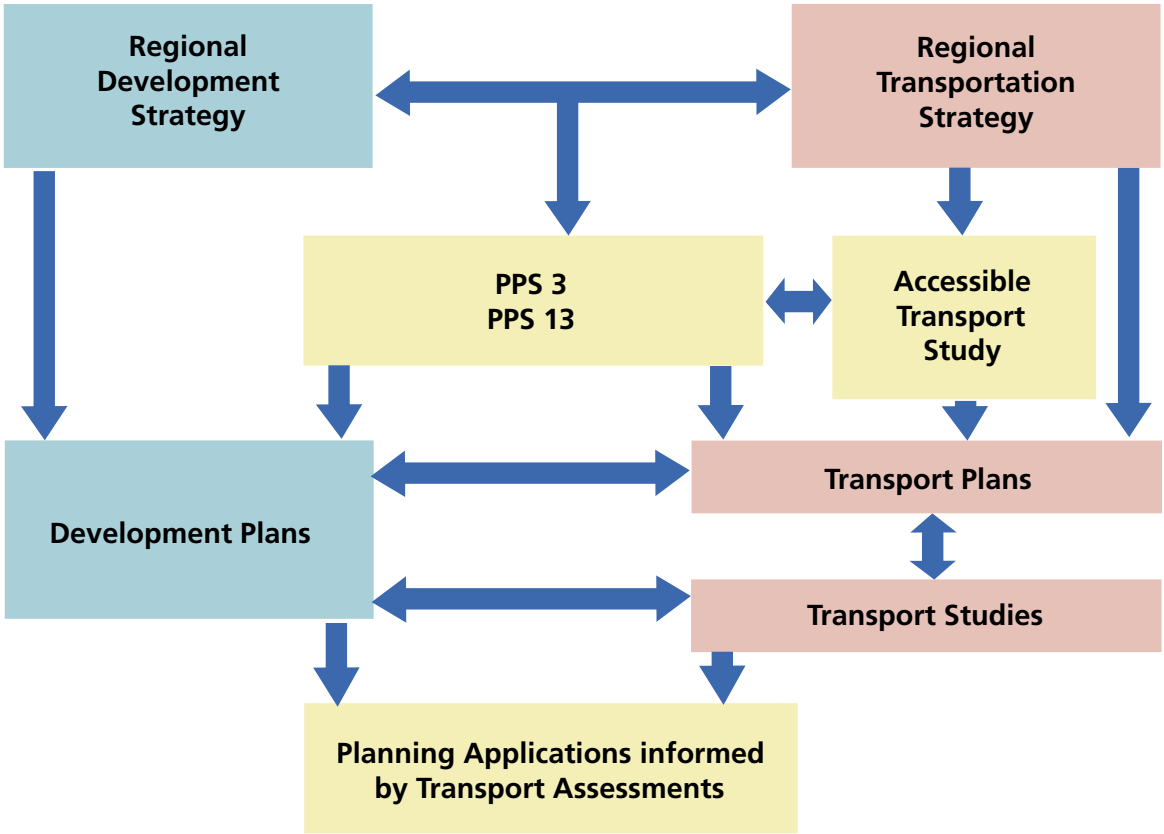


Fig 1.2 Linkages between RDS and RTS in terms of principal Landuse/ Transportation Planning interactions

1.6.5 As a degree of 'overlap' is apparent between each of the 4 'areas' in terms of the existing transport networks (the BMA takes in significant parts of the railway and motorway network as well as a number of trunk roads) the RTS established a series of 'rules' in order to allocate networks either to the RSTN or to each of the three geographical areas. They are that:

- the complete rail network is allocated to the RSTN;
- the complete motorway network and Westlink are allocated to the RSTN;
- those trunk road links which are contained within either the Other Urban or the Rural Areas are allocated to the RSTN; and
- the remaining road links are allocated to the geographical area in which they lie, i.e., to the BMTP or SRTP as appropriate.

1.6.6 However, the development of the BMTP could not be realistically undertaken without adopting a holistic approach across all modes of transport including rail and the motorway component of the highway network. Consequently despite the entire rail network being allocated to the RSTN, the BMTP has appraised and presented detailed proposals for improvements to rail services within the BMA and included the associated costs. Similarly despite the complete motorway network being allocated to the RSTN, the BMTP has appraised and presents details and costs of the proposals for the M1 Westlink (Lisburn to Belfast MTC) and the widening of the M2 from Sandyknowes to Greencastle (Antrim to Belfast MTC). Details of Strategic Road Improvements along the other 6 MTCs are presented in the BMTP. Initiatives that have been identified in both Transport Plans are highlighted in the Plan to provide clarity for the reader.

1.6.7 As a result of the inclusion of elements of the RSTN TP within the BMTP, the total expenditure identified in both plans will be greater than that gained by extrapolating the RTS totals for each of the plans separately. In addition some bus and rail station refurbishment allocated to the Sub-Regional Transport Plan have been included in the funding shown in the RSTN TP.

1.6.8 The availability to the Government of the former Maze Prison and adjacent Long Kesh army base in the Lisburn City Council area followed the publication of the RDS. Proposals for the regeneration of this substantial site - 360 acres in total - are being considered by a consultation panel appointed by Minister Ian Pearson. Following receipt and consideration of this report, decisions will be taken forward by the site owners, the Office of the First Minister and Deputy First Minister (OFMDFM). The needs

of both the strategic transport infrastructure in and around the M1/A1 Sprucefield junction as well as the Maze/Long Kesh development will be taken into account in any emerging development proposal. Any resultant infrastructure plans will be additional to the proposals in this document.

1.7 Transport Plans and the Accessible Transport Strategy

1.7.1 The RTS acknowledged that many people in Northern Ireland are unable to use, or make full use of, the transportation system because of the barriers they face. These can be physical barriers that are present in the built environment or the design of vehicles, but they can also stem from issues such as society or individuals' attitudes, the design of services or the way in which information is provided. For these reasons, the RTS gave a commitment that DRD would develop an Accessible Transport Strategy for Northern Ireland.

1.7.2 The Department published a draft Accessible Transport Strategy for public consultation in October 2004. The draft ATS presents a vision –

"To have an accessible transport system that enables older people and people with disabilities to participate more fully in society, enjoy greater independence and experience a better quality of life."

1.7.3 Implementation of the ATS will be achieved principally through a number of key initiatives identified in the RTS which are included in Transport Plans as well as other spending programmes such as the Rural Transport Fund, the Transport Programme for People with Disabilities and the Northern Ireland Concessionary Fare Scheme. Some initiatives involve changes to administrative processes or the introduction of new legislation.

1.7.4 The draft ATS includes 7 Strategic Objectives and a range of supporting policies that will be followed to assist in achieving those objectives. For example the ATS includes policies on the evaluation of accessible transport initiatives and about consultation on the detailed implementation of access features incorporated in new transportation infrastructure. Those responsible for implementing Transport Plans and for managing other transportation spending programmes will have regard to the ATS Strategic Objectives and policies when carrying out this work.

1.7.5 The Accessible Transport Strategy will be finalised and published by March 2005.

Strabane Bypass Stage II

2 Regional Strategic Transport Network Transport Plan

2.1 Objectives of the Plan

2.1.1 The objectives of the RSTN TP have been derived from the RTS and the four Strategic Planning Guidelines presented in the RDS (see section 1.3.2). The objectives are:

- to support the Spatial Development Strategy in the RDS based on hubs, corridors and gateways;
- to develop and maintain the RSTN to enhance accessibility on an integrated basis for all users, including freight. [SPG-Tran 1.2];
- to examine access to regional gateways and cross border links with an emphasis on improving connections from the 5 key transport and 4 link corridors. [SPG-Tran 1.3];
- to contribute appropriately to the RTS targets;
- to conform to the relevant expenditure by mode envisaged in the RTS, or in a few cases present a case for a different approach;
- to set out plans for short, medium and longer-term proposals taking account of the RTS budget profile;
- to identify a set of targets, performance indicators and other outputs that can be used to measure progress against strategic objectives; and
- to provide input into local development plans prepared by DoE Planning Service.

2.2 Methodology

2.2.1 The development of the Plan was led by the Department for Regional Development's Roads Service through the RSTN TP Project Team. This team included representatives from Translink, Ports and Public Transport Division, Regional Planning and Transportation Division and Roads Service.

2.2.2 The RSTN TP is required to conform to the appropriate planned expenditure by mode as detailed in the RTS or present a robust case for any non-compliance (In practice there is a very good fit between the proportions of expenditure by mode that the RTS envisaged for the RSTN, and the proportions now proposed in the Plan). As such the methodology adopted has focused on confirming the overall value for money of the individual schemes and projects to be implemented (subject to detailed economic

and other assessments, statutory processes and the availability of resources) as defined across the four modes of transport (Walk/ Cycle, Bus, Rail, Highways).

2.2.3 Many of the proposed initiatives under the Highways mode have been appraised using the Appraisal Summary Table (AST) format detailed in the Guidance on the Methodology for Multi-Modal Studies (GOMMMS). The ASTs display the degree to which five Central Government objectives for transport will be achieved. The five criteria are:

- Environment - to protect the built and natural environment;
- Safety - to improve safety;
- Economy - to support sustainable economic activity and get good value for money;
- Accessibility - to improve access to facilities for people with disabilities and those without a car and to reduce severance; and
- Integration - to ensure that all decisions are taken in the context of the Government's integrated transport policy.

In addition to the use of the ASTs to assess individual schemes, an overall AST summarising the key impacts of the Plan has been prepared and is presented in Annex A.

2.2.4 The GOMMMS methodology also specifies three important Supporting Analyses to supplement the AST. These require assessments to be made of the Plan in terms of:

- distribution and equity impacts, including New TSN;
- the affordability and the financial sustainability of the Plan;
- and practicality and acceptability issues.

2.2.5 This work was further supplemented and complemented by three policy proofing assessments:

- an Equality Impact Assessment in accordance with Section 75 of the Northern Ireland Act 1998;
- a Health Impact Assessment in support of the development of the Department of Health, Social Services and Public Safety's initiative; and
- a Rural Proofing Study.

Details of these assessments are published separately.

2.2.6 In September 2003 186 delegates attended a Working Conference on the Emerging RSTN TP. Representatives at the conference covered a wide range of stakeholders including the 4 main political

parties, all 26 District Councils, a number of community groups and transport organisations. The main objective of this conference was to seek the views of the key stakeholders and the wider community and to stimulate discussion on the content of the Emerging Plan. All delegates' comments received during and following the Working Conference have been considered in the preparation of the final Plan.

2.3 Guiding Principles of Plan Development

2.3.1 Throughout the development of the Plan, the Project Team was guided by the following principles:

- have regard to RDS;
- firmly base the Plan on the RTS;
- maintain the distribution of funding between modes envisaged by the RTS unless there is new and clear evidence to support a change;
- priority to be given to the Key Transport Corridors; and
- a pragmatic approach to be adopted.

2.4 The Plan Period (2002 – 2015)

2.4.1 Initially it had been intended that the Plan would cover the same period as the RTS, 2002 to 2012. However, following feedback from the Working Conference, the RSTN TP period has been extended until the end of 2015. With publication of the Plan occurring in 2005 it was considered that this extended period allows a more realistic timescale in which to ensure the objectives from the RDS and RTS can be achieved. Furthermore the Plan period will also be consistent with that of the BMTP. Proposed funding levels have been calculated by extrapolating the RTS indicative funding over the longer Plan period, 2002 to 2015.

2.5 Funding of the RSTN TP

2.5.1 Figure 2.1 shows the funding envisaged by the RTS for transport measures within the RSTN, and the extrapolated levels added due to the extension to the Plan period (total £1567.6m).

2.5.2 It can be seen that there is a very good fit between the proportions of expenditure by mode that the RTS envisaged for the RSTN, and the proportions now proposed in the RSTN TP. In addition, the overall level of expenditure on the RSTN has been kept at RTS levels, although extrapolated for the longer Plan period. This ensures that the RSTN TP remains within an ambitious, but realistic, funding envelope.

The funding levels presented in both the RTS and RSTN TP are indicative. Actual funding for transport measures will be decided in the course of the normal Government budgetary processes.

2.5.3 Some of the measures proposed by the Plan will require private sector investment, including:

- certain Strategic Road Improvements (with a capital value of around £350m) which may be procured via a Public Private Partnership using the Design Build Finance and Operate approach; and
- certain major road schemes which facilitate private sector development and will be funded wholly, or in part, by developers.

All figures for funding and individual scheme costs are at 2002 prices.

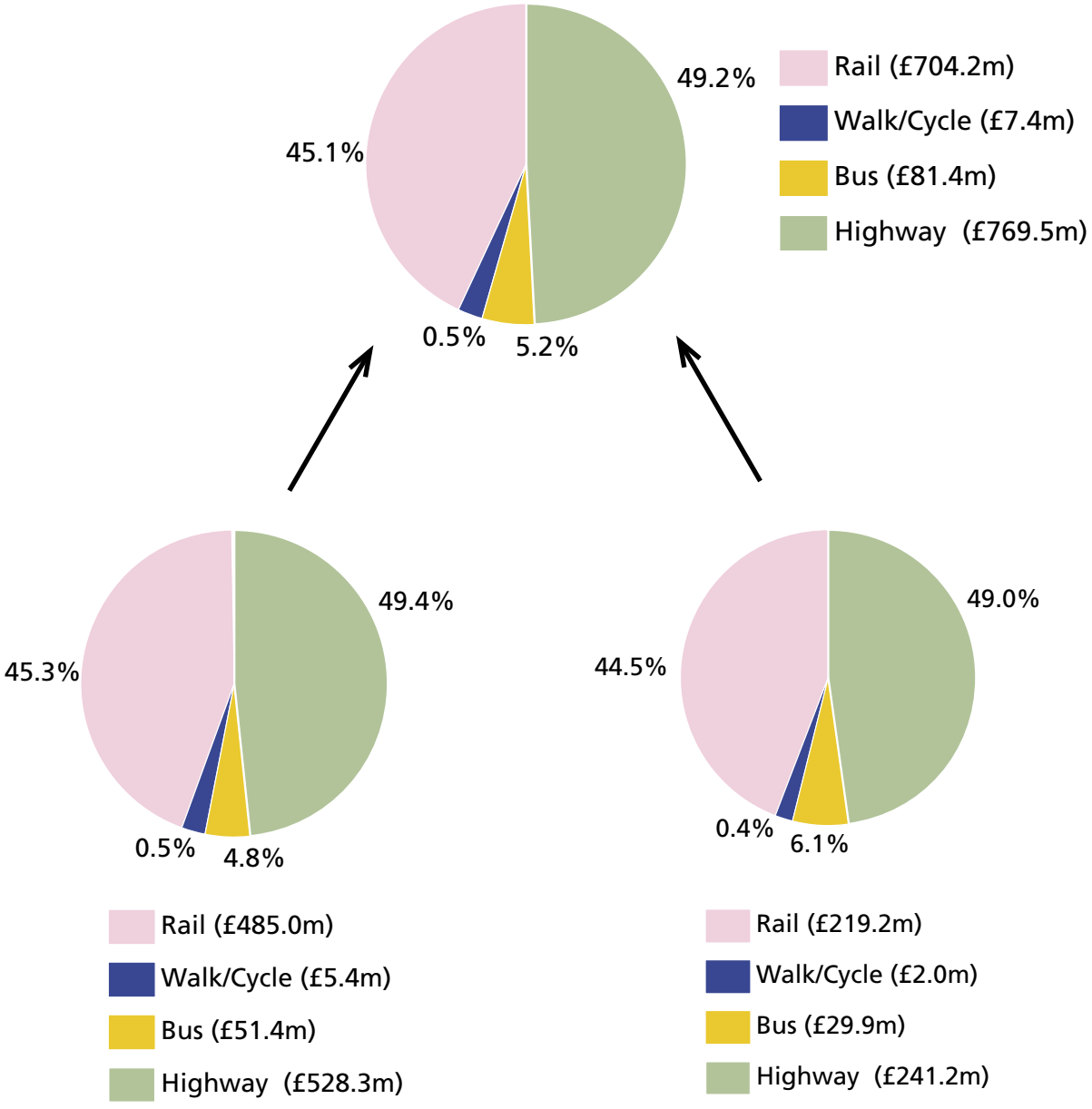
2.5.4 Where the benefits of initiatives are more difficult to predict with certainty, the full extent of the investment proposed will be conditional upon successful results from relevant investment in the early years of the Plan.

2.5.5 As the RSTN TP was being finalised, the Government issued for public consultation a draft Investment Strategy for Northern Ireland 2015 (ISNI), with a closing date for comments of 31 March 2005. If the draft Investment Strategy is confirmed later in 2005, it would propose significantly increased investment, particularly in major road improvements towards the end of the Plan period, within the Regional Strategic Transportation Network. Further work would, however, be needed to determine the details of the proposed enhanced improvement programme. Once the final outcome of ISNI is known, the aspects of the RSTN TP that are affected by ISNI will be reviewed. In any event, the implementation of ISNI will, like the RSTN TP, depend on the necessary resources, both capital and current, being made available through successive annual budget processes. These will determine the scale and pace at which the projects in ISNI will be delivered.

Figure 2.1: Proposed Funding of Regional Strategic Transport Network by Mode

RSTN TP Funding £1567.6m* (2002-2015)

* Includes £5.1m for research, monitoring and review adjustment for the Plan extension



RTS Funding £1073.9m (2002-2012)**

** Includes £3.7m for research, monitoring and review

Additional Funding for the Extension of Plan Period £492.3m (2002-2015)

Investment Proposals are estimated on 2002 prices

3 Walking and Cycling

3.1 Introduction

3.1.1 In most cases it is preferable to provide for walking and cycling away from the heavily trafficked routes of the RSTN, and so walking and cycling measures are better suited to other, less busy parts of the network.

3.1.2 The RDS recognises the adverse environmental impacts associated with reliance on the private car and the importance of changing the travel culture of the region to contribute to healthier lifestyles. The promotion of walking and cycling as environmentally sustainable, healthy and socially accessible forms of transport, particularly for relatively short journeys of less than two miles, is a major challenge throughout Northern Ireland. The RDS acknowledges that adverse impacts on health from poor air quality are particularly likely to occur in the BMA and other large urban areas where levels of congestion are greatest. For these reasons, the majority of measures promoting walking and cycling will be contained within the BMTP and SRTP. There are also appropriate ranges of measures that will be implemented along the RSTN and these are detailed below.

3.1.3 The provision of walking and cycling schemes is led by DRD Roads Service through its Local Transport and Safety Measures (LTSM) programme. The LTSM programme of works is prepared annually and implemented by each of the four Roads Service Divisions. The annual programme is developed from a number of sources, with many of the specific walking and cycling schemes identified on the basis of requests from local councils/interest groups for improvements.

3.2 Traffic Calming

3.2.1 The objective of a traffic calming scheme is to improve driver behaviour and reduce traffic speed in order to make the environment safer for both pedestrians and cyclists. As such, traffic calming schemes are normally provided in urban or residential areas rather than on the RSTN.

3.2.2 However, gateway features (signs and road markings used to identify an area requiring lower speeds, eg, on the approach to towns and villages) together with other traffic calming features, have been shown to be effective in achieving reductions in average speeds on the immediate approaches to towns and villages. Therefore, in line with the RTS, it is proposed to provide further gateway features at towns and villages on the RSTN over the Plan

period. Traffic calming measures are also provided through the LTSM programme.

3.3 Making it Easier to Walk

3.3.1 Most journeys involve some walking and, in urban areas walking is an important alternative to the car. The main focus of measures aimed at making it easier to walk will be dealt with in the BMTP and the SRTP.

3.3.2 However, to enhance road safety for pedestrians, to reduce the severance effect of the RSTN, and to improve access to public transport, the following types of measures will be provided where appropriate:

- new footways and improved crossing facilities on the RSTN (controlled pedestrian crossings, refuges, footbridges) where appropriate;
- improved pedestrian facilities at signalised junctions (provision of controlled pedestrian crossing facilities at existing junctions currently without pedestrian stages);
- improved facilities for people with disabilities (provision of dropped kerbs and tactile surfaces at existing uncontrolled crossings and tactile devices at controlled crossings);
- resurfaced footways providing more even surfaces making walking easier;
- strategic footway links to complete networks of walking routes;
- improved footways and crossing facilities linking to both bus and rail services (including signage, new links and street lighting);
- improved waiting facilities at bus stops to encourage the use of bus services; and
- traffic calming measures, such as gateway features, to reduce speed as described in section 3.2.

3.3.3 The Northern Ireland Walking Forum has in conjunction with DRD published a Northern Ireland Walking Action Plan[2]. This addresses design, planning, safety, health, leisure and tourism aspects of walking and forms part of the toolkit for developing programmes of walking measures on the RTSN. One of the underlying principles of this Plan is the concept of 'Access for All', as outlined in Encouraging Walking[3] , which requires that the full

[2]Walking Northern Ireland: An Action Plan, the Northern Ireland Walking Forum in association with the Department for Regional Development, December 2003.

[3]Encouraging Walking: advice to local authorities, DETR, March 2000

range of people who might wish to use new walking infrastructure be borne in mind during the design process including, people using wheelchairs and walking aids, those with sight or hearing impairments, people with prams and push chairs, together with people with widely varying levels of fitness and ability. Examples of the actions include:

- the development of a NI Good Practice Guide for Walking;
- giving more priority to pedestrians;
- improving pedestrian access to public transport;
- meeting the needs of the less mobile and vulnerable people; and
- a review of the siting of bus stops.

3.4 Making it Easier to Cycle

3.4.1 Cycling is an ideal form of transport for many people for short journeys and has an acknowledged role to play in the overall transport system.

3.4.2 In many cases it will be preferable to provide cycling measures away from the RSTN, with its heavy car and lorry volumes, so the main focus of measures aimed at making it easier to cycle will be dealt with in the BMTP and the SRTP. However, where appropriate, the following types of measures will continue to be implemented:

- cycle provision on the RSTN where a specific need has been identified;
- provision of Toucan Crossings at appropriate locations to provide safe crossing facilities for cyclists;
- improvement of access to the National Cycle Network[4] from the RSTN (signage from rail stations/ strategic bus stations to NCN routes)
- improved provision for cyclists in the vicinity of both bus and rail services (signage, cycle lockers, covered parking); and
- provision to carry cycles on trains.

[4]National Cycle Network: The NCN is a comprehensive network of safe and attractive places to cycle throughout the United Kingdom

3.5 Proposed Investment – Walking & Cycling Measures

3.5.1 Table 3.1 presents the levels of funding proposed for walking and cycling over the plan period.

Table 3.1: Proposed Investment - Walking and Cycling

Proposed Investment	RSTN TP 2002 -15
Traffic Calming	£5.9m
Making it Easier to walk	£0.7m
Making it Easier to Cycle	£0.8m
Total	**£7.4m**

Cycling facilities along the A8 Belfast - Larne Road Dualling

4 Public Transport

4.1 Background

4.1.1 The Department for Regional Development (DRD) has overall responsibility for public transport policy and planning in Northern Ireland, whilst the Department of the Environment (DoE) is responsible for the safety and operating standards of road passenger transport providers and licensing of bus routes. Delivery of the majority of public transport services is the responsibility of the Northern Ireland Transport Holding Company (NITHC), a statutory body established by the Transport Act (NI) 1967.

4.1.2 The provision of public transport in Northern Ireland remains regulated in contrast to the widespread privatisation and deregulation of public transport operations in the rest of the United Kingdom. By virtue of this arrangement the principal NITHC bus companies (Citybus and Ulsterbus) operate a comprehensive network, with a number of uneconomic services maintained by cross-subsidisation from profitable services. A limited number of scheduled bus services are provided by private operators. Rail services are operated by the NITHC subsidiary company, Northern Ireland Railways. The NITHC companies operate under the brand name Translink.

4.1.3 In the formulation of the RTS, it was widely acknowledged that Northern Ireland has, for some time, suffered from under-investment in its public transport. Against a background of diminishing passenger numbers, the level and availability of services has been slowly declining, whilst, in recent years, fares have been increasing above the level of inflation. There is clearly a compelling case for a significant increase in investment in public transport.

4.1.4 However, the RTS recognised that the scale of investment required is unlikely to be available from public expenditure alone. It acknowledged that DRD must explore the contribution that the private sector might make in terms of providing some of the funding required, as well as bringing in specialist skills and innovation. To enable this to happen, the RTS identified a need for institutional, administrative, financial and regulatory reform of public transport.

4.1.5 Set against this background the public transport elements set out in section 4.6 and 4.8 of the RSTN TP outline the transport initiatives that will support the objectives of the RTS and contribute towards the achievement of its targets.

4.2 A New Start for Public Transport in Northern Ireland

4.2.1 In September 2002 DRD published for consultation a paper containing proposals for reform under the title of "A New Start for Public Transport in Northern Ireland". These proposals provide scope for introducing greater private sector involvement in the public transport market and the introduction of an independent public transport body. The main focus of the consultation paper is on the regulation of the market for bus and rapid transit services and possible models for involvement of the private sector are suggested. However, it was made clear that DRD was not advocating deregulation but rather a model that retains a publicly owned public transport company with a lead role in a public transport market that is subject to the progressive injection of private sector finance and expertise.

4.2.2 The public consultation elicited replies from a wide variety of organisations and individuals, which can be viewed at www.drdni.gov.uk/transportpolicy/. The majority of respondents broadly supported the "New Start" principles, but felt that much more information was needed on the economic and social implications of the proposals before any action could be taken.

4.2.3 Work is currently underway to examine the efficiency and effectiveness of the existing framework in relation to the operation of the market for bus services.

4.3 Rural Transport

4.3.1 DRD recognises the importance of addressing the very real transport issues facing people living in rural areas, and has, through the Rural Transport Fund[5], worked in partnership with the public and community transport sectors to provide solutions to these needs.

4.3.2 However it is considered that provision of rural transport initiatives fall outside the scope of this Plan and will be addressed by the work currently being carried out by the SRTP in conjunction with the preparation of development plans.

4.4 Concessionary Fares

4.4.1 The Northern Ireland Concessionary Fares Scheme continues to provide assistance towards vulnerable groups in our society. Currently the Scheme offers free travel on all public transport in Northern Ireland to:

[5]Rural Transport Fund: Package of additional funding to increase accessibility and mobility by public transport in Rural Areas.

- men and women aged 65 or over;
- those who are registered blind; and
- those in receipt of a War Disablement Pension.

4.4.2 The Concessionary Fares Scheme was extended from 1 April 2004 to provide half fare travel to four more groups of people with disabilities:

- those in receipt of either mobility component of Disability Living Allowance;
- those who are partially sighted;
- persons with learning disabilities; and
- those who have been refused driving licences on medical grounds.

Half fare travel is also offered to young people in full time education up to the end of the school year in which they become 16.

4.4.3 Concessionary fares expenditure is expected to rise with the introduction of the extension to the scheme. Funding of £18m for all public transport services across Northern Ireland was committed in year 2002/03. Expenditure during the life of the Plan is expected to be in the region of £18m for rail services and £6m for inter-urban stage carriage services which serve the RSTN (These latter two figures are approximate as they are dependent on usage, while in addition the inter-urban stage carriage figure is derived from the overall bus funding figure).

4.4.4 The Concessionary Fares Scheme is not specific to the RSTN, but is a region-wide policy applicable throughout NI. The Department will carry out a review of the Concessionary Fares Scheme within the next 3-5 years. Any proposals arising from this review will be published in a separate document.

4.5 Public Transport Information

4.5.1 An aspiration of the RTS is to encourage a modal shift from the private car to public transport. Important aspects of this strategy include:

- providing waiting passengers with real-time information on bus services;
- integrated ticketing technology, and
- giving buses priority over other traffic where appropriate at signalised junctions.

Providing Passengers with Real-Time Information

4.5.2 Real-time information on bus arrival times will increase the level of confidence of waiting passengers and will assist with making travelling by public transport more appealing.

4.5.3 Roads Service and Translink are jointly funding a contract using global positioning satellite (GPS) technology to provide real-time information at selected bus stops. The initial phase of the project has been implemented on the Centrelink service in Belfast and the City Express route that serves Newtownabbey. Further consideration will also be given to extending real-time passenger information to inter-urban bus and coach services. A system has also been installed to provide Translink with dynamic fleet management of bus services.

4.5.4 The Department takes seriously its obligation to ensure that information is accessible and this issue will be considered in depth during the design, development and implementation of relevant initiatives. Given the rapid progress of technology in this area, the Department is committed to using the most suitable information services available at the time.

4.5.5 In May 2002 Translink opened a new purpose built Call Centre in Belfast at a cost of £250,000. Operating from 0700-2200 hrs, 364 days a year, the Call Centre provides integrated timetable information on all bus and rail services to the public. Investment of a further £88,000 in new journey planning software was completed in June 2002. It has resulted in increased efficiency of the service (call centre staff now handle up to 100,000 telephone calls each month with customer queries being fully dealt with within 55 seconds, on average) and ensures that the information provided through the Call Centre, website and printed timetables remains consistent.

Integrated Ticketing Technology

4.5.6 Implementation of certain elements of the Plan will involve the use of new and developing technology. One aspect of this is the use of SMART Cards (Self Monitoring Analysis and Reporting Technology) as part of the continuing roll-out of Translink Integrated Fares and Ticketing project so that public transport interchange can be better facilitated and boarding times can be reduced.

4.5.7 The Translink Integrated Fares and Ticketing Project was approved in autumn 2000 with objectives to:

- replace the obsolete bus & train ticketing system;

- improve concessionary fare information by delivering more accurate recording of numbers and values of journeys;
- provide route revenue information, leading to improved route profitability by service and route;
- increase product flexibility & system functionality, enabling faster introduction of marketing and fare initiatives;
- introduce integrated ticketing opportunities across transport modes with reduced boarding times; and
- reduce fare evasion.

4.5.8 To date 1570 Electronic Ticketing Machines (ETM) have been installed in all Citybus & Ulsterbus vehicles, with 200 compatible Hand Held devices (HHDs) in operation on the NI Railways network. In addition, 150 Point of Sale (POS) machines have been installed at stations & depots across the combined bus & train Translink network.

4.5.9 Electronic ticketing on Citybus services went live in October 2001, Ulsterbus services in April 2002 and NI Railways followed in March 2003. In addition to the introduction of paper tickets during that period, three smart cards products were launched:

- Senior Citizen;
- Citybus Multi-journey; and
- Citybus Travel cards.

4.5.10 Over 200,000 smartcards are now in regular daily usage and commercial fares have shown a 20% movement from cash to smartcard usage over the period October 2002 to January 2004.

4.5.11 A range of new commercial product offerings will be rolled out over the next two years across Ulsterbus and NI Railways, to bring additional flexibility of integrated travel. Ticket Vending Machines will be introduced in 2004 – 2005 in selected stations and depots to enable 'queue busting' off-bus & off-train ticketing.

4.5.12 Monitoring and analyses of passenger movements has permitted demographic travel patterns to be determined, thus enabling network planning and development responsive to passenger needs.

4.6 Bus Measures

Inter-urban Service Enhancements

4.6.1 Bus services on the KTCs comprise a number of different types of operation. Most are licensed as stage carriage services (usually

with stopping points less than 30 miles apart). Translink holds the licences to operate the majority of these services under its Goldline brand. A few inter-urban bus and coach services are provided by private coach operators, in competition with the Translink Goldline services. These are licensed as express services, with stopping points at least 30 miles apart. Normally no more than two competing operators are permitted.

4.6.2 Since the publication of the RTS, DRD has published for consultation, its proposals for A New Start for Public Transport in Northern Ireland. In the light of this review, the RSTN TP recognises the contribution that private operators of express services could make in improving coach services on the KTCs. Subsequently what has previously been referred to as the Goldliner network will now be referred to as the inter-urban bus and coach network, and will include services operated by the private sector.

4.6.3 The RTS recognised the importance of improving coach frequency on the inter-urban bus and coach network and set the following objective:

"Provide hourly Goldline services on those KTCs which do not have rail services."

4.6.4 Significant progress has already been made in achieving this RTS objective. Translink completed a review of its Goldline network in April 2004. Additional vehicles have enhanced service frequencies on main corridors to hourly or better.

4.6.5 The Western Corridor between Omagh and Londonderry is now the only section of KTC currently not meeting the RTS target. Proposals by Translink and private operators include further enhancements to inter-urban bus and coach services on the KTCs including the Western Corridor. In addition it is proposed to introduce hourly clock-face[6] timetables on the link corridors, as well as interworking[7] on the Belfast to Newtownards and Belfast to Downpatrick routes. It is also proposed to introduce an off-peak service to link Dungannon, Moy, Armagh, Markethill and Newry with connections at Dungannon for Enniskillen and Omagh.

4.6.6 During the plan period, DRD will conduct a review of the inter-urban bus and coach network to determine the level of investment necessary to maintain hourly services on those KTCs without a rail service. DRD will then decide on the best method of providing this investment, recognising the contribution that private express

[6]HOURLY CLOCK-FACE - departure times are the same every hour eg 8:20; 9:20; 10:20; 11:20 etc

[7]INTERWORKING - continuity of services, ensuring passengers are not required to transfer buses at intermediate points on their journey


Goldliner
Translink

operators could make in improving coach services on the KTCs in the future.

4.6.7 In addition, expenditure to improve the highway elements of the RSTN will significantly benefit coach services operating on the inter-urban bus and coach network helping ensure predictable and efficient journey times for passengers.

New Buses and Accessibility

4.6.8 The RTS recognised the importance of providing for the transport needs of people with disabilities, who in Northern Ireland make up a significantly higher proportion of the population than elsewhere in the UK. Policies were to be identified within the transport plans that would specifically benefit them and promote their social inclusion. In terms of travel on the RSTN, this has been translated into the provision of accessible public transport vehicles and the necessary infrastructure to allow access to them. These measures should also benefit older people, and those with dependents.

4.6.9 It is recognised that consistency of service standards will be fundamental to the ultimate success of the proposed investment in inter-urban bus and coach services in general and this is particularly the case regarding accessibility. In other words if an outward journey is on an accessible vehicle, the same standards of accessibility must be available on the return journey (This must also be addressed in the roll out of accessible services).

4.6.10 To assist in achieving its target of comfort and accessibility, the RTS includes a bus grants programme to help Translink purchase new accessible vehicles and achieve high standards of comfort and accessibility across its stage carriage fleet. The programme also aims to reduce the average vehicle age of Translink buses and coaches operating services on the RSTN (RTS target states 'Average age of no more than 8 years –in addition no bus older than 18 years or coach older than 12 years). The components of the RTS bus grants programme include 190 new vehicles, which were ordered in January 2003 at a cost of £22.6m and £64.4m of grant aid to assist Translink to purchase further new vehicles over the period 2004/05 – 2007/08. A proportion of these new vehicles will provide services on the RSTN. Bus purchase grants are not available to private operators. The Department will encourage private operators providing services on the RSTN to introduce fully accessible vehicles on those services by the end of the Plan period.

4.6.11 The RTS target is that 100% of the Translink fleet, including inter-urban bus and coach services, will be accessible by 2012. At present, there is little collective industry experience on operating coaches

that are accessible for wheelchairs. Options for the provision of suitable vehicles are expected to become available as the industry throughout the UK moves to comply with the Public Service Vehicles Accessibility Regulations. The RSTN TP proposes therefore that all inter-urban bus and coach services should be accessible by 2015. This complies with the Public Service Vehicle Accessibility Regulations which require all scheduled bus and coach services to be fully accessible by 2017 and 2022 respectively.

4.6.12 The development of accessible inter-urban bus and coach services will involve providing supporting infrastructure either at existing bus stations or at key entry points and interchanges on the network. The proposals for infrastructure upgrades are shown in tables 4.1 to 4.3. Though much of this work will be funded from sources other than the investment identified for bus measures on the RSTN, it is shown here to indicate that the upgrades necessary to support the proposed bus initiatives are receiving consideration.

Bangor Bus and Rail Centre

New and Improved Bus Stations and Bus Stops

4.6.13 The RTS identified funding to refurbish and improve access to bus stations in Other Urban Areas (covered by the SRTP). However, it is envisaged that these improvements will be taken forward in parallel with the introduction of increases in inter-urban bus and coach services. For this reason proposals for improved facilities currently under active consideration at a number of bus stations (including Park and Ride facilities) are included in the RSTN TP and are presented in Table 4.1. The proposals will be examined and decided within the context of respective local development plans, prepared by DoE Planning Service, and the SRTP.

4.6.14 In addition to improvements at existing bus stations new or enhanced passenger interchanges are also likely to be provided at principal nodes[8] on the RSTN. These sites will feature improved passenger waiting facilities (bus shelters, hard standing, timetable information) and at a number of locations will be sited within existing or proposed park and share sites ensuring adequate set down/parking facilities. It is envisaged that some sites will also include real-time Information services for connecting inter-urban bus and coach services. New or enhanced passenger interchanges are presented in Table 4.2.

4.6.15 It is also proposed to provide accessible docking points[9] at up to 12 locations along the inter-urban bus and coach network to facilitate fully accessible buses. These are shown in Table 4.3.

Newry Bus Centre

[8]Principal nodes represent key intersections along the RSTN between the KTCs, Link Corridors and trunk roads

[9]Accessible docking points – appropriately designed bus stops which allow accessible coaches to be boarded by passengers with wheelchairs

4.6.16 All bus infrastructure improvements proposed (including Park & Ride facilities) will be designed to be compliant with DDA requirements. For more information on accessibility and public transport initiatives see Annex B4.2.2 at the end of this document. Proposed bus infrastructure improvements are illustrated in Figure 4.1.

4.6.17 The BMTP identifies a number of local bus based or rapid transit based Park & Ride sites serving the BMA that are mutually complementary to the Park & Ride sites under consideration in the RSTN TP.

Table 4.1 Improved Facilities at Bus Stations on RSTN

	New or enhanced bus stations		Provision of dedicated Park and Ride facilities at existing bus stations
1	Antrim	1	Armagh
2	Banbridge	2	Coleraine
3	Downpatrick*	3	Enniskillen
4	Lurgan	4	Larne
5	Portadown	5	Londonderry
6	Portrush	6	Newry
7	Strabane	7	Omagh

*Currently under construction - November 2004

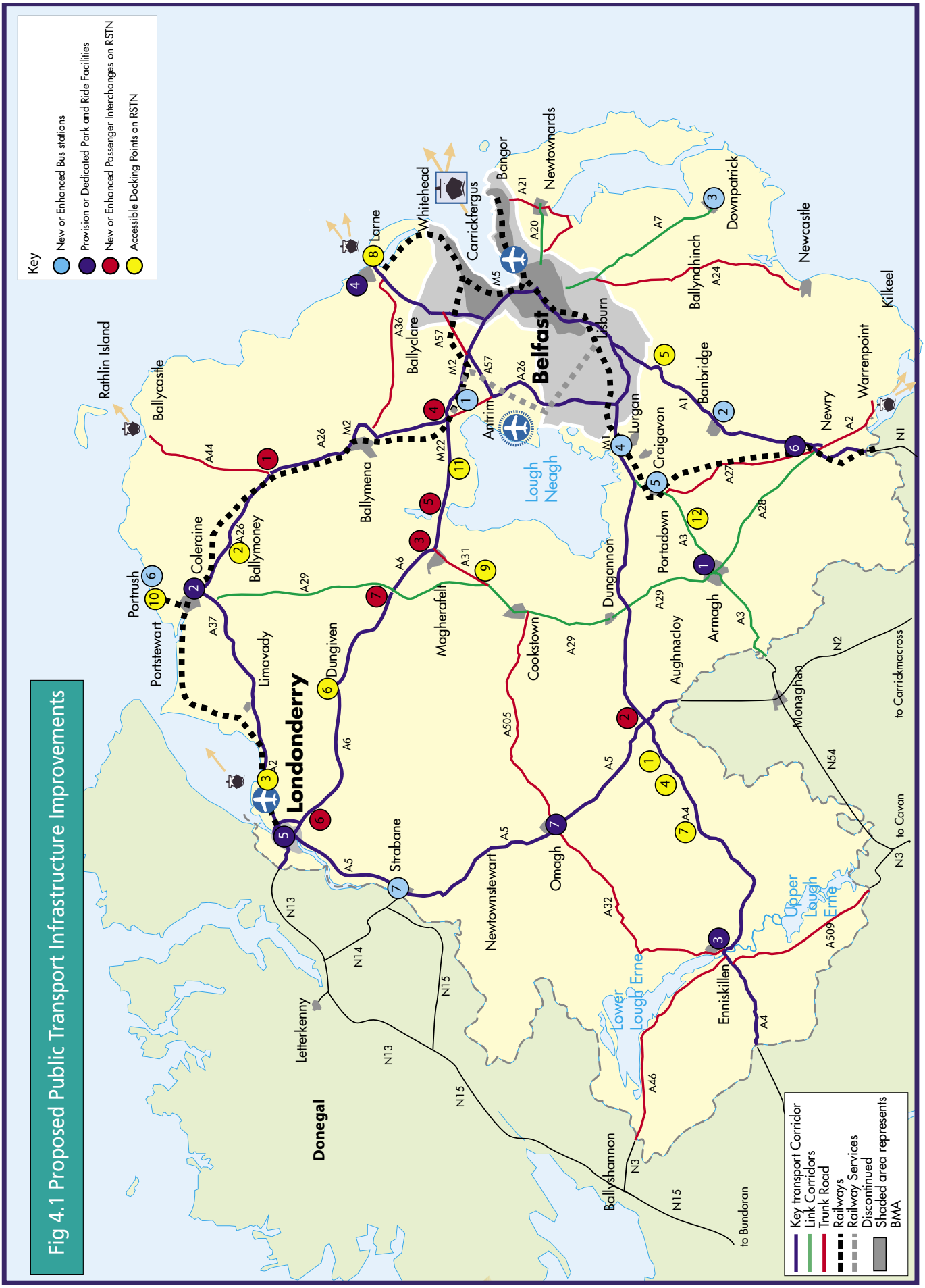
Table 4.2: New or Enhanced Passenger Interchanges on the RSTN

1	A26/ A44 - Ballycastle Road Intersection
2	A5/ A4 - Ballygawley Roundabout
3	A6/ A31 - Castledawson Roundabout
4	M22/ A26 - Dunsilly Intersection
5	A6 - Toome Bypass
6	A6 at Altnagelvin/Drumahoe
7	A6 at Maghera Flyover/Craigadick *

* New or enhanced Park and Share sites with inter-urban bus and coach services

Table 4.3 Accessible Docking Points on the RSTN

1	Augher	7	Fivemiletown
2	Ballymoney (edge of town)	8	Larne Harbour
3	City of Derry Airport	9	Moneymore
4	Clogher	10	Portstewart
5	Dromore, Co. Down	11	Randalstown
6	Dungiven	12	Richhill


Key
New or Enhanced Bus stations
Provision or Dedicated Park and Ride Facilities
New or Enhanced Passenger Interchanges on RSTN
Accessible Docking Points on RSTN
Fig 4.1 Proposed Public Transport Infrastructure Improvements
Key transport Corridor
Link Corridors
Trunk Road
Railways
Railway Services Discontinued
Shaded area represents BMA
Belfast
Londonderry
Donegal
Rathlin Island
Ballycastle
Portrush
Portstewart
Coleraine
Ballymoney
Limavady
Dungiven
Ballymena
Magherafelt
Ballyclare
Larne
Whitehead
Carrickfergus
Bangor
Newtownards
Antrim
Lough Neagh
Lisburn
Lurgan
Craigavon
Banbridge
Newry
Warrenpoint
Kilkeel
Ballynahinch
Downpatrick
Newcastle
Dungannon
Cookstown
Portadown
Armagh
Aughnacloy
Monaghan
to Carrickmacross
to Cavan
Strabane
Omagh
Newtownstewart
Letterkenny
Enniskillen
Upper Lough Erne
Lower Lough Erne
Ballyshannon
to Bundoran
A1
A2
A3
A4
A5
A6
A20
A21
A24
A26
A27
A28
A29
A31
A32
A36
A37
A44
A46
A57
A505
A509
M1
M2
M5
M22
N1
N2
N3
N13
N14
N15
N54

Bus Priority

4.6.18 On the M1 corridor between Stockman's Lane (Junction 2) and Broadway (Junction1) the existing inbound shared use hardshoulder/bus lane will be retained as part of the widening of the motorway from 2 to 3 lanes and the grade separation of the Broadway junction. From the Broadway junction the existing northbound bus lane and signal controlled bus exit at Roden Street will be replaced by a new bus-only link running along the eastern edge of Westlink to Roden Street. This will enable northbound buses to access the existing bus-only link into the Europa Bus Station. No additional bus priority measures are proposed in the southbound direction.

4.6.19 On the M2 at Sandyknowes junction a 1.3km shared use hard shoulder/bus lane was opened in October 2004. The facility starts on the citybound on-slip at the Sandyknowes roundabout and allows buses to bypass traffic queues at the Sandyknowes junction with the M2 motorway during the morning peak.

4.6.20 A shared use hard shoulder/bus lane is proposed on the M2 in the inbound direction between Fortwilliam interchange and Duncrue street, where existing bus priority measures provide a direct route into the city centre

Fuel Duty Rebate

4.6.21 Fuel Duty Rebate (FDR) is a grant which rebates a proportion of the duty paid by bus operators on fuel used in providing approved stage carriage services. It is a general subsidy towards the costs of maintaining the stage carriage network. Continued use of the FDR is assumed in the funding levels of the RSTN TP.

4.7 Proposed Investment – Bus Measures

4.7.1 Table 4.4 presents the levels of funding envisaged across the Plan period for measures to maintain and improve bus services on the RSTN. For comparative purposes, the proposed measures are aligned under the investment headings used in the RTS. Only a proportion of the total regional investment in bus services is allocated to the Plan measures.

Table 4.4: Proposed Investment - Bus	
Proposed Measure	**RSTN TP Funding 2002 - 15**
Bus Grant Programme	£24.8m
Concessionary Fares	£6.2m
Fuel Duty Rebate	£18.4m
Other NITHCO costs	£1.8m
Enhanced Facilities for Buses	£0.4m
Inter-Urban service enhancement	£10.0m
Public Transport Information	£5.5m
Refurbishment of bus stations (OUA)*	£9.6m
Access improvements at bus stations (OUA)*	£4.7m
Total:	**£81.4m**
* Other Urban Areas	

4.8 Rail Measures

Revitalising Northern Ireland's Railways

4.8.1 Following years of under-investment in railways infrastructure, significant progress has already been achieved in improving the regional rail network. The report of the Railways Task Force (RTF) in 2000 paved the way for a programme of investment in replacement rolling stock and the maintenance of the most heavily used parts of the rail network. The RTF Consolidation option has provided the basis for further railways investment under the RTS. Its main elements were:

- the purchase of 23 new train sets;
- the relay of the Belfast to Bangor line;
- reconstruction of the section of the Belfast to Larne line between Bleach Green and Whitehead; and
- implementation of a Train Protection Warning System.

4.8.2 Translink have already received 10 of the 23 new trains, the first of which entered passenger service on 24 November 2004. All 23 new trains will be in service by July 2005. These 3 car Diesel Multiple Units (DMUs) which are currently in production with suppliers CAF in Spain will replace 70% of the fleet. The new trains are fully compliant with the Rail Vehicle Accessibility Regulations (NI) 2001. When this new rolling stock is commissioned and assimilated into the timetable, during 2004 and 2005, increased patronage as well as improved levels of customer satisfaction are anticipated.

4.8.3 Furthermore, the additional £40.6m allocated in the December 2002 Budget for railway upgrades to the more heavily used parts of the rail network, will enable Translink to build upon the solid

progress already made. The relay of the Belfast to Bangor line was completed in June 2002. Translink will proceed with a programme of railway infrastructure improvements including the relay of Bleach Green to Whitehead line, to begin in Spring 2005, and other essential safety investments previously identified in the A.D. Little Report entitled "Strategic Safety Review for Northern Ireland Railways March 2000". This programme of work will also include the ongoing work to install enhanced train protection systems across the rail network. The Department is currently considering the Economic Appraisal for this project.

4.8.4 Under the Consolidation option, the line between Antrim and Knockmore junction has been closed to regular service. It is being maintained to a standard to enable it to be used for emergency diversionary purposes. Translink is currently reviewing the level of bus services between Antrim and Lisburn in order to determine the most satisfactory and practicable service.

4.8.5 It is acknowledged that whilst retention and maintenance of the less heavily used parts of the rail network (i.e. those elements beyond the RTF Consolidation option) in the KTCs north and north-west of Ballymena and north of Whitehead is a stated objective of the RTS, it is subject to successful results from the investment in new trains and improved infrastructure on the more heavily used parts of the rail network.

4.8.6 Due to the immediate need for significant safety-related investment, the Minister for Regional Development initiated in 2003 a review of these services by a group comprising DRD officials and senior management within Translink (the Railways Review Group).

4.8.7 The Railways Review Group carried out its task within the strategic framework of the consolidation option from the Railways Task Force interim report as developed by the RTS, collecting and analysing data relating to the infrastructure development needs of the railway network.

4.8.8 The report of the RRG was published for consultation in May 2004. It put forward options for investment to support services on the lesser used lines and formed the basis for decisions on railways spending against the backdrop of competing priorities in the Northern Ireland Spending Review process. The RTS had previously identified that retention of the less heavily used parts of the rail network would require additional expenditure of £85.8m up to 2012 on the maintenance of the permanent way and bridges, as well as upgrading signalling and level crossings etc. and the

provision of several additional new trains. The budget announced in December 2004 provides sufficient funding over the period 2005/06 – 2007/08 for the development of the most frequently used part of the Northern Ireland railway network as well as to take forward Option 2 of the RRG report. This option is consistent with maintaining the condition of the lesser-used lines so as to avoid deterioration in existing service levels. This is an improvement on Option 1, which anticipated further speed restrictions, and service deterioration on the lesser-used lines.

Optimising the Existing Capital Investment

4.8.9 Translink has recognised that a fundamental review of all aspects of customer services is required to optimise the opportunity presented by the introduction of the new rolling stock. Depending on the results of public consultation and other research, it is likely that future rail timetables will be clock-face operations and based round a hub and spoke arrangement (i.e. Bangor, Portadown and Larne line services will be centred on Great Victoria Street whilst Cross Border and Londonderry services will be centred on Central station).

4.8.10 Through these specific service enhancements and further improvements such as better passenger information and new signalling and ticketing technology, Translink now expect that they will be able to both retain and attract new train passengers through the complementary initiatives described below, that are primarily aimed at:

- improving accessibility to rail services; and
- promoting integration within and between different modes of transport.

4.8.11 Experience from elsewhere indicates that where train capacity exists, rail-based Park & Ride sites are most suitable for attracting commuters when they are serviced by limited stop trains and they are located at the edge of conurbations or at strategic locations for long distance travel. Existing halts and stations are often seen as the solution, as they usually offer the best compromise of service capacity and minimum traffic and environmental impact. Proposals are shown in Table 4.5, but further investigation will be required to determine the optimum location and scale of provision at certain points on the network. Special attention will be paid to design features such as level or graded access, short transfer distances, security and comfort.


3002

4.8.12 The initial focus will be on the Bangor and Portadown lines providing direct access onto Cross Border services. Measures to improve access to all halts and stations by enhancing walking and cycling routes and facilities for 'set-down' as well as onward travel by either bus or taxi are also being considered.

Looking Ahead

4.8.13 Within the Belfast Metropolitan Area (BMA) service frequency increases and new or relocated halts/stations proposed in the Plan period are identified in the BMTP. The envisaged enhancements required to operate the recommended future timetable may require additional resources in terms of availability of rolling stock and removal of identified network constraints such as single track working, permanent/ temporary speed restrictions and signalling. That in turn will have implications for the funding of the development and maintenance of the network.

4.8.14 Translink have commissioned research studies to assist with both the specification and implementation of this upgraded rail service and support the development of the Enterprise service in terms of additional capacity, more frequent services and changes to the existing stopping pattern. These research projects will also consider factors that can influence the efficiency of the rail network e.g. the requirement to replace the remainder of the rolling stock (i.e. the 9 no. Castle / 450 Class sets currently in service), the necessity for further improvements to the quality of stations and track around the network, the identification of further opportunities for greater service integration, fares and promotion initiatives.

4.8.15 Any work that might be carried out to enhance the network by either further new train capacity or expansion to bring back services to the Antrim / Knockmore line, with or without the introduction of an innovative circular route configuration on the Belfast – Bleach Green – Antrim – Lisburn – Belfast with connections to Belfast International Airport, is considered to be outside the Plan period.

Proposed Rail Initiatives – infrastructure

4.8.16 A new 'Parkway'[10] station located in or near Templepatrick is proposed. The strategic location of this site adjacent to the M2 provides a unique opportunity to maximise Park & Ride on this Key corridor. Land is being purchased at the preferred Ballymartin site. The implementation of this proposal will ultimately be subject to the satisfactory conclusions of an "Extended Park & Ride

[10]A Parkway station is predominantly served by Park & Ride. In general it is not situated within an urban area.

Study" by Consultants Arups, detailed economic appraisal, funding availability and other statutory processes. It is compatible with the plans and proposals contained within the BMTP (see 4.8.26).

4.8.17 Just over £9m was proposed in the RTS for access improvements and refurbishment at rail stations outside the BMA. Apart from the Parkway station, a number of proposals are being considered including a new station at Newry and a refurbishment of the existing station at Portadown.

4.8.18 Park and Ride opportunities will be considered on their merits during the Plan period. Table 4.5 presents the scale and location of provision currently under consideration. Smaller scale provision will also be considered at other stations.

Table 4.5: Estimated provision of additional dedicated Park and Ride Spaces

Location	Number of Spaces
Bangor	120
Ballymena*	150
Carrickfergus	100
Greenisland	60
Holywood	13
Lisburn / Lisburn West	197
Lurgan	50
Moira	98
Newry	170-290
Portadown	300
Trooperslane	20
Whitehead	21

* Facility opened December 2004

Rolling Stock

4.8.19 The 23 new trains currently on order from CAF represent a major investment towards providing a modern, high quality rail service for Northern Ireland.

4.8.20 The RTS contains proposals to replace existing Castle Class 450 trains, to provide additional rolling stock to enhance service frequencies on routes within the BMA and elsewhere on the network and to improve the Enterprise service. These remain measures included within the Plan period.

Accessibility for People with Disabilities

4.8.21 The new trains comply with the Rail Vehicle Accessibility Regulations (NI) 2001. The regulations are intended to ensure that people with disabilities can get on and off vehicles in safety and without unreasonable difficulty and, in the case of wheelchair users, to do so whilst remaining in their wheelchairs. Translink's new trains will ensure that people with disabilities are carried in safety and reasonable comfort. Features include onboard ramps to facilitate access to the trains, a dedicated wheelchair user area and a wheelchair accessible toilet. Careful consideration will have to be given to the roll-out of services delivered by the new trains to ensure consistency of service standards and therefore confidence among users, especially those with disabilities.

4.8.22 All rail infrastructure improvements proposed (including Park & Ride facilities) will be designed to be compliant with DDA requirements. For more information on accessibility and public transport initiatives see Annex B4.2.2 at the end of this document.

Proposed Rail Initiatives – Belfast Metropolitan Transport Plan

4.8.23 As indicated in section 1.6.6, proposals for the rail network within the BMA are presented and costed in the BMTP. These are summarised below.

4.8.24 Currently the rail network within the BMA carries around five million passengers per annum, which represents approximately 75% of total rail patronage in Northern Ireland (excluding the cross border Belfast – Dublin Enterprise service). The BMA network comprises routes between:

- Belfast and Bangor;
- Belfast and Lisburn, with services on to Portadown and Newry;
- Belfast and Carrickfergus, with services on to Whitehead and Larne; and
- Belfast and Antrim and the north-west of Northern Ireland via the Bleach Green Line, opened in 2001 replacing the now closed Belfast-Antrim route via Lisburn and Crumlin.

4.8.25 The necessary improvements to the rail network identified within the BMTP comprise:

- improving access to and facilities at rail stations;
- increasing service frequencies by up to 50%; and
- providing new or relocated stations.

Improving Access to and Facilities at Rail Stations

4.8.26 The BMTP proposes a number of initiatives aimed at improving links by other modes of transport to and from the rail network. These comprise:

- improving pedestrian and cycle access to stations ;
- establishing Park and Ride with high quality facilities at a number of key stations in each of the rail corridors;
- where possible formalising and expanding parking provision and pickup/set down facilities at other stations;
- improving the linkage with other public transport modes by:
  - increasing opportunities to make bus-rail interchange trips around Belfast City Centre by enhancing the frequency and quality of buses;
  - improving linkages between local bus networks and rail at Carrickfergus and Lisburn stations;
  - the continued roll-out of integrated ticketing across the BMA's public transport network;
  - promoting the establishment of rural bus networks that link to the rail network at key stations;
  - providing new or improved taxi ranks at major stations;
- providing real-time information at stations and improved travel information across the public transport network in the BMA.

Increasing Service Frequencies

4.8.27 The BMTP proposes to increase both peak and off-peak frequencies on all routes within the BMA. Frequency increases of up to 50% by 2015 are proposed, with the emphasis given to providing more express services. Primarily these increases will be achieved without the provision of new track and signalling capacity. Delivery of frequency improvements will require eight new additional trains over and above those currently on order.

Providing New or Re-located Stations

4.8.28 A number of locations have been identified where new stations, or relocation of existing stations will be provided. These include:

- West Lisburn – A new rail station with high quality park and ride facility is proposed replacing the existing station at Knockmore;
- Jordanstown – The BMTP proposes the re-location of the existing Jordanstown station to a site east of its current location; and

- City Airport/Tillysburn – The BMTP proposes a new station located to the east of the Belfast City Airport.

The total cost of implementing the BMTP proposals outlined above is estimated at £60.5m

4.9 Proposed Investment – Rail Measures

4.9.1 It is assumed that the requirement for Public Service Obligation (PSO) funding will continue. In 2003/04, the level of deficit funding provided to maintain the current level of services on the rail network was £18.7m. More information on concessionary fares can be found earlier in this chapter.

4.9.2 Table 4.6 presents the levels of funding envisaged across the Plan period for rail measures on the entire regional network. The figures include the investment to implement the BMTP proposals.

Table 4.6: Proposed Investment - Rail

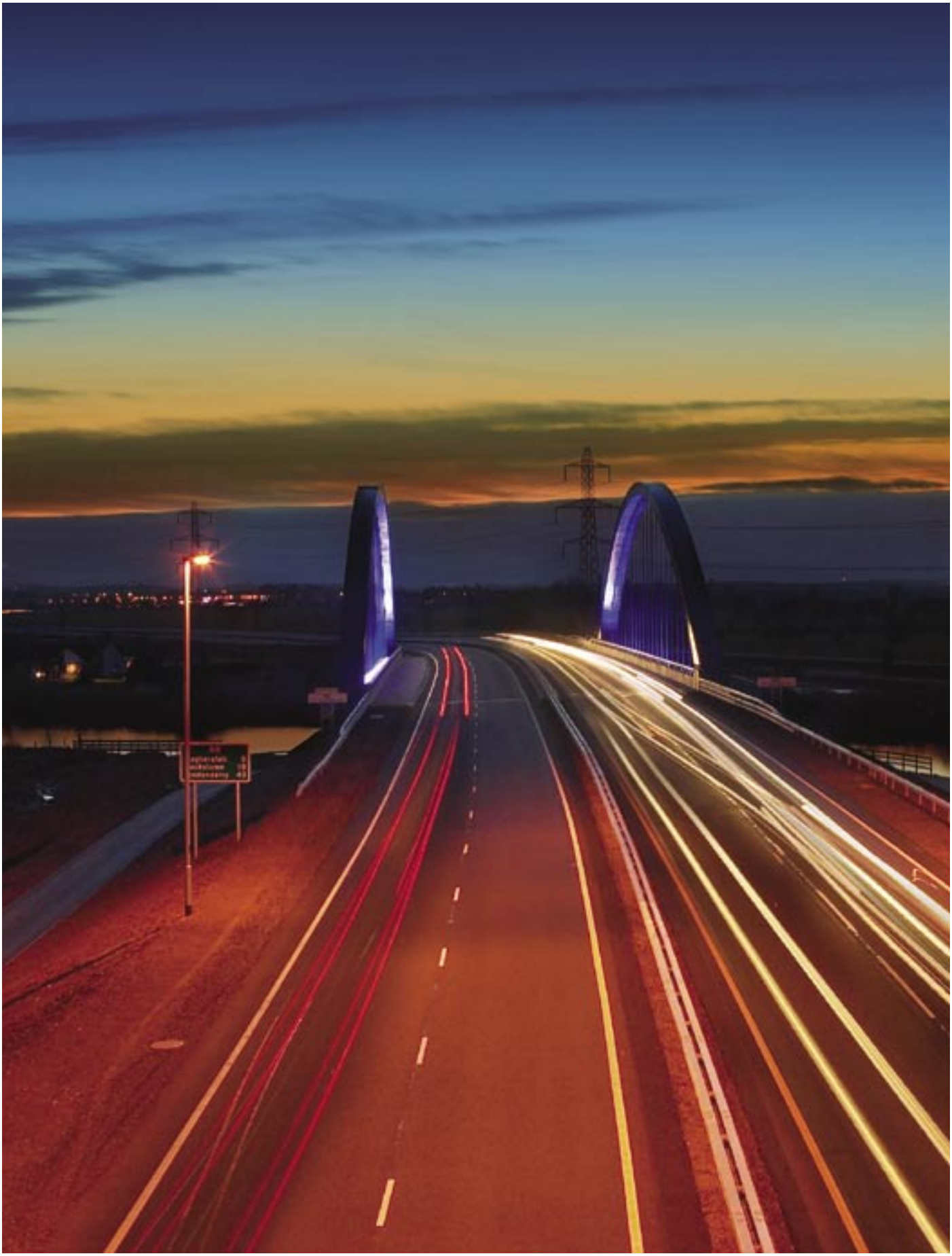
Proposed Measure	RSTN TP Funding 2002 - 15
Public Service Obligation	£275.0m
Concessionary Fares	£25.4m
Infrastructure Maintenance	£38.1m
Rolling Maintenance	£53.1m
Other NITHC Costs*	£5.5m
Railway Task Force Consolidation	£129.0m
Replacement of Castle Class Rolling Stock	£11.4m
Retain Existing Rail Network (as approved by RRG); Provide new Trains	£26.6m
Enhance Rail Capacity	£24.4m
Additional Enterprise Services	£5.0m
Rail Station Improvements (BMA) **	£9.5m
Rail Station Improvements (OUA)***	£13.4m
Other Railway Capital****	£87.8m
Total:	**£704.2m**

* Other costs incurred by NITHC including superannuation costs for which the Department is responsible

** Belfast Metropolitan Area

*** Other Urban Areas

**** Additional capital expenditure to reflect the expanded baselines in Budget 2004 for infrastructure needs.



Toome Bypass

5 Highways

5.1 Strategic Road Improvements

5.1.1 Strategic Road Improvements (SRIs) are major projects where the scheme cost is estimated to exceed £1.0m. The RTS recognised the key role that SRIs will play in delivering a modern, safe and sustainable transport system for Northern Ireland. It envisaged significantly increased investment in SRIs, focussed on removing bottlenecks on the RSTN and the key routes in the BMA (on other routes, the RTS identified only a very limited investment on SRIs). The main objectives of SRIs are to remove bottlenecks on the key network where lack of capacity is causing serious congestion, and to improve the environment by providing bypasses to towns situated on the RSTN, relieving the effects of heavy through traffic.

5.1.2 The provision of SRIs ensures a better and more uniform level of services for a range of road users including freight, public transport, taxis and private vehicles.

5.1.3 Roads Service manages the delivery of SRIs through the following programmes:

- **Construction Programme** - Schemes already under construction.
- **Preparation Pool** - High priority schemes that Roads Service is committed to progressing through the statutory procedures of Environmental Appraisal, Direction Order (equivalent to planning approval) and Land Vesting. Preparation Pool schemes are expected to be implemented within the next 5 years or so (subject to clearing the statutory procedures, having a satisfactory economic appraisal and the availability of funds at the time).
- **Forward Planning Schedule** - Schemes that perform well when assessed at feasibility stage using the 5 national criteria and which are expected to be implemented within the next 10 years or so (subject to clearing the statutory procedures, having a satisfactory economic appraisal and the availability of funds at the time). There are currently no schemes in the Forward Planning Schedule (FPS). One of the key outputs of the RSTN TP (and the BMTP) is to identify the schemes to be included in the FPS, subject to affordability within the RTS guidelines.
- **Long Term Planning Schedule** – The Long Term Planning Schedule is a list of Strategic Road Improvement schemes, which are not expected to be started within the next 10 years* but have a strategic benefit. These schemes will be included in various Area Plans and have land protected to ensure they can

be built in the future.

* As such these schemes are considered to be outside the period of the RSTN TP 2015.

5.1.4 A significant appraisal exercise has been undertaken to consider which SRIs should be included in the RSTN TP in addition to those RSTN schemes already in the Construction Programme and Preparation Pool.

Methodology

5.1.5 To consider which SRI schemes should be included in the Plan, an appraisal methodology was adopted using national transportation principles.

5.1.6 The Government White Paper **"A New Deal for Transport: Better for Everyone"** was published by the then DETR in 1998. **"The New Approach to Appraisal"**, also published by DETR set out how the Government's five key criteria of environment, safety, economy, accessibility and integration should be considered in the context of highway schemes. Later, this was developed into **"Guidance on the Methodology for Multi-Modal Studies (GOMMMS)"**, DETR March 2000, which allowed all transport modes to be considered.

5.1.7 DETR then produced a bridging document **"Applying the Multi-modal New Approach to Appraisal to Highway Schemes"** March 2001. This document provides the link between the detailed advice on appraisal methods set out in the Design Manual for Roads and Bridges (DMRB) and GOMMMS. The bridging document formed the basis of the methodology used in carrying out the appraisal of schemes being considered for inclusion in the RSTN TP.

Consultation and Appraisal

5.1.8 Roads Service identified a draft list of SRIs to be appraised for possible inclusion in the Plan. The draft appraisal list comprised parts of the main route network where significant problems were known to exist, together with some schemes where commitments had been given that they would be appraised.

5.1.9 In 2001 Roads Service wrote to elected representatives (MPs, MEPs, MLAs, and District Councils) consulting them about the draft list of SRIs to be appraised. Responses were generally supportive of the draft list. No schemes were suggested for removal, but a number of additional schemes suggested by the elected representatives were added to the list of schemes to be appraised.

5.1.10 Detailed appraisals of the selected SRI schemes were undertaken.

This involved developing preliminary road lines, an initial environmental assessment, an initial economic appraisal and appraisal against the five national criteria described in the previous section.

5.1.11 As required in the GOMMMS guidance, all five criteria were given equal prominence during the appraisal process. An appraisal summary table (AST) was produced for each scheme, setting out the benefits and dis-benefits for each criterion and sub-objective.

5.1.12 The resulting list was included in the Emerging Plan and was the subject of considerable discussion and debate at the Working Conference on 16 September 2003. Following the Conference additional SRI schemes were appraised and included in the proposals set out in section 5.1.16.

Prioritisation

5.1.13 The RSTN TP is required to conform to the appropriate planned expenditure by mode as detailed in the RTS (or present a robust case for any non-compliance). As a result the selection of SRI schemes for inclusion within the Plan has (amongst a number of considerations) focused on confirming the overall value for money of the individual projects to be implemented (subject to detailed economic and other assessments, statutory processes and the availability of resources) whilst remaining within the constraints of RTS funding levels (as extended due to the revised Plan period).

5.1.14 Working within the basic framework of the five criteria and their sub-objectives set out in the ASTs, schemes were prioritised in the light of the following guidelines:

- priority for the KTCs, next the link corridors and then the trunk roads (including the RDS emphasis on Regional Gateways, Cross Border links and freight);
- check that the basic performance of the scheme from the economy and safety points of view was positive, bearing in mind that without a satisfactory cost benefit analysis, the scheme would be unlikely to receive funding; and
- consider the impact of the scheme over all five criteria of environment, economy, safety, integration, and accessibility.

5.1.15 Having drawn up a preliminary programme of SRIs, using the prioritisation principles mentioned above, Roads Service carried out supporting analyses of political acceptability and equity, particularly in relation to issues of distribution across Northern Ireland (see Annex B). Financial issues were then considered, mainly

in terms of the overall availability of funding and the funding profile, together with proposals for Public Private Partnerships (see 5.1.20)

Proposed Schemes

5.1.16 The proposed SRIs included in the RSTN TP are listed in Tables 5.1 – 5.7 (scheme estimates based on 2002 prices) and illustrated in Figure 5.1. These comprise the additional schemes that performed best according to the prioritisation principles and which can be afforded within the RTS funding envelope up to 2015, together with SRIs that were already committed in the Construction Programme and Preparation Pool. To provide compatibility with the RTS, the tables include SRI schemes completed since 2002.

5.1.17 Certain SRIs in the following tables will facilitate private sector development and so will be funded wholly, or in substantial part, by developers.

5.1.18 Schemes shown in bold are additional schemes that were not included in Roads Service SRI programmes prior to the RSTN TP. Most of these are intended to commence in the Forward Planning Schedule, but some are of such a priority that they have been included in the Preparation Pool. There is also a category of SRIs called widened single carriageways that are designed to provide overtaking opportunities. These are dealt with separately in section 5.1.26.

5.1.19 The total value of SRIs proposed in Tables 5.1 – 5.7 is £634.8m. However, the expenditure envisaged on all SRIs during the Plan period is £529.4m. This is because:

- some of the SRIs will commence towards the end of the Plan period but with significant tails of expenditure outside it; and
- the current scheme estimates include for 'optimism bias' and may reduce as the detailed designs are progressed and estimates become firmer.

Table 5.1: SRI Schemes on Eastern Seaboard Corridor	Scheme Estimate £million	Scheme Description	Scheme Progress
A1 Flyover at Rathfriland Road, Banbridge	4.9	Grade separated junction and 0.8km of new through road	Completed
A8 Belfast - Larne Roundabouts	2.2	Two roundabouts (Millbrook and Antiville)	
A8 Belfast - Larne Road Dualling	6.1	2.2km dual carriageway from Doagh Road to Hillhead Road	
M1 Blacks Road – Stockmans Lane Widening*	6.0	Widening of dual 2-lane to 3-lane (2.0km)	
A1 Loughbrickland – Beechill	20.0	Upgrade 9.0km of route to dual carriageway standard	Under Construction
A1 Underpass at Hillsborough Road, Dromore	3.1	Grade separated junction (0.4 km)	
A1 Newry – Dundalk Cross Border Link	31.4	Upgrade 4.3km of route to dual carriageway standard (Northern Ireland section of scheme)	
A8 Ballynure Link Road	2.9	Roundabout at A8/A57 junction with 0.9km link to Carrickfergus Road (includes DAL)	
M1 Westlink (PPP Package 1)*	71.3	Motorway (2.6km)/ dual carriageway (1.4km)/ 2 new grade separated junctions	Preparation Pool
A1 Beechill – Cloghogue (PPP Package 2)	99.2	Upgrade route to dual carriageway standard (12.7 km)	
M2 Sandyknowes/ Widening* (PPP Package 1)	27.4	Widening of motorway southbound from Sandyknowes to Greencastle with junction improvements	
A1 Grade Separated Junctions (PPP Package 2)	15.3	Grade separation for 4 junctions on A1	
* Indicates SRI Schemes that are included in the BMTP as well as the RSTN TP			
Note: Further non-motorway schemes in the BMA are included in the BMTP			

Table 5.2: SRI Schemes on North Western Corridor	Scheme Estimate £million	Scheme Description	Scheme Progress
A6 Toome Bypass	18.2	3.5km dual carriageway bypass	Completed
(A2) Skeoge Link (or equivalent)**	2.9	Link road between Ballyarnet R'bout and the A2 Buncrana Road	Preparation Pool
M2 Crosskennan Slips (PPP Package 1)	2.0	Provision of 2 on-slips onto M2	
A6 M22 – Toome – Castledawson Roundabout	34.0	Upgrade existing route to dual carriageway standard	
A514 Crescent Link	4.4	Completion of Crescent Link to dual carriageway standard (1.9km)	
A2 Buncrana Road**	8.1	Widening from Pennyburn r'about to Skeoge Link section	Forward Planning Schedule
A2 Buncrana Road**	3.7	Widening from Skeoge Link to Border section	
A6 Dungiven Bypass	11.1	3.0 km single carriageway bypass	
** Private Sector Contribution Anticipated			

Table 5.3: SRI Schemes on Northern Corridor	Scheme Estimate £million	Scheme Description	Scheme Progress
A2 Limavady Bypass	11.5	3.6km single carriageway bypass with 1.4km side roads	Completed
A26/ M2 Ballee Road East**	5.8	Construction/ renewal 1.5km dual carriageway, 2 slip roads (0.3km) of 2 lane width and 1 side road (0.5km)	Preparation Pool
A2 Broadbridge Dualling	19.8	Upgrade existing route to dual carriageway standard	
A26 Glarryford - A44 Dualling	21.8	Upgrade existing route to dual carriageway standard	Forward Planning Schedule
** Private Sector Contribution Anticipated			

Table 5.4: SRI Schemes on Western Corridor	Scheme Estimate £million	Scheme Description	Scheme Progress
A5 Newtownstewart Bypass	8.2	2.6km single carriageway bypass	Completed
A5 Strabane Bypass Stage II	4.5	2.6km single carriageway bypass with 1.4km side roads	
A5 Omagh Throughpass III	9.2	2.4km single carriageway throughpass	Under Construction
A5 Tullyvar (PPP Package 2)	5.9	1.8km realignment with climbing lane	Preparation Pool
A5 Strabane Bypass Stage III	2.9	1.0km single carriageway bypass	
A5/ N14 Strabane Bypass - Lifford Link	1.5	Upgrade of link between N14/ N15 in Lifford and A5 in Strabane	Forward Planning Schedule

Table 5.5: SRI Schemes on South Western Corridor	Scheme Estimate £million	Scheme Description	Scheme Progress
A4 Dungannon – Ballygawley PPP Package 2)	97.0	Upgrade existing route to dual carriageway standard	Preparation Pool
A4 Annaghilla, near Augher (PPP Package 2)	9.0	2.6km single carriageway realignment	
A32 Cherrymount Link**	3.6	1.1km single carriageway link road	
A4 Henry Street/Sligo Road	1.1	Provision of additional traffic lane on approach to junction	
** Private Sector Contribution Anticipated			

Table 5.6: SRI Schemes on Link Corridors	Scheme Estimate £million	Scheme Description	Scheme Progress
A29 Carland Bridge	3.8	1.3km single carriageway realignment	Preparation Pool
A3 Armagh North and West**	14.6	3.8km single carriageway link road	
A28 Armagh East**	4.5	1.5 km single carriageway link road	Forward Planning Schedule
A29 Cookstown Eastern Distributor**	10.8	2.8 km single carriageway distributor road	
** Private Sector Contribution Anticipated			

Table 5.7: SRI Schemes on Trunk Road Network	Scheme Estimate £million	Scheme Description	Scheme Progress
A21 Comber Bypass Stage II	4.9	1.6km single carriageway bypass	Completed
A20 Newtownards Frederick Street Link	1.0	0.3km single carriageway link road	Preparation Pool
A24 Ballynahinch Bypass**	10.3	4.1km single carriageway bypass and climbing lanes	Forward Planning Schedule
A31 Magherafelt Bypass**	8.9	3.0km single carriageway bypass	
** Private Sector Contribution Anticipated			

Schemes shown in Bold are additional schemes that were not included in Roads Service SRI programmes prior to the RSTN TP. Scheme estimates are given at 2002 prices to provide consistency with the RTS.

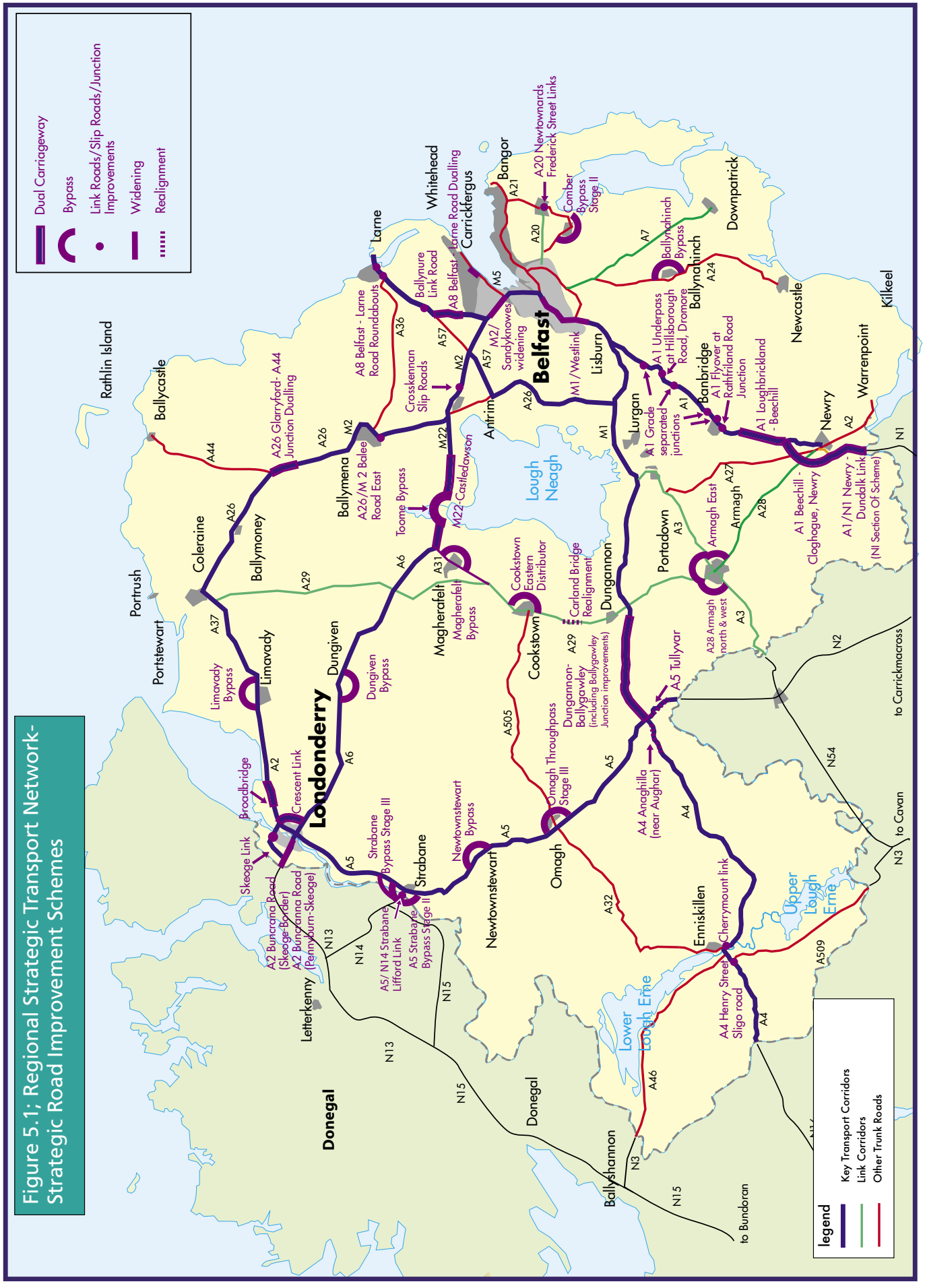


Figure 5.1; Regional Strategic Transport Network- Strategic Road Improvement Schemes

Roads Service DBFO Programme

5.1.20 The RTS envisaged that around £188m of SRIs would be procured using Private Finance. The Government is encouraging the use of Public Private Partnerships (PPPs) to secure the benefits of greater private sector involvement and appropriate transfer of risk.

5.1.21 A scoping study to advise on a strategy to deliver around £200m of SRIs using the Design, Build, Finance and Operate (DBFO) approach was undertaken. It was concluded that it should be viable for Roads Service to take forward a programme of DBFO roads projects including M1 / Westlink and other SRI schemes on the RSTN in support of the Northern Ireland Strategic Investment Programme.

5.1.22 Legal, technical and financial advisers have been appointed to prepare the relevant business cases and assist Roads Service through the procurement process. The list of schemes to be included in the DBFO programme has been finalised with the capital value now estimated at over £350m due to the scope of the schemes considered appropriate for the two packages. The details of these packages were announced by the Minister for Regional Development in January 2004 and the procurement process for package 1 was started.

5.1.23 Package 1, estimated capital value about £105m, is planned to commence on site in 2006 and contains the following schemes:

- Improvements to the M1/Westlink;
- Widening the M2 between Sandyknowes and Greencastle Junctions;
- Provision of on slips from Antrim Area Hospital onto the M2; and
- Operation and maintenance of 60km of motorway for 30 years (including structural maintenance, road condition surveys, maintenance of structures, routine maintenance, emergency response, liaison with public utilities).

5.1.24 Package 2 of the DBFO programme (expected to follow Package 1 by approximately 1 year - estimated capital value about £250m) contains the following schemes:

- Dualling A1 from Beechill to Cloghogue;
- A1 upgrading a further 4 junctions on the existing dual carriageway to flyovers;
- Provision of central median safety fence on sections of the A1;
- Dualling A4 from Dungannon to Ballygawley

- Single carriageway improvements to the A4/A5; and
- Operation and maintenance of 120km of motorway and trunk roads network for 30 years (including structural maintenance, road condition surveys, maintenance of structures, routine maintenance, emergency response, liaison with public utilities).

SRIs Developer Contributions

5.1.25 Schemes, which facilitate development proposals, will only be brought forward on the basis that the developer will contribute to these schemes in full or in substantial part. It is expected that the procurement of the SRIs in the RSTN TP will generate approximately one third of the £100m indicated in the RTS as likely income from developer contributions. Tables 5.1-5.7 indicate the schemes where developers are anticipated, but this is not exhaustive and the requirement for developer contributions will depend on the circumstances prevailing at the relevant time.

Wide Single Carriageways

5.1.26 Overtaking is one of the most hazardous manoeuvres that drivers undertake on single carriageway roads. Some sections of the strategic network are of a lower standard than others having alignments that fall short of current design standards. Poor alignment in conjunction with an increase in traffic volumes results in a reduction in the number of safe overtaking opportunities for drivers. This in turn can result in an increase in journey times and the risk of frustrated drivers attempting to overtake in unsafe circumstances.

5.1.27 Dual carriageway roads offer the best opportunities for overtaking but are only likely to be economically justifiable design solutions where there are reasonably high traffic flows.

5.1.28 Wide single carriageway layouts (known as 2+1s) give guaranteed overtaking opportunities by providing 2 lanes in one direction over several km of road, with one lane for opposing traffic. The family of 2+1s comprise:

- climbing lanes (where the 2 lanes are provided in the uphill direction allowing faster vehicles to overtake lorries or slow moving vehicles);
- differential acceleration lanes (where 2 lanes are provided on the exit from a roundabout, allowing faster moving vehicles to overtake lorries or other vehicles that are accelerating more slowly away from the roundabout); and
- wide single 2+1s on flat stretches of road.

5.1.29 Wide single carriageway layouts offer regular opportunities to overtake in relative safety, at considerably less cost than a dual carriageway. They provide the opportunity for queues of vehicles to disperse over the section and can have benefits downstream as it takes time for another queue to form. In many cases they can be constructed quickly with little disruption to the travelling public. These schemes represent good value economic investment in the short-term ensuring that future upgrade of routes to dual carriageway standard does not render the expenditure nugatory.

5.1.30 Roads Service undertook route studies on the RSTN to identify possible schemes to enhance overtaking opportunities. The Plan envisages over fifty 2+1 schemes will be constructed in the Plan period, 13 of which have been completed with a further 27 or so planned for the first 5 years of the Plan.

5.1.31 Tables 5.8 and 5.9 present details of widened carriageway schemes proposed between 2002/2009. Table 5.10 presents details of schemes under consideration for the remainder of the Plan period. All schemes are shown in Figure 5.2.

Widened single carriageway, Curran

Table 5.8: Widened Carriageway Schemes completed on the RSTN in 2002-04

No.	Location (direction of overtaking opportunity)	RSTN Category
1	A8 Ballynure (Southbound)	Eastern Seaboard Corridor
2	A8 Ballynure (Northbound)	Eastern Seaboard Corridor
3	A6 Burntollet (Westbound)	North-West Corridor
4	A6 Burntollet (Eastbound)	North-West Corridor
5	A6 Glenshane North (towards Castledawson R'bout)	North-West Corridor
6	A6 Curran (towards Castledawson R'bout)	North-West Corridor
7	A26 Glenlough West (towards Ballymena)	Northern Corridor
8	A37 Springwell (towards Limavady)	Northern Corridor
9	A5 Ballygawley Roundabout (towards Omagh)	Western Corridor
10	A5 Tattykeel (Southbound)	Western Corridor
11	A4 Clogher to Fivemiletown (towards Enniskillen)	South Western Corridor
12	A4 Eglish (towards Ballygawley R'bout)	South Western Corridor
13	A3 Portadown (Westbound)	Link Corridor

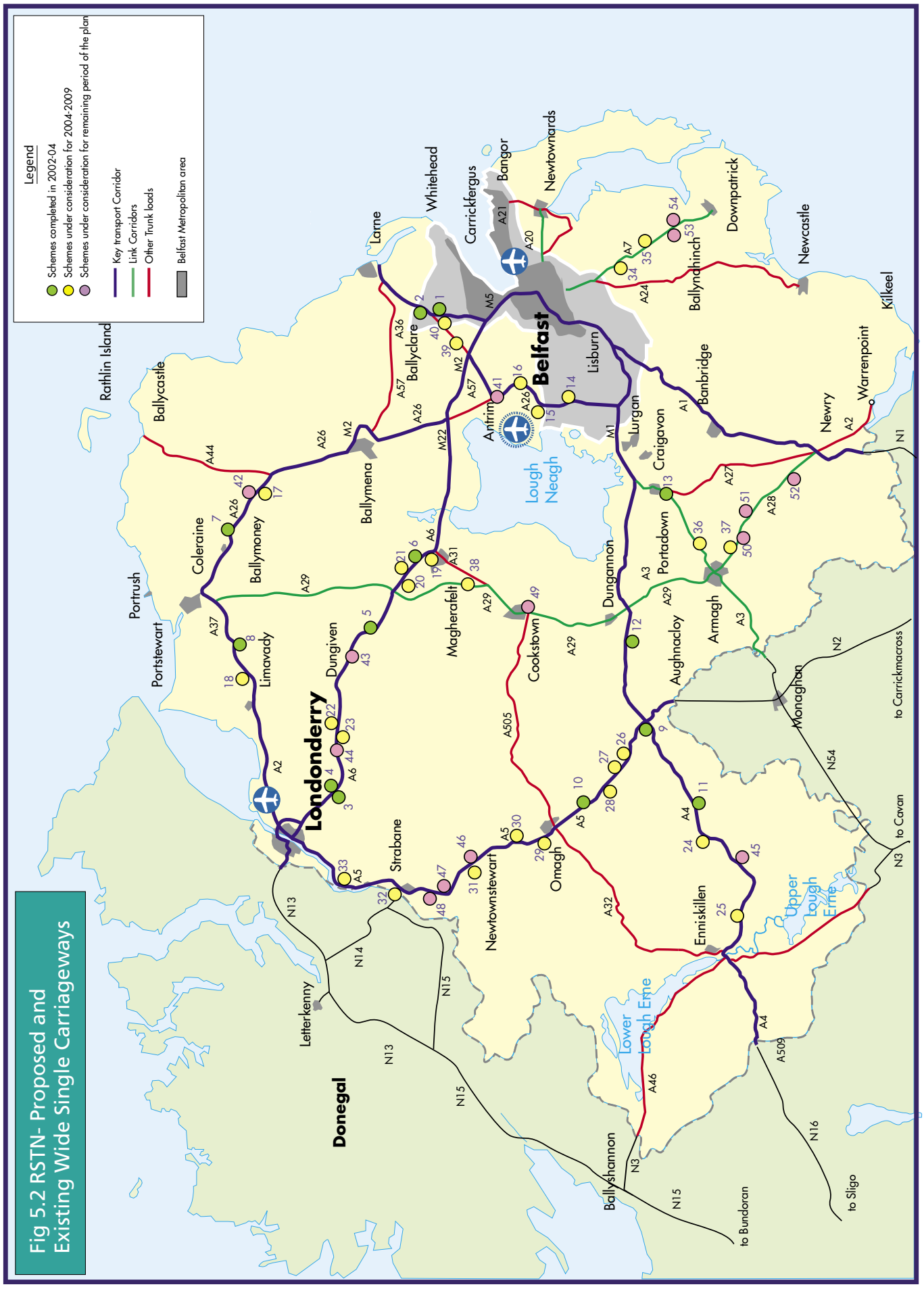
Table 5.9: Widened Single Carriageway Schemes under consideration for the RSTN in 2004-09

No.	Location (direction of overtaking opportunity)	RSTN Category
14	A26 Carnkilly Hill (towards Moira)[1]	Northern Corridor
15	A26 Glenavy North (towards Nutts Corner)[2]	Northern Corridor
16	A26 Nutts Corner Roundabout (towards Glenavy & Antrim)[1]	Northern Corridor
17	A26 Ballinaloob South (towards Ballymoney)[1]	Northern Corridor
18	A37 Gortacorbies (towards Coleraine)[2]	Northern Corridor
19	A6 Castledawson Roundabout (towards Dungiven)[1]	North-West Corridor
20	A6 Carricknakielt (towards Dungiven)	North-West Corridor
21	A6 Mullagh (towards Castledawson R'bout)	North-West Corridor
22	A6 Munreery (towards Dungiven)[1]	North-West Corridor
23	A6 Mulderg (towards Londonderry)	North-West Corridor
24	A4 Enniskillen to Fivemiletown (towards Ballygawley R'bout)[2]	South Western Corridor
25	A4 Tamlagh/Killyhevlin[1]	South Western Corridor
26	A5 Blackhill (Southbound)[1]	Western Corridor
27	A5 Garvaghy (Southbound)	Western Corridor
28	A5 Gortaclare (Northbound)	Western Corridor
29	A5 Omagh to Newtownstewart, Lislimnahan (Northbound)	Western Corridor
30	A5 Newtownstewart to Omagh, Castletown (towards Omagh)[2]	Western Corridor
31	A5 Newtownstewart to Strabane, Milltown Bridge (towards Strabane)[2]	Western Corridor
32	A5 Strabane to Magheramason, Woodend Bridge (Northbound)	Western Corridor
33	A5 Bready at Donaghhedy Road (Southbound)	Western Corridor
34	A7 North of Saintfield (Northbound)	Link Corridor
35	A7 Saintfield to Crossgar, Doran's Rock (Southbound)[2]	Link Corridor

36	A3 Richill, Stonebridge Roundabout (Westbound)	Link Corridor
37	A28 Newry Road, south of Armagh (Southbound)[2]	Link Corridor
38	A31 Magherafelt Road, Moneymore (towards Magherafelt)	Trunk Road
39	A57 Longshot/Station Road junction (towards Templepatrick & Ballyclare)	Trunk Road
40	A57/A8 Templepatrick Road, Ballynure (towards Templepatrick)	Trunk Road
1 - Programmed for 2004-05		
2 - Programmed for 2005-06		

Table 5.10: Widened Carriageway Schemes under consideration for the RSTN in the remainder of Plan period

No.	Location (direction of overtaking opportunity)	RSTN Category
41	A26 Killead Roundabout (towards Antrim, Glenavy, Templepatrick)	Northern Corridor
42	A26 Ballinaloob North (towards Ballymena)	Northern Corridor
43	A6 Glenshane to Dungiven, Carn	North Western Corridor
44	A6 Kilcattan (towards Dungiven)	North Western Corridor
45	A4 Brookeborough (towards Enniskillen)	South Western Corridor
46	A5 Strabane to Newtownstewart , Milltown Bridge (towards Newtownstewart)	Western Corridor
47	A5 Newtownstewart to Strabane, Victoria Bridge (Southbound)	Western Corridor
48	A5 Newtownstewart to Strabane, Camus (Northbound)	Western Corridor
49	A29 Dungannon Road Roundabout, Cookstown (towards Dungannon)	Link Corridor
50	A28 North of Markethill (Northbound)	Link Corridor
51	A28 South of Markethill (Southbound)	Link Corridor
52	A28 North of Newry (Northbound)	Link Corridor
53	A7 North of Crossgar (Northbound)	Link Corridor
54	A7 South of Crossgar (Southbound)	Link Corridor


Legend
Schemes completed in 2002-04
Schemes under consideration for 2004-2009
Schemes under consideration for remaining period of the plan
Key transport Corridor
Link Corridors
Other Trunk loads
Belfast Metropolitan area
Fig 5.2 RSTN- Proposed and Existing Wide Single Carriageways
Belfast
Londonderry
Donegal
Lough Neagh
Upper Lough Erne
Lower Lough Erne
Rathlin Island
Larne
Whitehead
Carrickfergus
Bangor
Newtownards
Downpatrick
Newcastle
Kilkeel
Ballyclare
Ballycastle
Ballymena
Antrim
Lisburn
Lurgan
Craigavon
Banbridge
Newry
Warrenpoint
Ballynahinch
Coleraine
Ballymoney
Portrush
Portstewart
Limavady
Dungiven
Magherafelt
Cookstown
Dungannon
Portadown
Armagh
Aughnacloy
Monaghan
Strabane
Omagh
Newtownstewart
Enniskillen
Letterkenny
Ballyshannon
to Carrickmacross
to Cavan
to Bundoran
to Sligo

Regional Gateways and Cross-Border Links

5.1.32 The RDS emphasised the importance of improving connections between regional gateways and cross-border links and the RSTN, especially the Key and Link Corridors. The RDS also identified Londonderry as the regional city and transport hub of the North West. It emphasised the need to enhance transport linkages to the RSTN, cross border towns and ensure more reliable journey times to the North West from Belfast and Dublin.

5.1.33 Each of these have been considered in the formulation of the Plan, and whilst the local transportation needs of Londonderry will be dealt with in the SRTP, the RSTN TP has taken account of current and future cross-border inter-urban transport demands and the roles of gateway cities and towns including the important needs of Londonderry.

5.1.34 A number of schemes have been included that provide a direct benefit to the cross border links and/or upgrade access to gateways. Examples of these include the widening of the Buncrana Road, thus improving access between Londonderry and Donegal; the Broadbridge dualling that improves access to City of Derry Airport; the A5 improvement scheme at Tullyvar that improves cross-border access at Aughnacloy on the Dublin to Londonderry and Donegal route; and the Strabane / Lifford Link that provides a new cross border link between the A5 and the N14.

5.1.35 A number of other schemes that address problems on the RSTN will also be of particular value in improving gateway and cross-border links. For example some of the schemes on the Eastern Seaboard KTC improve access to the Ports of Belfast, Larne and Warrenpoint, the Belfast City Airport and Belfast International Airport as well as the cross-border route between Belfast and Dublin. These are the A8 dualling; M2 Widening; M1/Westlink; A1 grade-separated junctions; and the three dualling schemes from Loughbrickland to the border.

Freight

5.1.36 The RDS promoted the development of strategic through routes for long distance traffic, including freight movement, by targeting improvements to upgrade the RSTN. All the Strategic Road Improvements proposed in the Plan should contribute to this aim, in particular the improvements targeted on the KTCs. The improvements to the M1/Westlink are a particular case in point. This is a vital part of the RSTN, connecting as it does the M1 with the M2 and M3, and onwards to the Ports of Belfast and Larne, Belfast City Airport and Belfast International Airport.

The proposed improvements will provide significant benefits for freight transport operators seeking to access these important gateways.

5.1.37 The requirements of freight transport operators are also well served by the other schemes that improve access to gateways and cross-border links.

Road Tolling

5.1.38 In keeping with the RTS, the RSTN TP does not envisage the introduction of road tolling or general road user charging within the Plan period. However, road user charging is an evolving area with the general aim of reducing unnecessary use of the private car (by encouraging car sharing and the use of alternative modes) and to discourage the use of the busiest parts of the network at the busiest times. Road User Charging will be reviewed later in the Plan period in the context of any national proposals which may be developed by the UK Government in place of the existing system of road tax and fuel duty. Any such national scheme is likely to be a network-wide scheme using Global Positioning Systems (GPS) and smart payment cards rather than toll payment plazas built at various points on the network.

5.1.39 HM Customs and Excise is considering the earlier introduction of a Lorry Road Charging Scheme as an alternative to the current road tax and fuel duty for such vehicles. This national scheme is separate from the RSTN TP planning process.

5.2 Road Maintenance (Structural)

5.2.1 Structural maintenance - the upkeep of the surfaces and foundations of the road and footway network - is essential for the social and economic well being of Northern Ireland and is top priority for Roads Service. As well as strengthening the foundations of roads to withstand the damage inflicted by heavy vehicles, structural maintenance also improves skidding resistance and makes an important contribution to road safety.

5.2.2 The public road network in NI is over 25,000 km long - 2_ times more roads per head of population than GB. It includes the RSTN which comprises 265 km of motorway and 1219 km of trunk road. It is estimated that some £88m (at 2003 prices) per annum is needed to maintain the structural integrity of the network at good practice frequencies. In recent years just over half this amount was available with an average expenditure of just over £47m per year on structural maintenance over the past 5 years, although in 03-04, following the approval of the RTS, this increased to almost £83m.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5.2.3 The RTS recognises the importance of maintaining the highway asset and proposes an additional £250m for structural maintenance over the 10-year period of the strategy bringing the total proposed investment in structural maintenance to £780.4M (at 2002 prices) for the entire network over the RTS period.

5.2.4 The RTS envisaged spending £40.5m on structural maintenance on the RSTN (increased to £55.7m to cover the extended RSTN TP period). However subsequent assessments of the structural condition of the RSTN demonstrate that it may be necessary to boost the funding for structural maintenance on the RSTN above the investment levels indicated in RTS in order to maintain the Network to an acceptable condition and achieve the RSTN TP performance targets for road condition[11] . Any such increase in funding for structural maintenance on the RSTN will be accommodated within the RTS funding envelope for structural maintenance of the whole network.

5.3 Routine Maintenance

5.3.1 Routine Maintenance refers to a wide range of activities such as bridge maintenance, replacing street lighting bulbs, the maintenance of signs and road markings, cutting grass verges and clearing drainage gullies. Routine maintenance is important both to ensure user safety and to help prevent more significant and costly maintenance building up over time.

5.3.2 This category also includes Winter Service, and all routes in the RSTN are salted during wintry weather to help keep them free from ice and snow so that traffic movement is not unduly disrupted.

5.4 Local Transport and Safety Measures

5.4.1 Many of the costed initiatives listed by mode relating to the RSTN presented in table 5.2 of the RTS are provided by DRD Roads Service through the Local Transport and Safety Measures (LTSM) programme. As well as providing facilities for walking and cycling (see section 3.1) the LTSM programme includes:

- Collision Remedial Measures;
- Conventional Traffic Management and Network Development Schemes;
- Improved Travel Information; and
- Park & Share.

[11]Road condition target – At least 85% of motorways and 75% of trunk roads to have a residual life of greater than 5 years.

Collision Remedial Schemes

5.4.2 A target of the RTS is to contribute to and, where possible, demonstrate progress towards the achievement of long-term road casualty targets as set in the Northern Ireland Road Safety Strategy published by DoE in November 2002.

5.4.3 The Strategy was developed in conjunction with all Government departments and agencies involved in road safety and seeks to promote an integrated approach to the planning, co-ordination and delivery of road safety. The Strategy established two new challenging casualty reduction targets:

- a one third reduction[12] (from the average for the period 1996 – 2000) in the number of people killed or seriously injured on the roads each year from the current average of 1750 to fewer than 1200 by 2012; and
- a 50% reduction[13] (from the average for the period 1996 – 2000) in the number of children killed or seriously injured on the roads each year from the current average of 250 to fewer than 125 by 2012.

5.4.4 Most road traffic collisions and resulting deaths or serious injuries are avoidable. The main causes remain excessive speed (inappropriate for the conditions or in excess of speed limit), alcohol (both driver/rider and pedestrian) and failure to wear a seat belt. Continued success in reducing the numbers killed or seriously injured will depend on the combined effects of education, enforcement and engineering.

5.4.5 DRD has always been committed to ensuring that the public road network is developed and maintained to improve road safety. Roads Service has prepared a Road Safety Plan, which sets out the

[12]This target was selected following earlier research undertaken by TRL (formerly the Transport Research Laboratory) in 1998. The analysis was based on statistical evidence that as the volume of traffic increases, the number of road casualties also tends to rise and on the assumption that growth in traffic volumes would continue to increase at approximately the same rate as the 1990's (the percentage increase in traffic growth in Northern Ireland since 1991 has been, on average, 3% a year). TRL was asked in 2002 to update its earlier analysis to take account of new traffic volume forecasts for Northern Ireland prepared for the RTS. These suggested that over the period 2002-2012 traffic growth would be approximately 2% a year. Therefore based on the assumption that the rate of traffic growth will fall to this level TRL have concluded that a reduction of approximately one third in the numbers killed and seriously injured would represent a challenging but achievable casualty reduction target for Northern Ireland in the period to 2012.

[13]A consultation document for the Northern Ireland Road Safety Strategy 2001-2010 was launched in 2001. Views were sought on the desirability of an additional separate target for the number of children killed or seriously injured and if so what level of child target should be adopted. Positive responses were received and it was decided that for the first time in Northern Ireland a specific casualty reduction target for child deaths or serious casualties on the roads should be set. There is no available statistical formula or research, which can be applied to establish a specific target for child fatalities or serious injuries. The challenging target of 50% reduction in child fatalities and serious injuries was chosen in line with targets set for Great Britain in 2000.

Agency's intent to make a contribution to the Northern Ireland Road Safety Strategy. The Plan proposes a number of 'Actions' aimed at refining and improving Roads Service contribution to improving safety on our roads.

5.4.6 Since the early 1980's Roads Service has provided a programme of collision remedial measures throughout the road network. These aim to treat engineering factors that may contribute to road traffic accidents. Typical measures include provision of:

- road markings or alterations made to existing;
- traffic signs or improvements made to existing;
- right turn lane road layout;
- pelican and zebra crossings;
- pedestrian guard rail;
- pedestrian refuges and ladder markings;
- new traffic signals or alteration to existing;
- new street lighting or existing provision extended;
- carriageway realignment /widening undertaken;
- visibility improved/reduced as appropriate;
- junction alterations;
- roundabouts or alteration made to existing;
- high friction surfacing/skid resistant surface dressing with appropriate road markings;
- carriageway resurfacing;
- road crossfall altered/ drainage improvements; and
- speed tables, chicanes and traffic islands.

5.4.7 Roads Service will continue to work to achieve improvements in road safety by identifying those parts of the road network where collisions are known to occur. These sites will be investigated to determine collision patterns and whether the site is suitable for remedial measures that will reduce the likelihood of road traffic collisions recurring. The effectiveness of the collision remedial schemes will be monitored for a period of 3 years after each scheme is completed.

5.4.8 Whilst the co-ordinated efforts of the road safety departments and agencies, including the PSNI, have a vital part to play in improving road safety, reducing road deaths and serious injuries very largely depends on road users behaving responsibly on Northern Ireland's

roads. Changing road user attitudes remains the biggest challenge. If the targets outlined above are to be met the support of the whole community is required to make the principal causes of road casualties socially unacceptable.

Conventional Traffic Management and Network Development Schemes

5.4.9 Conventional traffic management measures include traffic signing and minor carriageway modifications, implementation of parking and waiting restrictions and banning of specific traffic movements to improve efficiency and safety of the network.

5.4.10 Network development schemes aim to improve the efficiency of traffic flow and improve road safety by measures such as junction improvements, minor re-alignments and carriageway widening. Network Development schemes usually cost less than £1m; beyond that they are usually treated as Strategic Road Improvements.

5.4.11 The RTS identified an additional £2.5m for conventional traffic management, bringing the proposed 10-year expenditure to £10.3m (RSTN TP extended Plan period funding £14.2m). This increased programme is aimed at improving the safety and efficiency of the RSTN through traffic management measures, traffic signal control and other minor improvements.

Improved Travel Information

5.4.12 The demand for travel is continuing to increase. As more and more journeys are made, increasing stresses are placed upon the road network. Traffic congestion makes journey times unpredictable and results in additional costs to the economy. Travel information on traffic conditions and public transport services can assist in decisions as to when to travel and also what mode of travel to use. This can lead to improved management and use of the road and public transport networks

5.4.13 The provision of timely and credible traffic information to the public before setting out on a journey and during the course of the journey has a high priority with Roads Service.

Pre – trip Information

5.4.14 To help commerce and the general public to plan their journeys, the Roads Service Traffic Information and Control Centre (TICC) operates a website www.trafficwatchni.com which provides up to date information on traffic conditions and also displays pictures in real-time from 4 traffic monitoring cameras in Belfast.

5.4.15 An e-mail service is provided by TICC to alert large private companies and government offices to abnormal traffic congestion on the network (The e-mail address for this service is TICC. Belfast@drdni.gov.uk). There is also a traffic information telephone service which may be contacted on 08457 123321.

On-trip Information

5.4.16 Roads Service has an ongoing programme of extending the motorway control system and providing electronic driver information signs on the RSTN. These variable message signs display information to drivers on traffic conditions ahead and are operated by the traffic operators in TICC. Many of the variable message signs are mounted on gantries over the busiest sections of motorway.

5.4.17 Radio broadcasts are a key medium through which traffic and travel information can be disseminated. During weekdays, BBC Radio Ulster broadcasts its traffic and travel information service live from TICC during peak hours. Other radio stations receive updated information for broadcast from the traffic operators in TICC.

5.4.18 Intelligent Transport Systems (ITS) have a key role in the management of the road network and the provision of information. Future work on developing ITS will include further extension of the network of CCTV traffic monitoring cameras and also the provision of automatic incident detection on many key routes. It is also proposed to provide route journey time information and to extend the urban traffic control (UTC) system in Belfast, and its satellite system in Craigavon (covering Banbridge, Newry and Portadown), to other towns and cities in Northern Ireland.

5.4.19 Roads Service is also keeping abreast of the latest technology in traffic control and driver information. A European funded project called INSTANT[14] is studying the benefits of traffic control and travel information on the important Belfast to Dublin corridor, whilst another European project, STREETWISE[15] is undertaking similar work on the remainder of the Trans European Road Network in Northern Ireland.

The Plan envisages spending £5.5m on Improved Travel information for the RSTN over the Plan period.

[14] INSTANT is a partnership project between Roads Service and the National Roads Authority (Republic of Ireland).

[15] STREETWISE is a Euro Regional project involving the National Roads Authorities of England, Scotland, Wales, Northern Ireland and the Republic of Ireland.

Park & Share

5.4.20 There will always be many journeys that will require the use of a private car, as it is not possible to provide convenient public transport services from all outlying areas. In line with the RDS (TRAN 4.1 – Managing Travel Demand) Roads Service has sought to promote higher car occupancy through the provision of facilities to allow drivers to share journeys to common destinations (Park & Share) or in conjunction with transport operators allow linkage with existing public transport services (Park & Ride).

5.4.21 Park & Share schemes involve the provision of formal parking spaces at strategic locations, generally at key junctions on the motorway and trunk road network. These facilities encourage car sharing between people travelling from different origins but with a common destination by providing a meeting point before travelling on together in one car. Car sharing can save the users money and driving stress whilst reducing congestion for all road users.

5.4.22 Many Park & Share sites are located conveniently to bus stops allowing car users from outlying areas to enter the inter-urban bus or coach network, hence encouraging part of the journey to be made by public transport. Parking provided adjacent to the strategic routes allows drivers the option to either car share or link with public transport services.

5.4.23 Throughout the period of the RSTN TP Roads Service will in conjunction with transport operators, seek to identify and provide viable Park & Share facilities on the RSTN. Table 5.11 to 5.13 and Figure 5.3 identify the location of existing Park & Share sites and also further sites that are proposed during the period of the Plan.

5.4.24 The RTS identified £1.9m funding for the management and maintenance of car park facilities throughout the RSTN. This figure has been added to the RTS funding for Park and Share presented in Table 5.14 bringing the total investment envisaged to £5.4m.

5.5 Bridge Strengthening

5.5.1 The introduction of EU regulations (in 1999) has increased the allowable gross weight of vehicles, using our road network, from 38 tonnes to 40 tonnes. To cater for this increase, Roads Service has undertaken an extensive assessment and strengthening programme since 1986.

Table 5.11: Existing Park & Share sites on the RSTN.

Map No.	Location of site - adjoining route, junction of routes.	Number of spaces	Details of any public transport servicing site	RSTN Category
1	Dunsilly, A26 /M22 Antrim	125	Bus service provided with dedicated bus lane/stop and bus shelter	Northern Corridor
2	Ballee, Ballymena (adjacent Seven Towers roundabout)	40	2 laybys provided for bus service to and from Ballymena	Northern Corridor
3	Templepatrick village - A6 Belfast Road at Paradise Walk	26	adjacent existing bus stop	Northern Corridor
4	Ballygrooby, Randalstown (junction A6/ M22)	35	-	North-western Corridor
5	A6/U105, The Elk, Castledawson	18	Bus service	North-western Corridor
6	A6 Castledawson Roundabout	61	Bus service	North-western Corridor
7	A6, Craigadick (South)	36	Bus service	North-western Corridor
8	A6 Toome - Access from Moneynick Road on Belfast Side of village	100	2 laybys provided at the start of the bypass for bus link up	North-western Corridor
9	Lough Road, Lurgan	104	Double bus stop facility, and dedicated bus only access road	South-western Corridor
10	A5/U1745 Bankmore Road, Omagh	10	Bus service	Western Corridor
11	A5/B46 Curr	10	-	Western Corridor
12	A24 Newcastle Road/ Clough Roundabout	16	Bus service	Trunk Road

Table 5.12: Park & Share sites under consideration for the RSTN (2004-07).

Map No.	Location of site - adjoining route, junction of routes. Inc. Details of access. [off which routes(s)]	Number of spaces	Details of any public transport that could service the site	RSTN Category
13	A1 at Banbridge	25-50	Park & share initially with possibility of Park & ride (pending agreement with Translink)	Eastern Seaboard Corridor
14	A371 Rathmore Road, Limavady, adjacent A37 Broad Road access from Scriggan Road.	25	-	Northern Corridor
15	A6, Craigadick (North)	40	Bus service	North-western Corridor
16	M1 at the Birches Roundabout	50 - 75.	Bus service	South-western Corridor
17	A4/A45, Tamnamore	20 - 25	Bus service	South-western Corridor
-	A24 Newcastle Road/ Clough Roundabout, (extension to site 12)	14	Bus service	Trunk Road

Table 5.13: Park & Share sites under consideration for the RSTN (2007+).

Map No.	Location of site - adjoining route, junction of routes. Inc. Details of access. [off which routes(s)]	Number of spaces	Details of any public transport that could service the site	RSTN Category
18	Belfast Road, Newry at Sheep Bridge	29	Bus service	Eastern Seaboard Corridor
19	Dublin Road, Newry at Cloghogue	29	Bus service	Eastern Seaboard Corridor
20	A26 Junction with A44 (Clogh Mills)	50 - 100	Bus service	Northern Corridor
21	Expansion/relocation of existing P&R site at A6 Altnagelvin, Londonderry	-	Bus service	North-western Corridor
22	A4/A5, Ballygawley	50 - 60	Bus service	Western Corridor
23	A29/A4/M1, Stangmore Junction	25	Bus service	South-western Corridor
24	A20 Belfast Road Newtownards (at former Scrabo High school)*	100	Bus service	Link Corridor
-	A6 Castledawson Roundabout Park (extension to site 6)	60	Bus service	Link Corridor
25	Glen Link Comber (at Council amenity site)	15	-	Trunk Road
26	Belfast Road, Ballynahinch	25	Bus service	Trunk Road

*Private Developer led scheme

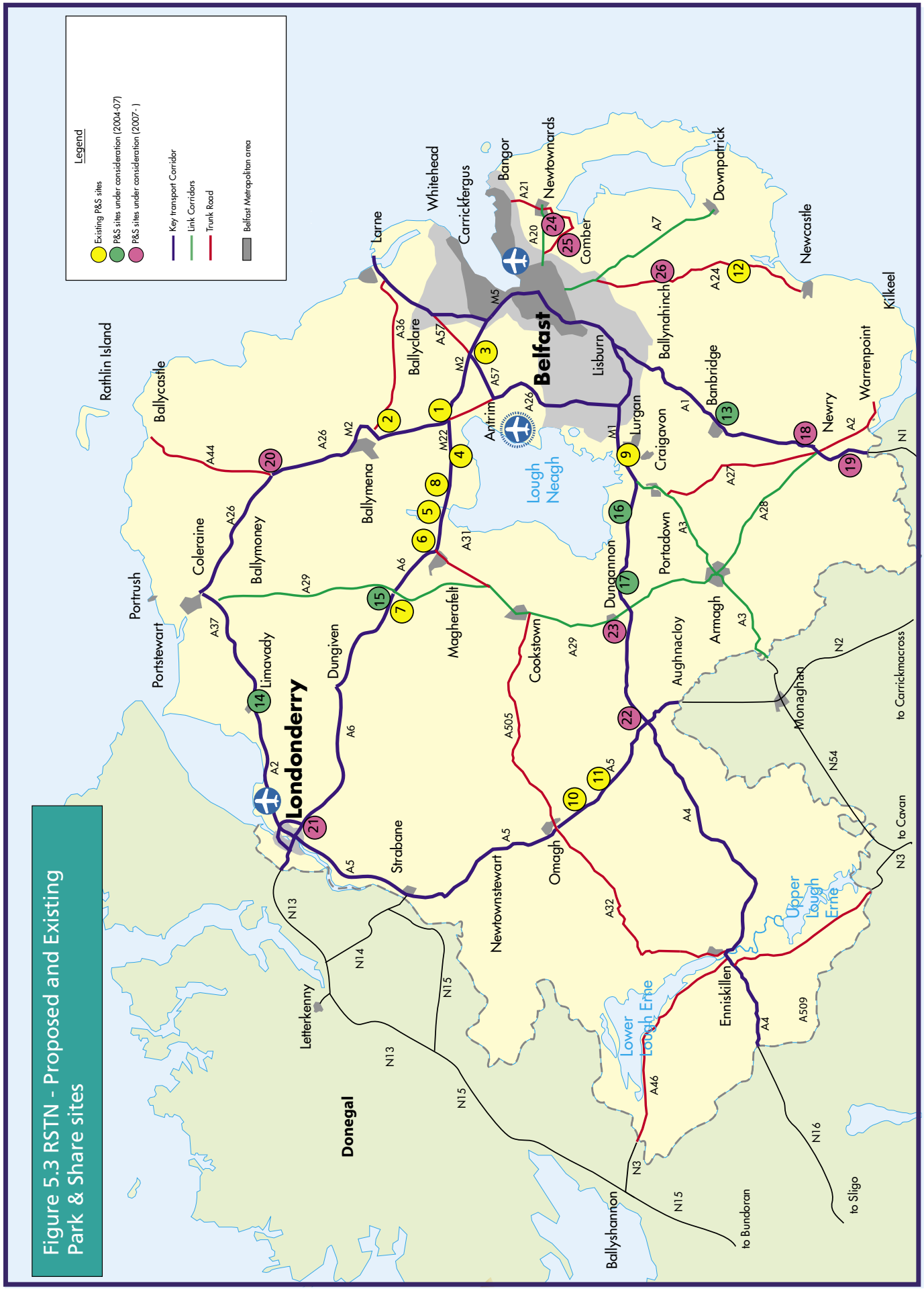


Figure 5.3 RSTN - Proposed and Existing Park & Share sites

5.5.2 As well as assessing the bridges on the RSTN for the new 40 tonne vehicles Roads Service has taken this opportunity to assess these bridges for "abnormal load vehicles." From the 547 bridges on the RSTN, there are around 90 bridges that still need to be strengthened in the coming years. This list of bridges includes small culverts as well as major bridges such as:

- Foyle Bridge (strengthening completed, painting and resurfacing to finish in 2005);
- Bann River Bridge, Portadown;
- M12 Ballynacor West;
- M22 Shanes Bridge;
- M1 Tempanroe Bridge;
- M1 Blackwater River Bridge;
- M1 Sprucefield Road; and
- M2 Old Manse Bridge

5.5.3 Although the RTS had identified £5m for strengthening bridges on the RSTN, the Plan envisages expenditure of £50m over the Plan period. This inescapable rise is mainly due to an increase in the number of bridges requiring strengthening and the high cost of strengthening Foyle Bridge (£10.6m). It is an essential commitment in order to preserve the safety of traffic on the RSTN and to keep it available for the movement of freight by all classes and weights of vehicles that are legal for public road use.

5.6 Street Lighting

5.6.1 Streetlights can help road safety in urban areas, but they also help create the necessary environment to support commercial and leisure activities in urban areas. Good, well designed lighting reduces crime and enhances community safety, aids a greater uptake of public transport, and creates better conditions for walking and cycling.

5.6.2 All streetlights are inspected at least monthly after dark to ensure that the key performance target of keeping 97% working is achieved.

5.6.3 Most of the quarter of a million streetlights in Northern Ireland are on urban streets within the speed limit zones, though approximately 25,000 are located on the highway component of the RSTN.

5.6.4 Like many other highway assets, new technology leaves some older streetlights obsolete in terms of energy efficiency and exposure to harsh weather conditions causes structural deterioration of the columns. New environmental demands are being made to reduce light pollution of the night sky by specifying modern lanterns with less light spill. As a consequence Roads Service has an annual programme of expenditure to upgrade the street lighting stock.

5.6.5 As the RSTN is largely located in rural areas, street lighting is not generally provided, but over the Plan period the Plan does envisage spending £7.4m on street lighting of the urban sections and other appropriate parts of the RSTN.

5.7 Proposed Investment – Highway Measures

5.7.1 Table 5.14 presents the levels of funding envisaged across the Plan period for Highways.

Table 5.14: Proposed Investment - Highways

Proposed Measure	RSTN TP Funding 2002 - 15
Roads Maintenance (Structural)	£55.7m
Collision Remedial Schemes	£17.6m
Conventional Traffic Management	£14.2m
Routine Maintenance	£26.5m
Park and Share*	£5.4m
Bridge Strengthening	£50.0m
Network Management Costs	£52.7m
Network Development Schemes	£5.2m
Street Lighting Capital Programme	£7.4m
Improved Travel Information	£5.5m
Strategic Road Improvements	£529.4m
Total:	£769.5m

*Includes RTS funding for Car Park Maintenance

6 Outcomes, Targets, Monitoring and Review

6.1 Introduction

6.1.1 The implementation of the Plan over the coming years will start to bring significant benefits to users of the RSTN alongside a wide range of other benefits: to the environment, to the economy; to road safety; and to the quality of life in areas across Northern Ireland. This chapter presents a description of the expected outcomes of the Plan and outlines the process by which the Plan's implementation will be monitored and reviewed.

6.2 Outcomes

6.2.1 The key outcomes of the RSTN TP 2015 are listed in Table 6.1. The table compares the projected performance on the RSTN arising from the measures envisaged by the Plan in 2015[16] against a benchmark of the situation in 2001. The improvements envisaged by the Plan are, in some cases, offset by traffic growth. For ease of comparison the performance of the Plan is expressed as a percentage change from the benchmark.

In general, these outcomes are in line with, or better than, those proposed in the RTS.

Table 6.1 Key Outcome Indicators on the RSTN

Objective	Description	RSTN TP 2015 % change from 2001 benchmark
Environment	Nitrogen Oxide emitted by road traffic	-63%
	Carbon Dioxide emitted by road traffic	2%
Safety	Highway fatalities	-51%
	Highway collisions	13%
Economy	Journey Speeds on the Key Transport Corridors*	2%
Accessibility	Rail - average weekday morning peak period services in terms of train kilometres operated**	69%
	Rail - average weekday morning peak period services in terms of patronage**	67%
	Inter-urban bus and coach network services - bus kilometres operated***	6%

* During the AM peak (07.00-09.00)

** Within BMA only

*** Figures for Translink services only

[16]Modelling the outcomes of the RSTN TP 2015 was carried out using the Northern Ireland Strategic Transport Model (NISTRM).

6.2.2 The percentage changes in the key outcome indicators are further discussed as follows:

- Environment

  - Nitrogen Oxides - a large decrease is forecast between 2001 and 2015 mainly due to the very significant improvement in fuel technology, engine efficiency and exhaust controls: these improvements more than offset any increases due to traffic growth. The reduction in congestion on the RSTN as a result of the SRI schemes also plays a part.

  - Carbon Dioxide - a small increase in emissions is forecast relative to 2001 due to the growth in traffic between 2001 and 2015 outweighing improvements to fuel and engine efficiency. The reduction in congestion on the RSTN as a result of the SRI schemes also plays a part in restraining CO2 emissions.

- Safety

  - The Plan is forecast to significantly reduce the number of highway fatalities on the RSTN through the implementation of the various highway measures including provision of Strategic Road Improvements, wide single carriageway schemes (ensuring safe overtaking opportunities), traffic management/ network development schemes and collision remedial measures. The percentage change in all collisions is forecast to increase due to increased volumes of traffic using the network.

- Economy

  -Speeds on the Key Transport Corridors are forecast to increase slightly in peak periods comparing the 2015 Plan against the 2001 benchmark. Although small this increase is significant when considering the substantially reduced speeds that increased traffic would bring over the Plan period were it not for the Strategic Road improvements. These will also result in shorter and more reliable journey times outside the peak periods.

- Accessibility

  - Rail services[17] – the net effect of the BMTP proposals is a significant increase in train kilometres on the Belfast commuter rail network.

[17]Rail Services – The RTS allocated the entire rail network to the RSTN. However, in order that development of the BMTP be undertaken realistically, measures to improve the railway network within the BMA are presented in detail within the BMTP and are summarised within the RSTN TP. Following the decision to fund Option 2 of the RRG Report, a work programme for the entire rail network has yet to be finalised. Consequently changes in the key outcome indicators for rail services and rail passengers relate only to the BMA.

- Rail passengers – the BMTP forecasts a very significantly increase in the number of rail passengers comparing the 2015 Plan with 2001. A significant proportion of the increase is due to the impact of the introduction of new trains.

- Inter-urban bus and coach network services – the continuation of existing services with replacement vehicles and the indicative level of service enhancement lead to an overall increase over 2001.

6.3 Targets and Monitoring

6.3.1 To monitor the implementation of the Plan the outcomes listed in table 6.1 have been converted into targets against which the progress of the Plan is expected to achieve. These targets have been augmented by additional targets drawn from wider strategy documents. The targets are presented in table 6.2.

6.4 Review

6.4.1 As with any plan there will be a need to undertake periodic reviews. Changes in the economic, social, legal and political environment may necessitate modifications to the Plan's contents and priorities. Additionally, the monitoring of the Plan delivery and outcomes may suggest that modifications are required to maximise the effectiveness in delivering a modern integrated transport system.

Table 6.2 - Targets

Objective	Indicator	Target	Monitoring
Economy - improve efficiency of the transport system	1. Average traffic speeds on the Key Transport Corridors	Achieve at least 2% increase over speeds in 2001*	Conduct periodic surveys on Key Transport Corridors
	2. Construction of Strategic Road Improvements	Complete the following major road improvements: 16 Bypasses/Link Roads 78 kilometres of dual carriageway 40 kilometres of widened single carriageway 11 Major junction improvements	Progress monitored by Roads Service
Sustainability - increase in public transport use	3. Number of trips made by rail	Morning peak % change from 2001 Rail (RTS target)** +60% Rail (within BMA) +67%	Translink ticket sales information
Safety	4. Number of highway accidents/fatalities on the RSTN	Contribution to long-term road casualty targets***	Accident statistics collected by PSNI and monitored by Road Service
Environment - reduction in emissions from traffic	5. Emissions of Nitrogen Oxides, Carbon Dioxide and other particulates from road traffic	Targets to be defined as per Local Air Quality Management Action Plans	Monitoring of emissions at selected sites is part of LAQMA's
Accessibility - Inter-urban Bus and Coach Network	6. Accessibility of vehicles	100% of vehicles operating on the inter-urban network to meet the requirements of the Public Service Vehicles Accessibility Regulations	Regular review by DRD/DoE
	7. Average vehicle age	Average vehicle age of no more than 8 years - in addition no bus older than 18 years or coach older than 12 years	Regular review by DRD/DoE

* Measured during the AM peak (07.00-09.00)

** Total annual figure with the exception of Enterprise services

*** As defined in the Northern Ireland Road Safety Strategy 2002-2012


Londonderry
Magherafelt
A6

ANNEX A: Appraisal Summary Table for the Overall RSTN TP

Objective	Sub-objective	Qualitative Impact
Environment	Noise	(i) The bypasses of urban areas would result in significantly decreased traffic noise levels for properties adjacent to routes relieved, but increased traffic noise levels for dispersed properties adjacent to bypasses. This would be mitigated by the use of noise reduction measures where appropriate, such as low-noise surfacing and landscape screening. (ii) Widening/grade separation through urban areas would result in localised increased traffic noise levels. This would be mitigated by noise reduction measures where appropriate, such as low-noise surfacing.
	Local Air Quality	(i) The bypasses of urban areas would result in significantly improved air quality for properties adjacent to routes relieved, but will worsen air quality for the more-dispersed properties adjacent to bypasses. Relief of congestion in urban areas will generally improve local air quality in the affected area. (ii) Improvement to rail rolling stock will reduce the use of private car, reducing emissions and improving local air quality in the Belfast area. (iii) Improved frequency on inter-urban bus and coach services may lead to slight reduction in the use of private car, reducing emissions.
	Greenhouse Gases	(i) Improvement to rail rolling stock will reduce the use of private car, reducing emissions. (ii) Improved frequency on inter-urban bus and coach services may lead to slight reduction in the use of private car, reducing emissions. (iii) Despite reduced congestion due to the construction of SRIs, higher inter-urban speeds and increased road capacity will encourage an increase in the use of private cars and will lead to a slight increase in C02 emissions.
	Landscape	(i) Road widening to dual carriageway standard through an Area of Outstanding Natural Beauty. (ii) Widened single 2 + 1 s through Areas of Outstanding Natural Beauty and through Areas of Scenic Quality. However, widened single 2 + 1schemes are generally provided within the existing land take.
	Townscape	(i) Traffic calming in the form of gateway features and local improvements to footways and crossings, and removal of traffic from urban areas will provide local improvements

Quantitative Measure	Assessment
(i) Approximately 21kms net. of urban frontage would experience significantly decreased traffic noise levels.	**Slight beneficial**
(i) Approximately 4 kms net. of urban frontage would experience better air quality. (ii) Rolling stock benefits not quantified.	**Moderate beneficial**
(iii) Model results suggest a 2% net change in the AM peak emissions. However, this excludes the effects of improved PT rolling stock and the Goldliner service frequency enhancements.	**+2% annual CO2**
(i) 4.3 km of widening to dual carriageway through Area of Outstanding Natural Beauty. (ii) 4kms of widened single 2+1 through Areas of Outstanding Natural Beauty.	**Moderate adverse**
	Slight beneficial

Objective	Sub-objective	Qualitative Impact
Environment	Heritage of Historic Resources	(i) Highway improvements would cause slight loss of some known industrial heritage sites and sites of limited archaeological interest.
	Biodiversity	No significant impact.
	Water Environment	No significant impact.
	Physical Fitness	(i) Traffic calming in the form of gateway features, local improvements to footways and crossings, and the removal of traffic from urban areas will encourage slight increases in pedestrian and cycling activity in the relevant urban areas (ii) Provision of additional carriageway width (in the form of hard strips) may provide limited benefits to cyclists.
	Journey Ambience	(i) Dual carriageway, road widening, grade separation and bypasses would reduce driver frustration, stress and fatigue. (ii) Improved rail rolling stock provides significantly-enhanced journey comfort for rail users. (iii) Modern bus/coach designs with good heating, ventilation, seating, luggage space and ride qualities would improve traveller comfort. (iv) Better travel information, including real time public transport information, would reduce uncertainty for travellers. (v) Extensive structural maintenance on all roads would provide more comfortable bus and car journeys.

Quantitative Measure	Assessment
(i) SRIs where potential for disruption to archaeological/heritage interests has been identified in scheme appraisals: 1. M2 Sandyknowes/Widening 2. A1 Beechill – Cloghogue dualling 3. A4 Dungannon – Ballygawley dualling 4. A2 Broadbridge dualling 5. A6 Dungiven Bypass 6. A3 Armagh North-West Link 7. A28 Armagh East Link 8. A29 Cookstown eastern Distributor 9. A24 Ballynahinch Bypass	**Slight adverse**
	Neutral
	Neutral
	Slight beneficial
(i) 78 km of dual carriageway plus around 50 '2+1' schemes will lead to a significant reduction in inter-urban delays caused by slow-moving vehicles and urban congestion. (ii) 23 new train sets expected to enter service during 2004/05. (iii) Service enhancements along the inter-urban bus and coach network. (v) Better quality surface on 16% of total road network.	**Large beneficial**

Objective	Sub-objective	Qualitative Impact
Safety	Accidents	(i) Significant investment in rail safety (rolling stock and signalling improvements). (ii) Accident remedial measures would produce significant accident savings. (iii) Upgrading roads (from single to dual) would reduce road accident rates and severity, offset by an increase in the number of road accidents due to the additional traffic using the road network. (iv) Traffic calming schemes in the form of gateway features would contribute towards producing significant road accident savings. (v) Improved skid resistance and drainage as a result of structural maintenance would reduce the number of accidents. (vi) Additional pedestrian and cycling facilities, particularly crossing points, would reduce accidents involving these vulnerable groups.
	Security	
Economy	Transport Economic Efficiency	Principal **User** benefits are would be journey time savings resulting from increased highway structural maintenance, bypasses and traffic management. **Public** sector costs would be those borne by Roads Service and would comprise primarily of capital costs. * **Other Government** costs reflect investment and subsidy payments to public transport operators. * It is envisaged that non-modelled values from large savings forecast in reconstruction costs arising from investment in highway structural maintenance would also be generated. These have not been quantified.
	Reliability	(i) Traffic management and traffic information and control would provide significantly improved journey time reliability. (ii) Bypasses, grade separation and the removal of bottlenecks would permit more reliable journey times for public transport, private vehicles and freight movement. (iii) Dualling and widening of sections of Regional Strategic Transport Network would provide safe overtaking opportunities, which would assist in providing more reliable journey times. (iv) Extensive structural maintenance would reduce disruption caused by more frequent responsive maintenance. (v) New replacement buses and trains and rail signalling will decrease possibility of mechanical breakdowns affecting journey times by public transport.
	Wider Economic Impacts	Most economic benefits of the RSTN TP are captured in the standard (TEE) economic appraisal

Quantitative Measure	Assessment
(i) Safety Benefits Of Rail Investment Not Quantified. (ii) Accident Remedial Works Would Be Undertaken On The Rstn. (iii) Nistrm-based Estimate Of Accident Savings. (iv) Safety Benefits Of Village Gateways Not Quantified. (v) Assumes Saving Of Approximately 20% Of Wet Skidding Accidents. (vi) Assumes 5% Saving In Pedestrian And Cycling Casualties.	Present Value Benefit (£m) (i) 0 (ii) 188 (iii) -79 (iv) 0 (v) 180 (vi) 2 TOTAL £291m
	Neutral
Present Value £m Other Government:	32
(iv) 16% Of Total Road Network Would Be Affected. (v) Not Quantified, But Likely To Be Significant	Moderate beneficial
Wider Economic Impacts Of The RSTN TP Not Assessed	Negligible

Objective	Sub-objective	Qualitative Impact
Accessibility	Option Values	Increased frequency on Goldliner services will improve accessibility, particularly for the non-car-available traveller
	Severance	(i) Provision of bypasses would cause some severance along new alignments but would reduce severance for residents by removing through traffic from urban areas. (ii) The introduction of traffic calming and pedestrian footways and crossings in both urban and rural areas would reduce severance for large numbers of people (iii) Increased road width would increase severance for residents on Regional Strategic Transport Network.
	Access to the Transport System	(i) The bus replacement programme would provide modern vehicles conforming to the latest standards for accessibility, which would improve access to the transport system for many potential users including those with disabilities. All new buses/coaches will meet the requirements of the Disability Discrimination Act. (ii) Major refurbishment of a number bus stations across Northern Ireland as well as provision of dedicated Park and Ride Facilities at existing stations will improve facilities for disabled people and facilitate access to the transport system. (iii) Provision of new or enhanced passenger interchanges and accessible docking points would remove some of the barriers for people wishing to use public transport. (iv) Provision of new railway stations and dedicated Park and Ride sites at existing stations would improve facilities for disabled people and remove some of the barriers for people wishing to use public transport.
Integration	Transport Interchange	(i) Major refurbishment of bus and rail stations would improve the waiting environment and the interchange and passenger facilities. (ii) Greatly improved access to public transport timetable and route information with real time information at stations and stops would facilitate improved transport interchange. (iii) Park & Share/Ride would explicitly facilitate transport interchange from car to bus. Interchange from walking and cycling to bus would also be facilitated.

Quantitative Measure	Assessment
	Small beneficial
(i) Severance would be reduced potentially for people living in towns with a total population of approximately 120,000. (iii) Increased severance potentially for approximately 3,000 people.	**Slight beneficial**
(i) Older people, mobility impaired people and people with children in buggies could benefit. Potentially 16 million trips per annum. (ii) 7 new or enhanced bus stations, 7 stations with dedicated Park and Ride facilities. (iii) 7 new or enhanced passenger interchanges, 12 accessible docking points. (iv) 6 new/refurbished rail stations under consideration, 12 stations with dedicated Park and Ride facilities	**Moderate beneficial**
(i) New or enhanced facilities at 7 bus and 6 rail stations with dedicated Park and Ride facilities at 19 existing stations.	**Slight beneficial**

Objective	Sub-objective	Qualitative Impact
Integration	Land Use Policy	The Regional Development Strategy concept of; Urban hubs promoting sustained urban renaissance would be supported by: · public transport infrastructure and service additions and improvements; · reduction in the impact of traffic through provision of bypasses and management of highway infrastructure, including car parks; · making it easier to walk and cycle in urban areas. Key Transport Corridors within the Regional Strategic Transport Network would be supported by: · the provision of bypasses and highway improvements on Key Transport Corridors, and · the provision of new rolling stock and public transport interchange and service improvements. Enhancing regional gateways would be supported by: · improvements to Key Transport Corridors serving East/West and North/South gateways, and the operation of rail services to/from Larne and Londonderry; and Promoting balanced and integrated growth across the network of cities, main and small towns and their rural hinterlands to enhance the equality of opportunity would be further supported by the significantly improved highway maintenance and making it easier to walk and cycle in rural areas.
	Other Government Policies	(i) The Department of Culture, Arts & Leisure objective to foster a creative, informed and active lifestyle and project a positive image of Northern Ireland would be supported by high levels of road structural maintenance, bus fleet replacement and replacement of rail rolling stock, making it easier to walk and cycle and public transport infrastructure and service improvements; (ii) The Department of Enterprise, Trade & Investment objective to encourage growth of the economy would be supported by high levels of road structural maintenance, road infrastructure improvements and grade separation/bypasses on Key Transport Corridors and other parts of the Regional Strategic Transport Network. (iii) The Department of the Environment objectives for the environment would be supported as indicated by impacts against the Environment sub-objectives. The objectives for land use planning and road safety would be supported by traffic calming, other traffic management schemes and collision remedial works, making it easier to walk and cycle, innovative public transport and bypasses relieving urban areas of through traffic. Against the Landscape sub-objective, road widening would have a slight adverse impact on the environment. (iv) The Department of Finance & Personnel objective of enhancing the business performance of Northern Ireland's Departments and the wider public sector would receive some support by the schemes which make travel easier: high levels of road structural maintenance, public transport infrastructure and service improvements and grade separation/bypasses on Key Transport Corridors and other parts of the Regional Strategic Transport Network. (v) The Department of Health, Social Services & Public Safety objectives to develop policies that will lead to good health and well-being, and to ensure the delivery of high quality health and social care, would gain support from public transport timetable information, making it easier to walk and cycle, traffic calming and collision remedial and other works which would reduce accidents, and road infrastructure improvements (including widening, grade separation and bypasses on Key Transport Corridors and other parts of the Regional Strategic Transport Network) which would facilitate access to health and social care and improved emergency services response times. (vi) The Department for Employment & Learning objectives promoting improved living standards and accessible employment opportunities would be supported by public transport timetable information, bus replacement, grade separation and bypasses on Key Transport Corridors and other parts of the regional Strategic Transport Network,. (vii) The Department for Social Development and Office of the First Minister and Deputy First Minister objective related to tackling disadvantage would be supported by making it easier to walk and cycle, additional Goldliner services and the provision of new and improved public transport interchanges.

Quantitative Measure	Assessment
	Slight beneficial
	Moderate beneficial

Annex B

B1.0 Supporting Analyses

B1.1 Introduction

B1.1.1 The Guidance on the Methodology for Multi-Modal Studies (GOMMMS) specifies three additional Supporting Analyses to supplement the work presented in Appraisal Summary Tables.

- affordability and financial sustainability;
- practicality and public acceptability; and
- distribution and equity.

B2.0 Affordability and Financial Sustainability

B2.1 Introduction

B2.1.1 In the preparation of the Regional Transportation Strategy (RTS), much consideration was given to the funding required to deliver the Strategy and the extent to which the initiatives would be sustainable in the longer term. Affordability is a measure of the likelihood that public funds of the scale required by the Strategy will be made available. Financial Sustainability is a measure of the extent to which the individual initiatives within the Strategy are self-supporting from revenues.

B2.1.2 It was evident that the RTS could not be self-supporting and that significant public and private sector funds would be required. The RTS considered a variety of methods to increase the total level of funding available for transportation and to attract private sector finance. The RTS sets out how the affordability of the Strategy could be achieved using relatively new sources including Reinvestment and Reform Initiatives, Increased Developer Contributions, Sale of Assets and Private Finance. The greatest part of the funding would come from conventional public sector sources. Potentially there is a significant and valid role for the private sector in providing both highway infrastructure and public transport initiatives.

B2.1.3 The RTS envisaged a total investment of £3500m, of which £1370m was additional to recent historic levels of transportation spend. Although the actual amount allocated to transportation will be determined by normal budgetary processes, it was significant that the Assembly, in unanimously approving the strategic direction and underlying principles of the RTS, thereby endorsed the scale of investment it considered necessary for transportation during the RTS period.

B2.1.4 The RSTN TP has been produced within this funding scenario, allowing for an increase in funding commensurate with the extension to the timeframe of the Plan. Accordingly, it fits well with the ambitious, but realistic funding envelope envisaged by the RTS and, in the round, is considered affordable.

B2.1.5 However the affordability of individual initiatives as they are brought forward will need to be considered in the context of other competing priorities for public funds and on the availability of such funds at that time.

B2.1.6 The Plan proposals will be progressed on a measure-by-measure basis subject to:

- **detailed economic appraisal;**
- **clearing the relevant statutory procedures such as environmental assessment, planning and land acquisition (each of which may require public inquiries); and**
- **the availability of funds through the normal budgetary processes.**

B2.1.7 As the RSTN TP 2015 was being finalised, the Government issued for public consultation a draft Investment Strategy for Northern Ireland 2015 (ISNI), with a closing date for comments of 31 March 2005. If the draft Investment Strategy is confirmed later in 2005, it would propose significantly increased investment, particularly in major road improvements towards the end of the Plan period, within the Regional Strategic Transportation Network. Further work would, however, be needed to determine the details of the proposed enhanced improvement programme. Once the final outcome of ISNI is known, the aspects of the RSTN TP that are affected by ISNI will be reviewed. In any event, the implementation of ISNI will, like the RSTN TP, depend on the necessary resources, both capital and current, being made available through successive annual budget processes. These will determine the scale and pace at which the projects in ISNI will be delivered.

B3.0 Practicality and Public Acceptability

B3.1 Introduction

B3.1.1 Two important and interlinked considerations in formulating the RTS were that:

- it must be practical, i.e., the elements of the Strategy are capable of being implemented within the designated timescale; and

- it must have a high degree of acceptability among both the general public and key stakeholder groups, including those who will be involved in the implementation of the Strategy.

B3.1.2 Preparation of the RSTN TP has been guided by a number of principles including:

- that the Plan be firmly based on the RTS principles;
- that a pragmatic approach be adopted in terms of the measures proposed (that is, measures with a significant degree of public acceptability with a reasonable chance of being implemented during the Plan period) ; and
- that the distribution of funding between modes envisaged by the RTS be maintained as far as possible.

B3.1.3 Consequently because of the direct linkage between the RTS and the RSTN TP many of the issues relating to practicality and public acceptability highlighted in the Strategy are equally relevant to the Plan.

B3.2 Practicality

B3.2.1 With regard to practicality the following issues that could hinder or block implementation of the RSTN TP have been considered:

- technical issues;
- legal issues; and
- availability of human resources.

Technical Issues

B3.2.2 Implementation of certain elements of the RSTN TP would involve the use of new and developing technology and could, therefore, present technical issues that would need to be resolved to allow full implementation of the initiatives proposed. Examples include:

I. the lack of an industry standard approach to the design of accessible coaches;

II. using SMART Cards (Self Monitoring Analysis and Reporting Technology) to implement targeted fare levels for public transport[18] ;

III. using an Automatic Vehicle Location system to provide real-time information to passengers on buses and at stops and waiting areas[19] ; and

[18]During 2003-04 Translink have continued to roll-out delivery of SMART card ticketing technology across Citybus, Ulsterbus and NIR services

[19]During 2003 the first real-time information system (BUS TRAK) was launched on the Centrelink and City Express routes in Belfast. Further plans to extend the system to other routes are being considered

IV. providing public transport route and timetable information using new methods, e.g. Internet.

B3.2.3 It is believed that none of initiatives in the RSTN TP would present insurmountable technical difficulties. With regard to points (II), (III) and (IV) the adoption of best practice within the industry should allow these technical issues to be resolved. As regards point (I) the development of fully accessible coaches is under way and the timing of the GB accessibility regulations makes it likely that an industry standard will emerge within a suitable timescale.

Legal Issues

B3.2.4 The implementation of the following elements of the RSTN TP are subject to legislative constraints and regulation. While the requirements do not rule out the initiatives, they could, in practice, delay implementation on the ground:

I. any significant change to the governance, regulation and delivery of public transport services would require a review of and changes to the Transport Act (NI) 1967;

II. all major roads infrastructure developments would require Environmental Impact Assessments under the Roads (NI) Order 1993;

III. all major roads infrastructure developments would also be highly likely to require vesting orders under the Local Government Act (NI) 1972 and the Roads (NI) Order 1993;

IV. changes to a Trunk Road would require a Direction Order under the Roads (NI) Order 1993; and

V. development of transportation facilities requiring significant land-take such as Park & Ride and Park & Share would require Planning Approval or amendments to Development Plans.

Objections under points (II)-(V) are likely to require the holding of public inquiries.

B3.2.5 A Draft Roads (Amendment) (Northern Ireland) Order 2004 has been prepared to amend the Roads (Northern Ireland) Order 1993. This will allow the three strands of the statutory processes relating to the development of roads schemes (Environmental Impact Assessment, Direction or Designation Order and Vesting Order) to be taken concurrently, as far as practicable, as part of a single inquiry process, while retaining separate legal status. It is anticipated that the new system will be in operation by January 2005.

Availability of Human Resources

B3.2.6 The RTS included funding for a new dedicated unit with specific transport planning skills, to undertake research, monitoring and review in support of the delivery of the Strategy as a whole. Staff appointments to the Data Monitoring and Modelling Unit began in January 2004 and it is anticipated the Unit will be fully operational by the middle of 2004.

B3.2.7 Delivery of the larger roads related programme would require additional staff resources with regard scheme development, design and procurement.

B3.2.8 The RTS also contained funding for additional public transport. Additional services will be dependent on the recruitment of additional operating staff. Recent experience has shown that such resources are not readily available.

Commitment of those responsible for delivering the Strategy and RSTN TP

B3.2.9 Translink and Roads Service are the two bodies responsible for the practical delivery of most of the initiatives within the Strategy and the RSTN TP. Both organisations were closely involved in all stages of Strategy and Plan development with representatives on the respective Project Board and Project Team. The RSTN TP Project Team contained representatives from Roads Service, Regional Planning and Transportation Division, Ports and Public Transport Division and Translink.

B3.2.10 There was a widespread view expressed through RTS consultation that there should be more compliance and co-operation between Government Departments in delivering the Strategy with a need for a multi-departmental implementation committee to ensure regional and multi-departmental delivery.

B3.2.11 The RTS Steering Group co-chaired by the Deputy Secretary responsible for Regional Planning and Transportation Division and the Chief Executive of Roads Service oversees the implementation of RTS including the development of the Transport Plans. Membership of RTSSG also includes the Translink Chief Executive, the Director to the Board of the NITHC, the Roads Service Director of Engineering, the Road Service Director of Network Services, Ports and Public Transport Division representatives and Planning Service representatives.

B3.3 Public Acceptability

B3.3.1 In assessing public acceptability, it was necessary to consider the

following issues that could impact on implementation:

- acceptance of the RSTN TP by the general public and key stakeholder groups, including other Government Departments;
- political opinion;
- impact on specific sections of the community; and
- commitment of all bodies responsible for delivering the Strategy (e.g. Roads Service, Translink) or whose activities would be embraced by it.

Regional Transportation Strategy

B3.3.2 The development of the Regional Transportation Strategy (RTS) was supported and informed throughout by a comprehensive consultation process. This included the publication of a Consultation Paper in January 2001 and subsequent feedback, meetings with key stakeholder representative groups, the establishment of a website, attitudinal research, a working conference and the subsequent publication of an independent report on the conference.

B3.3.3 Emerging strategies were presented at the RTS working conference on 28th September 2001. The main outcome of the conference was a broad consensus in support of the majority of initiatives outlined in the emerging strategies with a caveat that only the higher funding level would be acceptable.

B3.3.4 The Proposed RTS (based on the emerging Strategy at the higher funding level) was issued for consultation in February 2002. A consultation process report was produced which addressed the Public Acceptability issues in detail.

B3.3.5 In summary Public Acceptability was the primary reason for supplementing the Proposed RTS with the following additional initiatives:

- an additional £76m to provide £100m for rapid transit in Belfast;
- an additional £86m to accommodate increases in the estimates for rail infrastructure costs;
- an additional £66m for increased public transport capacity;
- an additional £18m in total towards the concessionary fares scheme and the Transport Programme for People with Disabilities; and
- an additional £163m to provide increased strategic highway improvements.

On 3 July 2002, the Assembly unanimously approved the strategic direction and underlying principles of the RTS.

B3.3.6 The Strategy's integration with the RDS enables it to contribute to the objectives of the Programme for Government. It contributes directly to each of the five priority areas, i.e. Growing as a Community, Working for a Healthier People, Investing in Education and Skills, Securing a Competitive Economy and Developing North/South, East/West and International Relations. It also strongly supports a range of other Government policies.

RSTN TP

B3.3.7 The development of the RSTN TP has been firmly based on objectives established in the RDS and RTS. Roads Service led the development of the Plan through an RSTN TP Project Team that consisted of representatives from Translink, Ports and Public Transport Division and Regional Planning and Transportation Division.

B3.3.8 During the preparation work leading to the production of the RSTN TP, Roads Service consulted with all the District Councils in order to identify all potential SRI schemes to be appraised against the 5 national criteria of integration, safety, economy, environment and accessibility, for possible inclusion in the Plan.

B3.3.9 Further consultation took place through a Working Conference on the Emerging RSTN TP, held in September 2003 and attended by 186 delegates. Representatives at the conference covered a wide range of stakeholders including the 4 main political parties, all 26 District Councils, a number of community groups and transport organisations. The main objective of this conference was to seek the views of the key stakeholders and the wider community and to stimulate discussion on the content of the Emerging Plan. The Minister of State, John Spellar, MP, addressed the conference and advised delegates that the development of the RTSN, through this Plan, would provide the whole of Northern Ireland with a more efficient and integrated transport system that would actively benefit society, the economy and the environment.

B3.3.10 Community Technical Aid (CTA) chaired the conference and facilitated the workshops. Delegates took the opportunity to express their views on the content of the Emerging Plan during workshop sessions covering five zones, Eastern Seaboard Corridor, Northern Corridor, North Western Corridor, Western Corridor and the South Western Corridor. After lunch a Q&A plenary session was held, when a panel comprising of Paul Sweeney, Deputy Secretary

DRD, Jim Aiken, Acting Chief Executive Translink, Dr. Malcolm McKibbin, Chief Executive Roads Service, Jack Cargo, Roads Service and Dr. David Connolly, MVA, answered questions from the floor.

B3.3.11 An independent Conference Feedback Report was produced by CTA and circulated to all delegates. Whilst broad support was given to the Emerging Plan by a large majority of the delegates a number of specific criticisms were expressed. The main points raised at the Conference are summarised as follows.

- **Regional Balance** – A number of delegates expressed reservations over the proposals contained in the Emerging Plan with regard to issues of equity, geographical and modal balance and effectiveness.

  Others welcomed the Plan as a reasonable way forward to resolving the region's transportation issues.

- **Strategic Linkages** – Criticisms were directed at DRD by some delegates for ignoring the RDS's emphasis on hubs, corridors, gateways and cross-border links. The RSTN TP linkage with the other two transport plans (BMTP and SRTP) was queried.

- **Railways** – The future of the railway lines north of Ballymena and Whitehead and the possibility of an earlier than anticipated review of these lines announced at the conference generated much discussion. Many delegates stressed the importance of the rail links to Londonderry and Larne.

- **Modal Split and Shift** – Conflicting views were expressed with regard to modal balance. Some delegates considered there was too much emphasis on buses and highways whilst others felt more expenditure should be allocated to rail and road schemes. There was uncertainty over how the Emerging Plan proposals could facilitate modal shift.

- **Accessibility** – The Emerging Plan's proposals to introduce 30 new 'accessible' coaches was not seen to go far enough. Delegates commented that people with disabilities require fully accessible transport options instead of limited availability. With regard the Concessionary Fares Scheme it was suggested that the scheme should be extended to include carers and community transport users.

- **Methodology** – DRD was urged by some delegates to revisit the methodology employed to produce the RSTN TP. A perceived top-down approach should be replaced by a real and meaningful analysis of local needs right across the board.

- **Corridor Schemes and Initiatives** – Delegates were given the

opportunity to comment on the Plan proposals in workshops. Most delegates expressed support for the initiatives proposed although there was support for further initiatives. The main points raised were:

- Eastern Seaboard Corridor – Again concerns regarding the railway closure issue were raised. The potential for a rail link with the International Airport was discussed.

- Northern Corridor – The earlier than anticipated review of rail services north of Ballymena and Whitehead raised concerns. The absence of the A26 dualling scheme was criticised.

- North Western Corridor – Delegates considered that Londonderry had been 'forgotten' in the Emerging Plan and that the guidance in RDS had not been followed. The absence of a Bypass for Dungiven was also commented upon.

- South Western Corridor – Concern was expressed over the lack of proposals for the A32 between Omagh and Enniskillen in light of the closure of the Omagh Hospital and the proposed new hospital at Enniskillen.

- Western Corridor – Delegates expressed disappointment that the A29 Cookstown Eastern Distributor Scheme was being held in reserve. The need for the Phase III of the Strabane Bypass was also stressed.

B3.3.12 Many favourable comments were received during the Working Conference. Most delegates welcomed the park and ride proposals and urged DRD to enhance the proposals to provide more parking spaces. The new trains and buses were welcomed. There was also strong support for the highway schemes.

B3.3.13 All delegates' comments received during and following the Working Conference have been considered in the preparation of the final Plan.

Regional Balance

The Needs of Particular Areas

B3.3.14 Amongst the many policy measures required to implement the long-term vision of the RDS, the Spatial Development Strategy (SDS) aims to provide a strategic focus to guide future development in order to promote a balanced and equitable pattern of sustainable development across the Region. The approach recognises that all parts of the Region make a valuable contribution to the quality of life, wealth and well-being of the people of Northern Ireland. The SDS identified 3 principal

component areas that have distinctive contributions towards the potential of the whole Region. These are:

- The Belfast Metropolitan Area and hinterland in the East;
- The major regional City of Londonderry and its associated sub-region in the North West; and
- Rural Northern Ireland comprising the main small towns and their rural catchment areas characterised by a dispersed settlement pattern.

B3.3.15 During consultation on the Emerging Plan, particularly during and after the Working Conference on 16 September 2003, the two areas of concern that were raised most frequently and strongly were the transportation needs of the North-West, and of the West of the Bann. (Clearly, many issues relevant to the North-West also relate to West of the Bann.)

B3.3.16 It was clear that the scale of infrastructure improvements being sought by delegates could not be satisfied due to the constraint imposed by the RTS funding assumption (extrapolated to 2015). Nevertheless this is a constraint that those developing the RSTN Plan have had to pay due regard to.

B3.3.17 Representatives of these areas pointed out the importance of good transportation links for the economic regeneration and social inclusion of their sub-regions; to enhance accessibility on an integrated basis for all users; to promote the hub, corridor and gateway approach of the RDS; and to take account of their distance from the Eastern Seaboard and the ports and airports.

B3.3.18 Representatives of some areas West of the Bann also commented that some 45% of the proposed funding on the RSTN is for railways (see figure 2.1). They noted that there is no railway service to Tyrone or Fermanagh, thus emphasising the importance of increased investment for road-based transportation measures.

B3.3.19 Much of the comment from the West and North-West areas is prompted by perceptions of good progress and significant investment on the Eastern Seaboard Corridor. This was confirmed as a Government priority by the Minister in September 2002. However, while the Eastern Seaboard may be a Government priority, it is not to the exclusion of other areas of Northern Ireland.

B3.3.20 Accordingly, comments on behalf of the North-West and West (as with all other feedback) have been taken into account in finalising the Plan, and proposed measures for these areas are integrated

into the relevant sections of the Proposed Plan. However, for convenience, the measures on the RSTN proposed for these particular areas are additionally summarised below so they can be seen in context. Because many of the measures relevant to the North-West are also West of the Bann, there is also some overlap between these sections.

West of the Bann

Strategic Context

B3.3.21 The area West of the Bann includes the 9 District Council areas of Armagh, Cookstown, Dungannon, Fermanagh, Limavady, Derry, Magherafelt, Omagh and Strabane. In the main these areas are predominantly rural having distinctive settlement patterns, formed from a rich mosaic of main and small towns, villages and dwellings in the open countryside.

B3.3.22 The main transportation issues for rural areas will be dealt with in the Sub-Regional Transport Plan. However, amongst a number of strategic objectives, the RDS seeks to support the development of a strong, diversified and competitive rural economy by enhancing the accessibility of Rural Northern Ireland by upgrading the RSTN (SPG-RNI 4.1).

B3.3.23 The area West of the Bann is served by 4 KTCs:

- the North-Western Corridor comprising the M2 / A6 route serving Northern Ireland's two largest cities - Londonderry and Belfast;
- the Northern Corridor comprising the A37 / A2 between Londonderry and Coleraine, as well as the rail link to Belfast;
- the Western Corridor comprising the A5 linking Londonderry with Strabane, Omagh and south to Dublin via the N2; and
- the South Western Corridor comprising the M1/ A4 linking Belfast with Dungannon, Enniskillen and Fermanagh.

Proposed Measures

B3.3.24 The Plan takes account of the RDS guidance by proposing a number of measures of significant benefit to the area West of the Bann. These are covered in detail in the main body of the Proposed Plan, but the key measures envisaged for the Plan period are summarised in Table B.1 for convenience. The Plan proposals will be progressed on a measure-by-measure basis subject to:

- detailed economic appraisal;

- clearing the relevant statutory procedures such as environmental assessment, planning and land acquisition (each of which may require public inquiries); and
- the availability of funds, as determined by Ministers, through the normal budgetary processes.

Funding for West of the Bann

B3.3.25 It is not always possible to extract the proposed spending that would benefit the area West of the Bann from the general spending envisaged for the RSTN as a whole. For example, £49.4m is envisaged across the RSTN for Bus Grant, Concessionary Fares and Fuel Duty Rebate, but it is not possible to disaggregate the amount specifically benefiting the area West of the Bann.

B3.3.26 However one area where proposed expenditure can be identified and would be of specific benefit to the area West of the Bann is with regard to Strategic Road Improvements (including the provision of around 37 sections of wide single 2+1s). Of the £529.4m proposed for these measures across the entire RSTN, some £336.2m or 63.5% is intended for routes serving the area West of the Bann[20].

B3.3.27 As mentioned in 5.1.27, dual carriageways are economically justifiable only where there are reasonably high traffic flows. Many of the Key Transport Corridors West of the Bann have somewhat lower traffic flows than this and, while the Plan proposes further dualling for parts of the A6 and A4, it also envisages around 37 sections of wide single 2+1 roads in this area. These give guaranteed overtaking opportunities by providing 2 lanes in one direction over several km of road, with one lane for opposing traffic.

B3.3.28 However, it is clear that, by the end of the Plan period, traffic flows on some KTCs west of the Bann will be approaching the point at which further sections of dual carriageway (beyond that already proposed in the Plan) would become justified, and this will need to be tested through economic appraisals at that time. Therefore, in the latter part of the Plan period it will be necessary to plan for the dualling of further sections of the A4, A5 and A6 routes for implementation after 2015, though such projects could only be initiated following completion of the statutory procedures and subject to the availability of resources, as determined by Ministers, at the appropriate time.

B3.3.29 The draft Investment Strategy for Northern Ireland is currently out for public consultation and, depending on the outcome, may provide scope to contemplate further SRIs west of the Bann within the Plan period.

[20]This excludes any Plan proposals on the Northern and North Western KTCs that are east of the Bann (A26 Glarryford – A44 junction dualling, M2/A26 Ballee Road East, M 2 Crosskennan Slips, M2 Sandyknowes to Greencastle widening) although these clearly benefit traffic travelling to Limavady and Londonderry.

Table B.1: RSTN TP Initiatives proposed for West of the Bann			
Measure	Scheme Estimate £million	Scheme Description	Scheme Progress
Strategic Road Improvements			
A2 Limavady Bypass	11.5	3.6km single carriageway bypass with 1.4km side roads	Completed
A5 Newtownstewart Bypass	8.2	2.6km single carriageway bypass	
A5 Strabane Bypass Stage II	4.5	2.6km single carriageway bypass with 1.4km side roads	
A6 Toome Bypass	18.2	3.5km dual carriageway bypass	
A5 Omagh Throughpass III	9.2	2.4km single carriageway throughpass	Under Construction
A2 Broadbridge Dualling	19.8	Upgrade existing route to dual carriageway standard	Preparation Pool (includes schemes to be added to the Preparation Pool)
A2 Skeoge Link (or equivalent)	2.9	1.9km single carriageway link road	
A3 Armagh North and West	14.6	3.8km single carriageway link road	
A4 Annaghilla, near Augher (PPP Package 2)	9.0	2.6km single carriageway realignment	
A4 Dungannon - Ballygawley (PPP Package 2)	97.0	Upgrade route to dual carriageway standard	
A4 Henry Street/Sligo Road	1.1	Provision of additional traffic lane on the approach to junction	
A5 Tullyvar (PPP Package 2)	5.9	1.8km realignment with climbing lane	
A5 Strabane Bypass Stage III	2.9	1.0km single carriageway bypass	
A6 M22 – Toome – Castledawson Roundabout	34.0	Upgrade existing route to dual carriageway standard	
A29 Carland Bridge	3.8	1.3km single carriageway realignment	
A32 Cherrymount Link	3.6	1.1km single carriageway link road	
A514 Cresent Link	4.4	Completion of Crescent Link to dual carriageway standard (1.9km)	
A2 Buncrana Road	8.1	Widening of Pennyburn r'about to Skeoge Link section	Forward Planning Schedule
A2 Buncrana Road	3.7	Widening of Skeoge Link to Border section	
A6 Dungiven Bypass	11.1	3.0 km single carriageway bypass	
A5/ N14 Strabane – Lifford Link	1.5	Upgrade of link between N14/ N15 in Lifford and A5 in Strabane	
A28 Armagh East	4.5	1.5 km single carriageway link road	
A29 Cookstown Eastern Distributor	10.8	2.8 km single carriageway distributor road	
A31 Magherafelt Bypass	8.9	3.0km single carriageway bypass	
TOTAL	**299.2**		

Wide Single (2+1s)			
Route	**Estimate £million**	**No. schemes considered within Plan period**	**Timescale**
A3	1.0	1	2004-09
A4	2.0	2	completed
A4	2.0	2	2004-09
A4	1.0	1	2009-15
A5	2.0	2	completed
A5	8.0	8	2004-09
A5	3.0	3	2009-15
A6	4.0	4	completed
A6	5.0	5	2004-09
A6	2.0	2	2009-15
A28	1.0	1	2004-09
A28	2.0	2	2009-15
A29	1.0	1	2009-15
A31	1.0	1	2004-09
A37	1.0	1	completed
A37	1.0	1	2004-09
TOTAL	**37.0**	**No. of Schemes: 37**	

Park and Share		Timescale
New or Enhanced Park and Share sites at:	A4/A45, Tamnamore	2004-07
	A6 Craigadick (North)	2004-07
	A371 Rathmore Road, Limavady, adjacent A37 Broad Road access from Scriggan Road.	2004-07
	A4/A45, Ballygawley	2007+
	A6 Altnagelvin	2007+
	A6 Castledawson (extension to existing facility)	2007+
	A29/A4/M1, Stangmore Junction	2007+
Bus		
New and Improved Bus Stations and Bus Stops	New or enhanced bus station - Strabane, Portrush	
	Provision of dedicated Park & Ride facilities at existing bus station - Armagh, Londonderry, Enniskillen, Omagh	
	New or enhanced passenger interchanges - Altnagelvin/Drumahoe, Ballygawley Roundabout, Castledawson Roundabout, Toome Bypass, Maghera Flyover/Craigadick	
	Accessible docking points - Augher, Clogher, City of Derry Airport,Dungiven, Fivemiletown, Moneymore, Randalstown	
Rail		
Following the decision in December 2004 to fund Option 2 of the RRG Report, a detailed work programme has yet to be determined		

The North-West

Strategic Context

B3.3.29 The North-West is considered to comprise the 3 District Council areas of Derry, Limavady and Strabane with key links to Co. Donegal. The area has a young population and an expanding workforce, and faces the opportunities and challenges of a sub-regional economy characterised by a growing number of high-tech jobs together with declining traditional sector employment and a persistent core of unemployment.

B3.3.30 The RDS designates Londonderry as a major Regional City and a Gateway. It is also the transport hub of the North-West with a pivotal role in cross-border trade and economic relationships. It is already the main urban centre in the North-West of Ireland and a proven bridge for investment, particularly between America and Europe.

B3.3.31 The Republic of Ireland's National Spatial Strategy recognises the Derry – Letterkenny axis as one of 9 regional gateways in the Republic. So Derry has been identified by both Governments as the key growth pole for the North-West.

B3.3.32 The RDS provides strategic planning guidance in relation to transport in the North-West:

- (SPG-LNW 1) To develop a strong North-West centred on Londonderry. This includes upgrading the strategic transport links with the rest of Northern Ireland and cross-border.
- (SPG-LNW 2) To strengthen the role of Londonderry as the regional city and hub for the North-West. This promotes an integrated approach to infrastructure development to assist future growth in the city and its sub-region with enhanced transport links via the RSTN, particularly to give better and more reliable journey times to the North-West from Belfast and Dublin.

B3.3.33 The North-West is served by 3 KTCs:

- the North-Western Corridor comprising the M2 / A6 route serving Northern Ireland's two largest cities - Londonderry and Belfast;
- the Northern Corridor comprising the A37 / A2 between Londonderry and Coleraine, as well as the rail link to Belfast;
- the Western Corridor comprising the A5 linking Londonderry with Strabane, Omagh and south to Dublin via the N2.

As Derry is a Regional Gateway, these corridors also serve Letterkenny and Co. Donegal.

Proposed Measures

B3.3.34 The Plan takes account of the RDS guidance by proposing a number of measures of significant benefit to the North-West. These are covered in detail in the main body of the proposed Plan, but the key measures envisaged for the Plan period are summarised in Table B.2 for convenience.

B3.3.35 The Plan proposals will be progressed on a measure-by-measure basis subject to:

- detailed economic appraisal;
- clearing the relevant statutory procedures such as environmental assessment, planning and land acquisition (each of which may require public inquiries); and
- the availability of resources, as determined by Ministers, through the normal budgetary processes.

Funding for the North-West

B3.3.36 As mentioned in connection with West of the Bann, it is not always possible to extract the proposed spending that would benefit a specific area from the general spending envisaged for the RSTN as a whole. For example, across the whole rail network, £275m is envisaged for the Public Service Obligation, but as this spending would be spread across the entire network it is not possible to extract that for the Derry line and therefore the amount benefiting the North-West.

B3.3.37 Where spending of benefit to the North-West can be extracted is with regard to Strategic Road improvements, (including the provision of around 26 sections of wide single 2+1s). Of the £529.4m proposed for these measures across the whole RSTN, some £171.9m or 32.5% is intended for routes serving the North-West, including the A2, A37, A6 and A5[21] .

Dualling the A6

B3.3.38 One of the most frequent comments received during development of the Plan was the need to dual the entire M2/A6 route between Derry and Belfast. Commentators contrasted the standard of this route with the Republic of Ireland's expressed intention to provide dual carriageways between many of its major cities (although these will, of course, be largely funded by tolls).

B3.3.39 Currently, some 35.6% of the Belfast to Londonderry route is dual carriageway; i.e. the section comprising the M2 / M22 motorway

[21]This excludes any Plan proposals on the NW KTC that are east of the Bann (such as the M2 widening) although clearly these too will be of benefit to traffic between the North-West and Belfast.

and the Toome Bypass. The Plan proposes to continue this by dualling a further 12.7km of the A6 between Randalstown (i.e. the end of the motorway) and Castledawson Roundabout. This is expected to be complete in 2008 following which just under half (47.1%) of the route between Londonderry and Belfast will be either motorway or dual carriageway standard.

B3.3.40 Dualling the remainder of the route from Castledawson Roundabout to the outskirts of Londonderry is estimated to cost between £300m and £400m at 2002 prices, depending on the standard of dualling (the lower estimate is for a normal dual carriageway with at-grade junctions, the latter allows for flyovers at all public road junctions). The section from Maghera to Dungiven would be more expensive than normal given the topographical and environmental challenges of crossing the Sperrins; in addition, this section of the route is the lowest-trafficked and so the combination of high cost and low traffic would require detailed economic appraisal.

B3.3.41 When the funding envisaged by RTS is extended to 2015, there would be £529.4m available for Strategic Road Improvements in the RSTN TP period. However, this is fully taken up by the high priority SRIs proposed across the RSTN, including the £171.9m envisaged for SRI schemes on routes serving the North-West. Therefore, within the funding assumptions of this Plan, it would not be realistic to expect that further dualling of the A6 could be undertaken within the Plan period (apart from the Randalstown to Castledawson section already proposed).

B3.3.42 However, further dualling of the A6 will be required outside the RSTN Plan period, in order to develop and upgrade the link between Northern Ireland's two largest cities by 2025. Therefore, during the Plan period it will be necessary to plan the route of a dual carriageway between Castledawson and Derry, by undertaking a route selection study. This will inform the decision regarding the acquisition of land and route protection lines, e.g. for the Dungiven Bypass.

B3.3.43 As has already been mentioned, the section from Maghera to Dungiven is likely to have a lower benefit to cost ratio due to the higher cost of traversing the Sperrins and the lower traffic volumes. It is therefore likely that future dualling in the 2015 to 2025 period will commence at the Londonderry end of the route.

B3.3.44 The draft Investment Strategy for Northern Ireland is currently out for public consultation and, depending on the outcome, may provide scope to contemplate further SRIs to serve the North West within the Plan period.

Table B.2: RSTN TP Initiatives proposed for the North West

Measure	Scheme Estimate £million	Scheme Description	Scheme Progress
Strategic Road Improvements			
A2 Limavady Bypass	11.5	3.6km single carriageway bypass with 1.4km side roads	Completed
A5 Newtownstewart Bypass	8.2	2.6km single carriageway bypass	
A5 Strabane Bypass Stage II	4.5	2.6km single carriageway bypass with 1.4km side roads	
A6 Toome Bypass*	18.2	3.5km dual carriageway bypass	
A5 Omagh Throughpass III*	9.2	2.4km single carriageway throughpass	Under Construction
A2 Broadbridge Dualling	19.8	Upgrade existing route to dual carriageway standard	Preparation Pool (includes schemes to be added to the Preparation Pool)
A2 Skeoge Link (or equivalent)	2.9	1.9km single carriageway link road	
A5 Tullyvar (PPP Package 2)*	5.9	1.8km realignment with climbing lane	
A5 Strabane Bypass Stage III	2.9	1.0km single carriageway bypass	
A6 M22 – Toome – Castledawson Roundabout*	34.0	Upgrade existing route to dual carriageway standard	
A514 Crescent Link	4.4	Completion of Crescent Link to dual carriageway standard (1.9km)	
A2 Buncrana Road	8.1	Widening of Pennyburn r'about to Skeoge Link section	Forward Planning Schedule
A2 Buncrana Road	3.7	Widening of Skeoge Link to Border section	
A6 Dungiven Bypass	11.1	3.0 km single carriageway bypass	
A5/ N14 Strabane – Lifford Link	1.5	Upgrade of link between N14/ N15 in Lifford and A5 in Strabane	
TOTAL	145.9		
*Schemes not located in the 3 council areas considered to make up the North west, but which offer direct benefit to the region.			
Wide Single (2+1s)			
Route	Estimate £million	No. schemes considered within Plan period**	Timescale
A6	4.0	4	completed
A6	5.0	5	2004-09
A6	2.0	2	2009-15
A37	1.0	1	completed
A37	1.0	1	2004-09
A5	2.0	2	completed
A5	8.0	8	2004-09
A5	3.0	3	2009-15
TOTAL	26.0	No. of Schemes: 26	
**Includes a number of 2+1 schemes located outside the North West that benefit road users travelling to the area.			

Park and Share		
New or Enhanced Park and Share sites at:	A371 Rathmore Road, Limavady, adjacent A37 Broad Road access from Scriggan Road.	2004-07
	A6 Altnagelvin	2007+
Bus		
New and Improved Bus Stations and Bus Stops	New or enhanced bus station - Strabane	
	Provision of dedicated Park & Ride facilities at existing bus station - Londonderry	
	New or enhanced passenger interchanges - Altnagelvin/Drumahoe	
	Accessible docking points - City of Derry Airport,Dungiven,	
Rail		
Following the decision in December 2004 to fund Option 2 of the RRG Report, a detailed work programme has yet to be determined		

Political Opinion

B3.3.45 Transportation is developing an increasingly higher political profile with growing recognition of the strategic importance of our transport infrastructure and services to the future economic and social well being of the region. There is now an acceptance that investment in roads and public transport is a top priority in the budget, along with health, education and water and sewerage services.

B3.3.46 In 2000, the Assembly made a substantial allocation of additional funds to rail (as an outcome of the work of the RTF) and to road (for the upgrade of the Eastern Seaboard Corridor) in 2001.

B3.3.47 There was considerable political engagement in the RTS and RSTN TP consultation processes with representatives from local authorities and many political parties submitting responses to the consultation paper, attending consultation meetings, and attending the RTS and RSTN TP conferences. The Assembly's Regional Development Committee was also closely involved throughout the development of the Strategy.

B3.3.48 The Minister for Regional Development played an instrumental role in the development of the Strategy and highlighted to both the Assembly and the general public the urgent requirement for a significant increase in funding for transportation.

B3.3.49 The consultation process demonstrated that there is strong political support for and some opposition to various elements of the Strategy. Examples include:

- the inclusion of bus-based Park & Ride services would be likely to receive political support;
- the retention and improvement of the existing rail network was widely supported by local authorities, political parties and a number of MLAs. Mothballing of services north of Ballymena would lead to strong opposition from representatives of the area directly affected. Mothballing of services north of Whitehead would lead to strong opposition from Larne, Carrickfergus and Newtownabbey Borough Councils;
- in June 2000, the Assembly unanimously supported a motion that noted with concern the poor state of the public transport system in Northern Ireland and the urgent need for the problem to be addressed; and
- strategic road improvements on the KTCs would be likely to receive strong support from local authorities, political parties and MLAs. There could be concern, however, where there was perceived to be an inadequate number of schemes in a particular area or on an individual KTC.

Impact of the RSTN TP on specific sections of the community

B3.3.50 An Equality Impact Assessment of the RSTN TP, seeking to identify any differential impacts within the Equality groupings listed under Section 75 of the Northern Ireland Act 1998, has been prepared. The EQIA report is published separately from the RSTN TP and copies are available on request from DRD.

B4.0 Distribution and Equity

B4.1 Distribution (including New TSN)

B4.1.1 The fair distribution of initiatives across Northern Ireland has been a major theme throughout the preparation of both the RTS and the RSTN TP.

The RSTN TP has taken distribution into account in four main ways:

- through compliance with the general principles and modal funding split set out in the RTS, in particular to ensure that public transport expenditure will be at the level envisaged by the RTS;
- through work by transport engineering consultants using the NISTRM model, designed to show the overall effect of Public Transport and highway schemes both on the strategic network and on individual council areas;
- through appraisal of the highway schemes to be included under

the five national criteria of environment, safety, economy, accessibility and integration, which include aspects relating to social exclusion; and

- through consideration of the main areas in which transport interacts with social exclusion.

Compliance with RTS

B4.1.2 Consideration was given throughout the formulation of the RTS as to how its potential elements would help tackle poverty, social disadvantage and social exclusion. A specific analysis was made to show the benefits of public transport initiatives on these issues. This concluded that the socio-economic profile of public transport users clearly demonstrated that investment in these services targets resources at those in greatest social need, especially investment in bus-related schemes.

B4.1.3 The RSTN TP has aimed to maintain the distribution of expenditure envisaged by the RTS and to comply generally with its principles and aims. In particular it aims to ensure that public transport expenditure will be at the level envisaged by the RTS and targeted in the way intended by the RTS, so that it makes the contribution expected in terms of access opportunities and modal shift, and therefore in terms of tackling social disadvantage.

NISTRM

B4.1.4 The overall effects of the RSTN TP over the period 2002-2015 were assessed for the Plan in terms of Northern Ireland as a whole using the Northern Ireland Strategic Transport Model (NISTRM). NISTRM has origin and destination information and therefore can model the benefits of the whole network both to Northern Ireland and to smaller geographic areas. It can therefore measure benefits to one area accruing from schemes in another area. A fuller description of how NISTRM works, including its limitations, can be found in Annex D. For the purpose of assessing the effects of the Plan on areas of deprivation, the average of ward level Multiple Deprivation scores for each council area was considered. From this it was clear that the more deprived areas are generally in the west of Northern Ireland. Accordingly an analysis was run on the model to produce an "East/West" distribution of benefits on the following basis:

- **East:** Antrim, Ards, Ballymena, Ballymoney, Banbridge, Belfast, Carrickfergus, Castlereagh, Coleraine, Craigavon, Down, Larne, Lisburn, Moyle, Newry and Mourne, Newtownabbey, North Down.

- **West:** Armagh, Cookstown, Derry, Dungannon, Fermanagh, Limavady, Magherafelt, Omagh, Strabane

The results of the analysis are shown in Table B.3:

Table B3: East/ West Distribution of Benefits of the RSTN TP

Area	East	West
Population	73%	27%
Benefits	64.6%	35.4%

B4.1.5 Thus it can be seen that greater benefits per head of population will accrue in the west and should contribute to reducing levels of deprivation associated with limitations in the transport system.

B4.1.6 The highway 2+1 schemes cannot be modelled within the NISTRM model. These have been targeted at rural single carriageways on the strategic network which do not currently justify upgrading to dual carriageway standard. Since these are mainly in the west of Northern Ireland, it is considered that they will also contribute to an overall improved level of service in the RSTN in the more deprived areas and therefore to new TSN objectives.

Appraisal of Highway Schemes

B4.1.7 The highway schemes in the RSTN TP have been appraised under the five Government criteria of environment, safety, economy, accessibility and integration. The sub-objectives within these criteria are as follows:

- **Environment** – Noise; Air Quality; Greenhouse Gases; Landscape; Townscape; Biodiversity; Heritage; Water; Environment; Physical Fitness; and Journey Ambience.
- **Safety** – Accidents and Security
- **Economy** – Transport; Economic Efficiency; Reliability; and Wider Economic Impacts.
- **Accessibility** - Option Values; Severance; and Access to the Transport System.
- **Integration** - Transport Interchange; Land Use Policy; and Other Government Policies.

B4.1.8 Many of these sub-objectives have relevance to issues of social deprivation and social exclusion, but those of most relevance are noise, air quality, physical fitness, accidents, security, reliability,

wider economic impacts, severance, access to the transport system, transport interchange and land use policy.

In general these can be split into two main areas:

- objectives which may influence the overall quality of life in an area - noise; air quality; severance from community facilities and accidents; and
- objectives which are relevant to the economic well being of an area, through access to jobs and encouraging investment - access to the transport system; transport interchange; and wider economic impacts.

B4.1.9 The package of measures and initiatives set out in the RTS were assessed under these criteria and sub-objectives, as were individual highway schemes that were considered for inclusion in the RSTN TP.

Transport and Social Exclusion

B4.1.10 The Social Exclusion Unit of the Office of the Deputy Prime Minister (ODPM) have produced a report on Transport and Social Exclusion setting out the main links between transport, social exclusion and the location of services. The main issues identified by the report, which are relevant to the RSTN TP, are:

- improving public transport;
- making transport more accessible;
- improving travel information;
- integrating ticketing;
- assisting the socially excluded through concessionary fares; and
- traffic calming and collision remedial measures

B4.1.11 All these issues are addressed within the Plan. Improvements to accessibility for those with impaired mobility are also proposed, with full accessibility on inter-urban bus and coach services on the KTCs one of the aims of the Plan. Improvements to inter-urban bus and coach services in general and to travel information are proposed, along with the introduction of integrated ticketing. The regional Concessionary Fares scheme will be available to eligible bus and rail passengers on the RSTN.

B4.1.12 Though most traffic calming measures envisaged by the RTS are in urban areas and outside the remit of this Plan there will be some expenditure on the RSTN particularly on "gateway" features. Collision remedial schemes on the strategic network attract a significant level of expenditure.

B4.2 Equity

B4.2.1 Issues of equity have been considered throughout the preparation of the RSTN TP, in the following ways:

- through compliance with the RTS, which was itself the subject of an Equality Impact Assessment (EQIA);
- through the preparation of a separate EQIA on the RSTN TP;
- through a rural proofing exercise; and
- through a health impact assessment.

The RSTN TP EQIA, rural proofing and health impact assessment are published separately.

Access to Public Transport System for People with Mobility Difficulties

B4.2.2 The RSTN TP is one of the ways that DRD proposes to deliver its Accessible Transport Strategy. A Strategic Objective of the ATS is to develop an integrated, fully accessible public transport network which will enable older people and people with disabilities to travel by public, private and community transport services in safety and in comfort and move easily between these modes. Within the RSTN TP this means mainly improving access to longer distance travel by rail and bus for older people and people with disabilities.

B4.2.3 The improvements for people with disabilities arise mainly from the introduction of new, fully accessible public transport vehicles, and complementary improvements to infrastructure and service delivery. Accessible coach services will be introduced incrementally on the KTCs as new vehicles are introduced into service. The means of providing this service has not been finally decided as an industry standard accessible coach is not yet available.

B4.2.4 Improvements at bus stations will be required in conjunction with this service enhancement to provide a truly accessible and inclusive built environment. The bus replacement programme should also provide enhanced accessibility on all services and all infrastructure improvements should be designed for accessibility.

B4.2.5 New trains will be fully compliant with the Rail Vehicle Accessibility Regulations (NI) 2001. Features that will be provided include:

- 2 toilets, 1 of which will be fully wheelchair accessible;
- spaces for 2 passengers travelling in 2 wheelchairs;
- priority seating in each vehicle;
- call for aid buttons;

- an onboard ramp for access to and from the train;;
- baby changing facilities in universal toilet;
- signage including use of pictograms, Braille; and embossed lettering where appropriate.
- colour contrasting grab rails and grab handles;
- an onboard audio-visual passenger information system; and
- exterior, front and side destination displays.

Any infrastructure improvements on the rail network will also be designed with special attention to accessibility issues.

Annex C

C1.0 Strategic Planning Guidelines

C1.0.1 The RDS presents four Strategic Planning Guidelines (SPGs) that outline long-term policy direction with regard to developing a Regional Transportation System.

C1.0.2 **SPG-TRAN 1 – To develop a Regional Strategic Transport Network based on key transport corridors, to enhance accessibility to regional facilities and services.**

The Guideline was further developed as follows:

- **Tran 1.1** – The RDS identifies a core transport network of important regional and metropolitan routes (road and public transport infrastructure) known as the Regional Strategic Transport Network (RSTN). It incorporates 5% of the road network, which carries around 37% of total vehicle travel, and all of the rail system.
- **Tran 1.2** – Develop and maintain the identified RSTN to enhance accessibility on an integrated basis for all users including freight. To achieve this the aims are to:
  - incorporate quality public transport elements along the corridor routes with multi-modal interchange facilities, including provision for walking and cycling;
  - target improvements to upgrade the network, road and rail, giving priority to the Key, Link and Metropolitan Transport Corridors;
  - upgrade Westlink as a priority to reduce impacts of congestion and facilitate through traffic and freight movement, particularly that associated with the Ports of Belfast and Larne;
  - introduce local improvements at significant traffic bottlenecks to relieve congestion and facilitate transport efficiency for all road users, for example, at Toome to facilitate economic development in the West and North West, thus contributing to targeting social need;
  - plan investment across transport modes in an integrated way to achieve better co-ordination between regional and local needs; and
  - minimise environmental impacts of any infrastructure schemes through sensitive landscaping designed to integrate with the surroundings and incorporating regional landmark

features where appropriate.

- **Tran 1.3** – Examine access to regional gateways and cross borders links with an emphasis on improving connections from the 5 KTCs and 4 Link Corridors in order to:
  - promote gateway ports and airports as locations for major economic development and additional employment generation;
  - encourage progressive upgrading of East-West linkages to Great Britain and Europe; and
  - contribute to the creation of an integrated sustainable transport network for the island of Ireland as a whole. The development of a co-ordinated approach to spatial planning between Northern Ireland and the Republic of Ireland will assist the effective development of cross-border roads and public transport routes, and help the tourism industry.

C1.0.3 **SPG-TRAN 2 – To extend travel choice for all sections of the community by enhancing public transport.**

The Guideline was further developed as follows:

- **Tran 2.1** – Strengthen the regional bus network in ways that will reinforce the locational policies outlined in the Spatial Development Strategy.

Amongst others the following aims relate to the development of the RSTN:

- promote the development of public transport routes on the RSTN for express coach services with appropriate bus priority measures and associated Park & Ride facilities;
- ensure that interchange points on the RSTN are located to service major travel generating sources. The design, layout and access arrangements of surrounding developments should enable people to walk and cycle with ease and safety to join public transport services;
- promote bus-based park and ride schemes, especially in the BMA, particularly for commuting journeys;
- identify potential park and ride sites in development plans, particularly where green belt locations may be required; and
- examine options for improved public transport services to foster greater social inclusion for those with limited access to a car; with consideration of services from areas with high levels of unemployment and social disadvantage to major

employment locations.

- **Tran 2.2** – Strengthen the regional rail system:
  - further develop commuter rail services in the BMA connecting Carrickfergus, Lisburn, Antrim, Templepatrick and Bangor with Belfast and to services providing linkages with the lines to Londonderry, Newry and Larne;
  - keep under review the potential to progressively improve services and infrastructure;
  - encourage provision of park and ride facilities at railway stations taking advantage of any adjacent development opportunities;
  - reinforce the market for rail services by encouraging development in appropriate locations along rail corridors, in and close to termini and interchanges where access to the network can be gained, and by giving appropriate planning protection in future development plans to land required for new stations and associated park and ride facilities; and
  - examine the scope for promoting greater rail use for freight, exploring the potential for more all island rail freight movement, and the feasibility of improved connections with external gateways, the RSTN, and centres of major economic development.

C1.0.4 **SPG-TRAN 3 – To integrate land use and transportation.**

The need for closer integration of land use and transportation is central to the application of the RDS and to reducing the need to travel. Development plans will foster the integration of transport and development.

The Guideline was further developed as follows.

- **Tran 3.1** – Develop land use patterns which contribute to a much better range of travel choices for all, and reduce the demand for travel.

Amongst others the following aims relate to the development of the RSTN:

- utilise planning obligations or other appropriate mechanisms to ensure that developers contribute more fully to the cost of the improvement or development of the necessary transportation infrastructure and services with an emphasis on access by walking, cycling and public transport; and
- identify and safeguard realistic sites and routes, both existing and potential, which could be critical in developing

transportation infrastructure and ensure that any disused transport sites and routes are not severed by non-transport land uses. This will widen future options for sustainable transport purposes, including footpaths, cycle ways and in the longer term, possible public transport options, for example, the Eway Study of the former railway between Belfast and Newtownards.

C1.0.5 **SPG-TRAN 4 – To change the regional travel culture and contribute to healthier lifestyles.**

The RDS recognises the adverse environmental impacts associated with the car and over the long term the importance of changing travel behaviour. While it is recognised that complete journeys cannot always be made conveniently by public transport, the RDS seeks to enable people to conduct part of their journeys by public transport. In addition a major challenge is to revive the healthy habits of walking and cycling, particularly for relatively short journeys of less than two miles.

The Guideline was further developed as follows.

- Tran 4.1 (Managing travel demand) Manage the transportation system more comprehensively, with a strategic approach to traffic management to achieve wider planning and transportation aims, including more responsible car use where appropriate in urban and rural areas:

Amongst others the following aims relate to the development of the RSTN:

- develop and promote the use of park and share sites at key nodes on the road network to facilitate car sharing by commuters.
- evaluate and develop measures, such as road user charging and workplace parking levies, where these would have potential to provide additional funding for investment in public transport infrastructure and services and/or influence a modal shift to public transport use; and
- channel major freight movements on the RSTN, and identify urban and rural feeder routes for heavy lorries to facilitate local businesses, and protect residential amenities.

- **Tran 4.2 (Walking and cycling)** – Give greater priority to encouraging more walking and cycling.

Amongst others the following aims relate to the development of the RSTN:

- promote walking and cycling, particularly for short journeys to work, school, shops and for leisure by integrating their needs into new transport and development schemes and related site planning, to provide safe and environmentally attractive walking and cycling facilities.
- co-operate with and/or promote initiatives to open up new long distance walking routes linked with recreational and tourism opportunities; and
- implement the 'Northern Ireland Cycling Strategy' with the help of the Northern Ireland Cycling Forum and in association with Sustrans to provide for the progressive development of cycle networks where the needs and safety of cyclists will be given priority, including on redundant railway lines, alongside canals and rivers, in linear parks and on existing roads.

- **Tran 4.3 (Road safety)** – Develop a new Road Safety Strategy* as part of the effort to to reduce fatal and serious road accident casualties through, amongst other aims:
  - the introduction of accident remedial measures, traffic calming, and improved road layouts within residential areas.

  *The Northern Ireland Roads Safety Strategy 2002-20012 was subsequently published in December 2002.
- **Tran 4.4 (Accessibility)** – The transport needs of people who do not have access to a car and those with reduced mobility demand an appropriate mix of transport services, which are accessible and affordable. A fundamental transport aim is to take account and seek to meet the needs of people with impaired mobility, including the specialised needs of people with disabilities and the elderly, in the implementation of planning policies, Traffic management schemes and development of all transport systems.
- **Tran 4.5 (Education and health)** – Promote sustainable transport access to education and health care establishments.

Annex D:

D1.0 Northern Ireland Strategic Transport Model (NISTRM)

D1.0.1 Transport engineering consultants were commissioned by DoE, Roads Service, Transportation Unit and co-sponsors (DoE Regional Planning Division and Northern Ireland Transport Holding Company), in January 1997, to undertake the development and subsequent use of a strategic transport model for Northern Ireland (NISTRM). The purpose of the model was to inform the development of priorities for transportation expenditure in Northern Ireland.

D1.0.2 NISTRM consists of a Highway Assignment Model, Public Transport Assignment Model, and Demand Model. It includes all principal modes of inter-urban land transport:

- highway vehicles, separated into Cars/LGVs and HGVs;
- bus, both Citybus operations in Belfast and Ulsterbus/Goldliner throughout the rest of Northern Ireland; and
- rail, operated by Northern Ireland Railways (excluding Belfast-Dublin Enterprise services).

D1.0.3 Travel demand and networks have been created for a single morning peak period (07:00-09:00) covering the principal commuting demands across Northern Ireland.

D1.0.4 NISTRM was formulated to produce estimates of future strategic flows by highway, bus and rail. These estimates are initially produced as demand matrices, which are then assigned to a future year network, to produce vehicle and passenger flow estimates for each strategic link. The model includes the effects of increased car ownership and additional trip-making arising from regional economic growth.

D1.0.5 The model uses a zoning system constructed by direct aggregation of Electoral Wards. In urban areas, especially town centres, the NISTRM zones equivalence directly to a single ward. However, in rural areas, two or more wards may be aggregated (generally along the axis of a strategic route) to form a single NISTRM zone.

D1.0.6 The use of Electoral Wards facilitated two key technical and presentation features as follows:

- digital ward boundaries, from Ordnance Survey Northern Ireland were used with a Geographic Information System (GIS) to create the NISTRM zone system precisely, and to locate zone centroids; and

- linking to the 1991 Census data was undertaken using a GIS, facilitating analysis of census Travel to Work data and other key datasets.

D1.0.7 NISTRM consists of the following representation of the transport networks of Northern Ireland:

- Highway
- all Motorway and A class road;
- selected, strategically important B class roads;
- regional bus (weekday between 7am and 9am)
- all Goldliner services;
- all Ulsterbus interurban and rural services;
- Belfast urban bus (weekday between 7am and 9am)
  - Citybus services aggregated by radial corridor; and
- rail services (weekday between 7am and 9am)
  - all services.

D1.0.8 In total the model consists of approximately:

- 350 zones;
- 1500 nodes;
- 4000 links;
- 200 regional (Ulsterbus) bus services;
- 30 regional (Goldliner) coach services;
- amalgamations of 40 Belfast bus services; and
- 30 rail services.

D1.0.9 The model was largely built using existing data with relatively little new Origin/Destination or screenline data collected during the model construction.

D1.0.10 Two separate processes or sub-models are involved in forecasting travel demand:

- a Trip Generation sub-model, which forecasts future year trip-ends using estimated 1996 demand matrices, and assumptions on future year land-use scenario macro-economics as inputs; and
- a Distribution/Mode Choice sub-model, which forecasts future year demand matrices by mode using estimated 1996 demand matrices, the future year trip-ends and generalised cost skims as inputs.

D1.0.11 Loading the demand matrices onto the transport network is undertaken separately by mode using four separate assignments, as follows:

- Highway Network Assignment;
- Citybus Network Assignment;
- Ulsterbus Network Assignment; and
- Northern Ireland Rail Network Assignment.

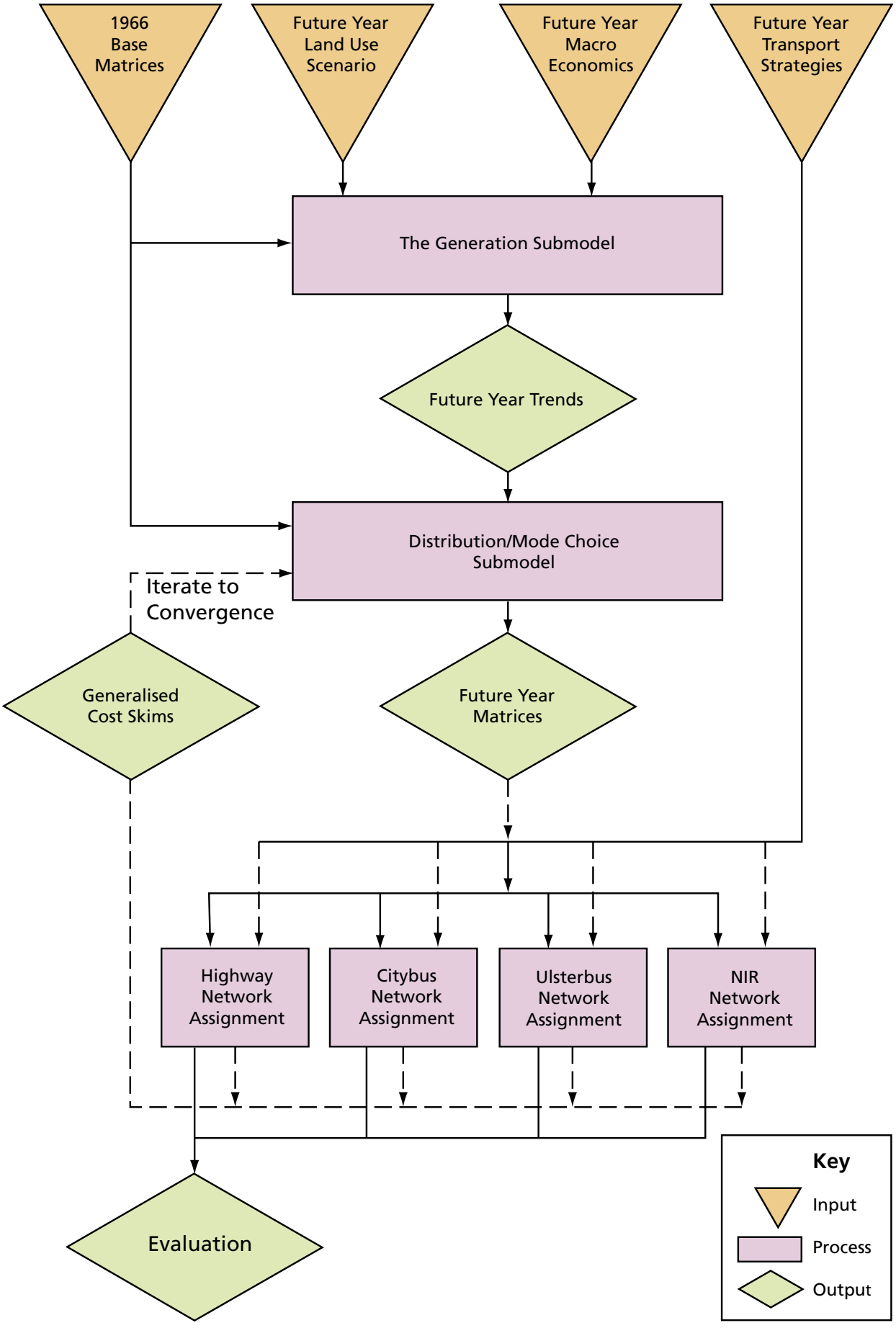
The overall structure of the model is shown in Figure D.1

D1.0.12 In February 2003 Road Service commissioned the use of NISTRM to undertake a series of tests in support of the development of the Regional Transportation Strategy for Northern Ireland, Regional Strategic Transport Network Transport Plan (RSTN TP).

D1.0.13 The RSTN TP covers the period 2002-2015 (originally 2002-2012) and contains a range of measures on the highway and public transport networks, including:

- on-line highway improvement schemes such as dual carriageway upgrades;
- new highway bypasses of towns;
- railway track relays and provision of new rolling stock; and
- additional inter-urban bus and coach services.

Fig D.1


1966 Base Matrices
Future Year Land Use Scenario
Future Year Macro Economics
Future Year Transport Strategies
The Generation Submodel
Future Year Trends
Distribution/Mode Choice Submodel
Iterate to Convergence
Generalised Cost Skims
Future Year Matrices
Highway Network Assignment
Citybus Network Assignment
Ulsterbus Network Assignment
NIR Network Assignment
Evaluation
Key
Input
Process
Output

ANNEX E: Glossary Of Terms

Accessible Docking Points	Bus stops specially designed to ensure accessible coaches can be boarded easily
AST	Appraisal Summary Table
BMA	Belfast Metropolitan Area – this includes the District Council areas of Belfast, Carrickfergus, Castlereagh, Lisburn, Newtownabbey and North Down.
BMTP	Belfast Metropolitan Transport Plan
Climbing Lane	Where two lanes are provided in the uphill direction allowing faster moving vehicles to overtake lorries or slower moving vehicles.
Clock-Face Operations	In terms of bus services, departure times are the same every hour e.g. 08.20, 09.20, 10.20, 11.20 etc.
CCTV	Closed Circuit Television
CO_2	Carbon Dioxide
CP	Construction Programme
DAL	Differential Acceleration Lane – where two lanes are provided on the exit from a roundabout allowing faster moving vehicles to overtake lorries or other vehicles that are accelerating more slowly away from the roundabout.
DARD	Department of Agriculture and Rural Development
DBFO	Design, Build, Finance and Operate
DCAL	Department of Culture, Arts and Leisure
DDA	Disability Discrimination Act
DETR	Department for the Environment, Transport and the Regions (now called Department for Transport DfT)
Development Plans	Development Plans are prepared by the Department of the Environment to cover the development and use of land in Northern Ireland. The Development Plan for each area sets out detailed policies and specific proposals for land allocations needed to support the life of the local community and social and economic progress.
DfT	Department for Transport
DLTR	Department for Transport, Local Government and the Regions (now DfT)
DoE	Department of the Environment
DRD	Department for Regional Development

Eastern Seaboard Corridor	Road and rail links between BMA and Dublin and northward to Larne, improving access to Warrenpoint and Rosslare.
EQIA	Equality Impact Assessment
EU	European Union
Five National Criteria	Five Transport specific objectives established by GOMMMS- environment; safety; economy; accessibility; and integration.
Fuel Duty Rebate (FDR)	Grant which rebates a proportion of the duty paid by bus operators on fuel used in providing approved stage carriage services.
FPS	Forward Planning Schedule
Gateway Features	Signs and road markings used to identify an area requiring lower speeds e.g. on the approach to towns and villages.
GOMMMS	Guidance On the Methods for Multi-Modal Studies
HIA	Health Impact Assessment
INSTANT	Partnership project between Roads Service and the National Roads Authority (ROI).
Interworking	Continuity of services, ensuring passengers are not required to transfer buses at intermediate points on their journey
ITS	Intelligent Transport Systems
KTC	Key Transport Corridor- defined by the RTS, the KTCs are those strategic long distance routes which connect a number of towns and provides links to the major regional gateways including linkages to the transport corridors within the Belfast Metropolitan Area.
Local Development Plans	Local Development Plans are prepared by the Department of the Environment to cover the development and land use in NI. The Development Plan for each area sets out detailed policies and specific proposals for land allocations needed to support the life of the local community and social and economic progress
MLA	Member of the Legislative Assembly
MTC	Those sections of the RSTN within the Belfast Metropolitan Area have beed deemed Metropolitan Transport Corridors (MTCs) for the sake of the BMTP.
National Cycle Network (NCN)	Network comprising traffic free, traffic calmed or lightly traffic routes for cyclists and pedestrians. NCN currently provides 6000 miles of cycling and walking throughout the UK, by 2005 this will be extended to 10,000 miles
NI	Northern Ireland

NIR	Northern Ireland Railways
NISTRM	Northern Ireland Strategic Model
NITHC	Northern Ireland Transport Holding Company – statutory body established by the Transportation Act (NI) 1967.
Northern Corridor	Links the BMA to Antrim, Ballymena, Ballymoney, Coleraine, Limavady and Londonderry by road and rail.
North-Western Corridor	Links the BMA to Londonderry Corridor, strengthening access to Belfast International Airport.
OJEU	Official Journal of the European Union
OUA	Other Urban Areas – Those towns described as main or local Hubs in the RDS and other towns outside the BMA with a Population greater than 5000. Includes Antrim, Armagh, Ballycastle, Ballyclare, Ballymena, Ballymoney, Ballynahinch, Coleraine, Comber, Cookstown, Craigavon, Downpartrick, Dungannon, Enniskillen, Kilkeel, Larne, Newtownards, Omagh, Portadown, Portrush, Portstewart, Strabane and Warrenpoint.
Parkway Station	A Parkway Station is predominantly served by Park and Ride. In general it is not situated within an urban area.
PI	Performance Indicators
PP	Preparation Pool
PPP	Public Private Partnership
PPS 13	Planning Policy Statement on Transportation and Land Use
PPS 3	Planning Policy Statement on Access Movement and Parking
PPTD	Ports and Public Transport Division (formally Transport Policy and Support Division TPSD)
Principle Nodes	Principle nodes represent key intersections between the Key Transport Corridors, Link Corridors and Trunk Roads.
Programme for Government	A programme incorporating the Executive's agreed budget linked to policies and programme which, under the Agreement, is subject to approval by the Assembly, after scrutiny in Assembly Committees, on cross-community basis.
PSNI	Police Service of Northern Ireland
QBC	Quality Bus Corridor
Railways Task Force (RTF)	Established in April 2000 under the joint Chairmanship of the Department and NITHC to identify the range of options for the future of the railway network in NI following a major review of railway safety. The RTF interim report was published in September 2000.

Rapid Transit (RT) Scheme	A general term for a new type of quality public transport service offering improved speed, comfort and access features over conventional public transport services. In order to achieve the speed improvement, the service will operate (for at least part) on an exclusive route, unaffected by highway congestion. Examples include Guided Bus and Light Rail
RDS	Regional Development Strategy
Reinvestment and Reform Initiative (RRI)	This initiative was announced by the Prime Minister and the Chancellor on May 1 2002 and provides NI with an opportunity to reduce the major deficits in its investment in strategic infrastructure and to modernise key services.
RPTD	Regional Planning Transportation Division
RSTN	Regional Strategic Transport Network – is made up of the rail system, five Key Transport Corridors, along with the remainder of the Trunk Road network.
RSTN TP	Regional Strategic Transport Network Transport Plan
RTS	Regional Transportation Strategy
Rural Transport Fund (RTF)	Package of additional funding to increase accessibility and mobility by public transport in the countryside.
SDS	Spatial Development Strategy
SMART Card	Self Monitoring Analysis and Reporting Technology
South-Western Corridor	Links the BMA to Craigavon, the Fermanagh Lakeland, the Sperrins and to important cross-border routes.
SPG	Strategic Planning Guideline
SRI	Strategic Road Improvement
SRTP	Sub-Regional Transport Plan
Streetwise	A Euro Regional project involving the National Roads Authorities of England, Scotland, Wales, Northern Ireland and the Republic of Ireland.
TICC	Traffic Information and Control Centre
Traffic Calming Schemes	Schemes normally provided in urban or residential areas with the objective to improve driver behaviour and reduce traffic speed in order to make the environment safer for pedestrians and cyclists.
Trans-European Network (TENS)	Purpose of TENS lies in the general objective of economic and social cohesion, and one of the main aims is to link island, landlocked and peripheral regions with the central regions of the European Community

Translink	Translink is the name used to describe the integral organisation comprising the three operating companies Northern Ireland Railways, Ulsterbus and Citybus.
Trunk Road Network	The Trunk Road Network is a designated network of strategic roads that because of their significance in transportation delivery should attract priority in the allocation of maintenance and development funding. The network comprises those roads linking the main provincial towns with Belfast, Londonderry and the main air and sea ports; selected roads linking the largest provincial towns with each other and the principal roads linking to the National Primary Road Network in the Republic.
New TSN	New Targeting Social Need
UTC	Urban Traffic Control – a computerised system of linking traffic signal timings
Western Corridor	Links west of Lough Neagh between Donegal, Londonderry, Strabane, Omagh, Monaghan and Dublin.
Wide Single Carriageway	Known as 2+1's they give guaranteed overtaking opportunities by providing two lanes in one direction over several km of road with one lane for opposing traffic.

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