



**THE  
STATE  
OF THE  
NATION**

**TRANSPORT  
2013**

**NORTHERN  
IRELAND**



# THE STATE OF THE NATION NORTHERN IRELAND: TRANSPORT

Transport is a vital part of our everyday lives, and is essential for economic growth.

Transport is the very definition of a *means to an end* – enabling the movement of people and goods for the benefit of our economic and social wellbeing.

## ABOUT ICE

The Institution of Civil Engineers (ICE) is a UK-based international organisation with around 80,000 members ranging from students to professional civil engineers. It is an educational and qualifying body with charitable status. ICE's *State of the Nation* reports are compiled by experts from our membership and beyond. In preparing this document, ICE engaged with a broad cross-section of transport stakeholders in Northern Ireland and across the UK.

## WHERE WE ARE NOW

Given the rural nature of most of Northern Ireland (NI), the vast majority of transport here is undertaken in private cars as public transport cannot offer the frequency or flexibility to make it a viable option for most journeys<sup>1</sup>.

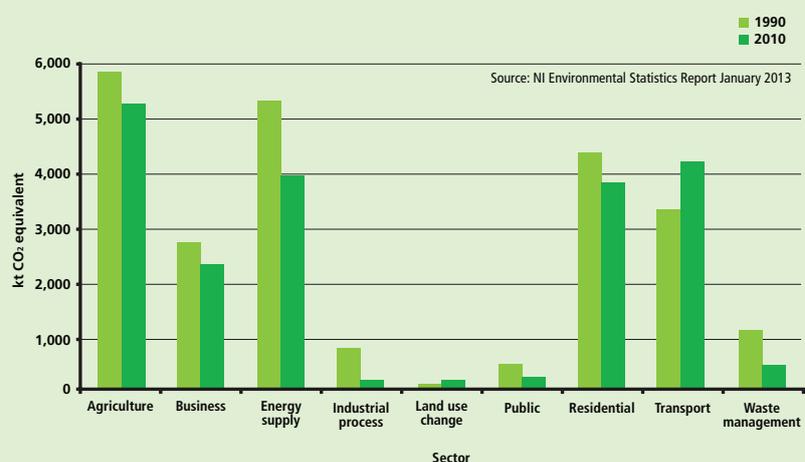
Unlike other regions of the UK, public transport in Northern Ireland has not been deregulated and infrastructure is controlled through the Department of Regional Development (DRD) and the NI Transport Holding Company. Accordingly competition is limited but the structure ensures less viable routes are serviced. Translink has introduced a co-ordinated timetable between Metro, Ulsterbus and NI Railways, but despite this ticketing options across services can be complicated.

The DRD's Regional Transport Strategy (RTS) for NI 2002-2012 sets out principal outcomes for rail, freight, cycling, walking, private cars and public transport including funding and spending projections for the key infrastructure requirements. The RTS has now expired and its replacement "Ensuring a Sustainable Transport Future – A New Approach to Regional Transportation" provides the Department's view beyond 2015; however, it lacks detail on committed funding and time-lines for implementation of proposals.

The dependence on private cars and use of fossil fuels raises concern over the high levels of greenhouse gas emissions; Belfast is one of the few cities in the UK where carbon gas emissions from the transport sector are increasing rather than decreasing<sup>2</sup>. To address this ICE welcomes the initiatives to provide alternative travel modes.



NI Greenhouse gas emissions by sector, 1990 & 2010



1. Travel Survey for NI In-depth Report 2009-2011

2. DARD Northern Ireland Rural Development Programme 2014 – 2020 Strategic Environmental Assessment (SEA) Consultation Draft Environmental Report



Attitudes towards transport are changing, albeit slowly, representing a shift in travel patterns. Translink reports that passenger numbers on public transport are increasing, park and ride schemes are often at capacity and road

deaths have been reduced drastically following years of highly visible campaigning. NI Executive departments and transport providers are successfully introducing measures that are making change attractive.

**WHERE WE WANT TO GET TO**  
ICE supports the DRD strategy “Ensuring a Sustainable Transport Future - A New Approach to Regional Transportation” as this will encourage a reduction in the use of private cars. ICE further believes that investment in transport infrastructure is vital for economic growth and stability. Every £1 of investment in a construction project generates £2.84<sup>3</sup> in total economic activity and building our infrastructure can lead to new jobs.

### CASE STUDY 1: ROAD SAFETY IN NORTHERN IRELAND

The UK’s record on road safety is one of great improvement. Deaths on our roads are around one quarter the level of the mid-1960s and the figures have almost halved in this century.

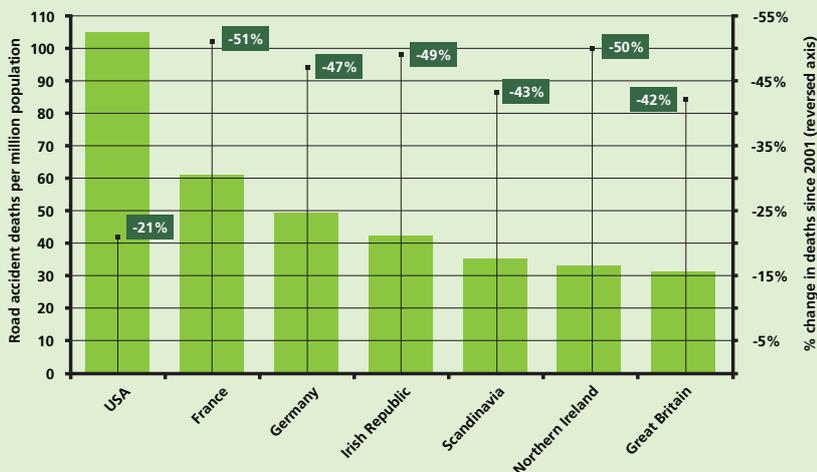
There are many reasons for the improvements: the ‘three Es’ of engineering (both infrastructure and vehicles), education, and enforcement are often cited.

The example of Northern Ireland is particularly striking. Road deaths have fallen from a peak of 372 deaths per year in 1972 to 48 in 2012 – the lowest number since records began in 1931.

The improvement has been attributed to a long-running focus on changing attitudes, particularly to speed and drink driving. Award-winning, hard-hitting campaigns have made a major contribution. The latest of these encourages people to make an online pledge to share ‘Vision Zero’ to cut road deaths, and the Roads Safety Strategy to 2020 targets a 60% reduction.

Northern Ireland has over 15,500 miles of roads, making it our biggest asset and something ICE feels is vital to maintain and upgrade. Despite the high numbers of private cars (1.26 cars per household in NI<sup>4</sup>), infrastructure is not being maintained to a high enough standard, particularly on B and C class roads, and without adequate maintenance our assets will deteriorate. Car travel accounts for over 70% of all journeys over 7 miles<sup>5</sup> and we need to maintain our roads as well as investing in other modes of transport.

Source: Department for Transport- International Comparisons of Roads Deaths 1991-2011



3. CECA – Securing our Economy: The Case for Infrastructure 4. Travel Survey for NI In-depth Report 5. Travel Survey for NI In-depth Report 2009-2011



# THE STATE OF THE NATION: MODAL REVIEW

ICE sees transport infrastructure and services as part of an integrated system serving the needs of a nation. The Executive's strategic approach, coupled with broad political consensus, has facilitated significant improvements in recent years. But more remains to be done.

ICE reviewed the components of NI's transport system, awarding each a rating, and outlining the improvements we believe are needed. Implementing our recommendations will allow transport's contribution to prosperity and quality of life to be maximised.

## SCORING MATRIX

Each section was given a grade following debate and a review of the existing infrastructure and facilities. Within each category a comparison is made to the score obtained in the 2010 State of the Nation review.

### A – FIT FOR THE FUTURE

Infrastructure is well-maintained and in good condition, with excess capacity to cope with major incidents. There is a clear strategic leadership with good plans to develop to meet the needs of the next 5 years.

### B – ADEQUATE FOR NOW

Infrastructure is in an acceptable condition, with a reasonable maintenance regime. It can meet the current demand and deal with minor issues across the network; however investment will be needed to meet the needs in the next 5 years.

### C – REQUIRES ATTENTION

Infrastructure is infrequently maintained and requires attention. There is no excess capacity, resulting in deficiencies at peak periods and if there are minor incidents. Significant investment is required to improve it to meet the needs in the next 5 years.

### D – AT RISK

Infrastructure condition is below standard and is poorly maintained. There is frequently a lack of capacity to meet demand and it is not resilient. In the absence of significant investment there may be an impact on the national economy.

### E – UNFIT FOR PURPOSE

Infrastructure is in an unacceptable condition, with little maintenance. There is insufficient capacity and the resilience is of serious concern. The state of the infrastructure is impacting on the national economy.





## STRATEGIC ROAD NETWORK

**2010: B, 2013: B-**

Northern Ireland's roads are our biggest infrastructure asset, vital to our economic and social wellbeing.

ICE welcomes significant improvements to several Key Transport Corridors (KTCs) including the A1 Belfast/ Dublin Route, the A4 Dungannon to Ballygawley and the A2 around Derry~Londonderry. However, there are relatively few improvement schemes currently under construction or due to start in the immediate future.

In order to maintain and improve our vital road network, ICE recommends:

- schemes already identified in the current transport plans (covering the period to 2015) are progressed to completion
- prompt reallocation of funds for the delayed A5 scheme - there are several schemes that could be progressed to construction at short notice
- prioritising future schemes without delay, recognising that statutory processes are required to progress schemes to site take considerable time
- more efficient maintenance of our critical network through a 'whole life' approach to asset management, and through protection – at the minimum - of current maintenance budgets.

Unlike its 2002-12 predecessor, the 'Ensuring a Sustainable Transport Future - A New Approach to Regional Transportation' document does not include details of schemes or projects. It instead sets out aims and objectives against which strategic transportation schemes can be assessed and prioritised. ICE is concerned that this could lead to unnecessary delay when there are useful

schemes that could be progressed to construction at short notice.

These include:

- A6 schemes between Randalstown to Castledawson, and from Dungiven to Derry~Londonderry
- A55 Outer Ring at Knock
- The strategically important Sprucefield Bypass and Maze development links.

Strong leadership and cross-party agreement are needed now to identify and progress the preferred schemes to site.

ICE believes that postponement of the A5 scheme will have far-reaching adverse impacts for the construction industry, which is already facing a difficult environment. It will also deprive other sectors of the benefit of important connectivity improvements.

Conversely, ICE welcomes progress on the A2 Shore Road widening at Greenisland and recent proposals for the multi-level free flow interchange at the Yorkgate junction (serving the M2/M5 corridor, Westlink and the M3/ Sydenham Bypass corridor).

## CASE STUDY 2: DBFO2

The £350 million 'Design, Build, Finance and Operate package 2' project (DBFO2) was the biggest public infrastructure project in NI, providing employment for more than 5,000 people over the 36 months of the project. The project included 7 miles of dual carriageway bypassing Newry, four new junctions between Lisburn and Newry, upgrading of the central reservation safety barriers, 12 miles of dual carriageway between Dungannon and Ballygawley, and 2 miles of single carriageway improvements on the A4.

DBFO2 was commissioned by Roads Service to improve strategic road links between Belfast and Dublin and Belfast and Ballygawley. The 30 year contract is being delivered by Amey Lagan Roads public private partnership. Lagan Ferrovial, a joint venture between Lagan Construction and Ferrovial / Agroman, delivered the design and construction works and

Amey are responsible for delivering operations and maintenance and lifecycle design services.

The A1 Lisburn – Newry scheme was opened in July 2010, six months ahead of schedule while the A5 Dungannon – Ballygawley scheme opened in November 2010, one month ahead of schedule.

Due to the size, scale and economic importance of these projects, DBFO2 can be viewed as one of the cornerstones of Irish transport engineering. Moving more than 4 million cubic metres of earth, erecting 50 bridges and constructing and maintaining 100 miles of carriageway while ensuring minimal disruption and maintaining an accident frequency rate below the industry average adds to the success of this project. Investment in this key strategic route improves the linkage from Northern Ireland to continental Europe.



## CYCLING

**2010: NO SCORE, 2013: C+**

Cycling accounts for only a small share of journeys in Northern Ireland but around 4% of Belfast commuter trips are by bicycle<sup>6</sup>, and there is potential to encourage further growth. The proposed implementation of cycle hire schemes such as those in Dublin and London will also see more cyclists on our roads. ICE believes that concerns around safety discourage greater levels of cycling, and therefore urges:

- Expansion of the cycle network, incorporating greater safety features
- greater training in cycle safety awareness and skills.

A network of connected, high quality cycle routes is essential to ensure safety and to encourage further take-up of cycling. A good example is Sustrans route 9, offering a traffic-free route between Belfast and Lisburn, however more infrastructure and priority measures are required in many places. This is especially the case where there is greatest scope - perceived or actual - for conflict between users, such as at junctions and roundabouts. Existing cycling provision can be disjointed or ineffective: Advanced Stop Lines (ASLs) should be connected to cycle lanes, for example, allowing riders safe access to them.

Cycling Proficiency is currently the only cycling scheme taught in NI but it is not compulsory and is only provided to primary school children. The 'National Standards for cycle training' is widely available on the British mainland but is currently unavailable in NI. ICE feels that the adoption of recognised standards for cyclists to adhere to is vital for all road users' safety.

## PUBLIC TRANSPORT

**2010: B-, 2013: B**

Buses provide the main public transport in NI. Around 1.5 million journeys are taken each week by bus – the equivalent of 900,000 car trips. Rail travel, while less widespread, is growing – almost a quarter of a million trips were taken per week in the final quarter of 2012.

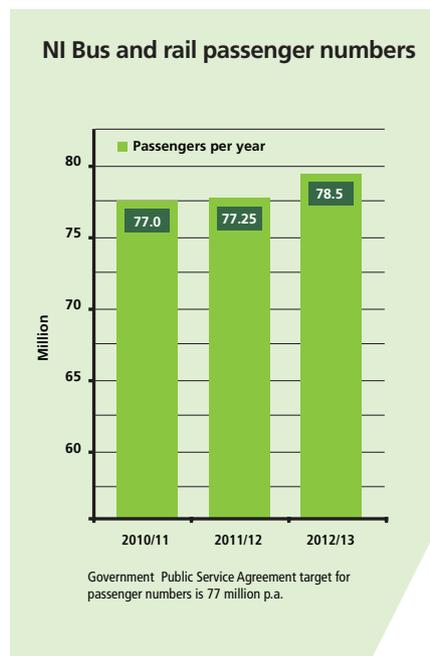
Park and ride facilities in NI are growing in popularity, with many of the existing sites close to major arterial routes and motorways reaching capacity early in the working day.

- Delivery of a fully-integrated ticketing system by Translink, akin to London's Oyster card.

ICE welcomes the publication of the BRT outline business case and the development of the design during 2013. The proposed connection with Belfast Central Station provides further connectivity, thereby ensuring that BRT is a viable part of the NI transport network. Care must be taken to ensure that the Rapid Transit proposal complements the existing facilities rather than competing with them. ICE looks forward to seeing construction progress in the near future.

ICE is encouraged by the success of park and ride to date. The Department's and Translink's programme has been effective in reducing travel by private car and should be extended to help address congestion and pollution problems.

We commend the tender for a new transport hub in Belfast to offer a better facility for daily commuters. ICE welcomes the recently completed £26m project between Coleraine and Londonderry which now sees the NI railway network with continuously welded rail throughout. ICE supports the provision of new Belfast rail halts, providing further alternatives to inner city motoring. ICE also supports the continued funding of free public transport for the over 60s as it demonstrates a commitment of the Executive to attitudinal change.



ICE shares the Executive's aims of increasing public transport's share of trips, and seeks:

- Continued progress on the Belfast Rapid Transit (BRT) scheme
- Allocation of further funds directed to park and ride facilities, especially at rail interchanges
- Provision of new rail halts in Belfast

NI and London are exceptions to the more fragmented and deregulated UK public transport system. Retention of public sector control presents an opportunity to deliver convenient, fully-integrated fares, ticketing and timetables. London has set an example which NI could adapt to its own circumstances.



## PORTS

**2010: NO SCORE, 2013: B+**

The island's ports are essential for vital imports and wealth-creating exports, as well as providing passenger connections to the British mainland. Northern Ireland's ports have adapted to meet the demands of modern industry; the facilities at Harland and Wolff and Dong Energy are now used to manufacture and export renewable energy equipment.

Landside access to our ports is of paramount importance. The upgrade of the A2 in the north west allows for better connections to Lisahally, while the A1 upgrade works have improved linkages to Warrenpoint. However the route to Belfast is still subject to delay resulting from the congestion at the York Street Interchange. ICE recommends that improvement of this critical connection such that Belfast Harbour remains a viable competitor to Dublin port.

Belfast Harbour has recently had investment in its storage and berthing facilities; in 2013 Belfast Harbour saw an increase in the tonnage through the port of 43% from the 72,414 tonnes handled in 2011.

## AIR TRANSPORT

**2010: NO SCORE, 2013: B-**

Northern Ireland's airports provide vital links to the rest of Europe and beyond.

In 2011, Belfast International Airport was the UK's 13th busiest, George Best Belfast City airport was the 17th. Adding the City of Derry Airport saw Northern Irish airports serve 6.9 million arrivals and departures in 2011 – a slight decrease on the 2008 peak of 7.1 million.

Public transport connections to the airports could be improved. Translink run a bus service between Belfast International Airport and Belfast city centre every 15 minutes at peak times, with a lower frequency service to the other airports. The Belfast City Airport's rail connection is relatively far from the terminal and a difficult trip for those with mobility difficulties or luggage. Belfast International does not have a rail service but there is a line from Glenavy to Antrim, which is not currently in use. ICE recommends that this route must be maintained and protected in order to allow a future airport connection.

## ENERGY ASPECTS OF OUR TRANSPORT SYSTEM

In 2007/8 Northern Ireland imported 806,484 tonnes of petrol and diesel and this peaked in 2009 with 975,219 tonnes. By 2012 the import figure had reduced to 757,914 tonnes and ICE believes that this reflects a reduction in the use of vehicles combined with advanced engine technology.

The introduction of electric charging points makes electric cars a more attractive option in Northern Ireland. Initially this facility was only available to fleet users but the creation of more charging points opens the use of electric cars to the domestic market. The provision of additional charging points will further encourage electric cars and assist in improving our air quality standards.

### CASE STUDY 3: NI REDUCES APD

Northern Ireland's only direct link to North America was threatened in 2009 when an American airline proposed ending its Belfast-New York route, citing the impact of Air Passenger Duty.

The UK Government temporarily reduced long-haul APD as a precursor to its devolution to the Northern Ireland Executive, which subsequently set a rate of £0 for these flights. This move was seen as an important step in supporting tourism and inward investment, the route having generated around £100 million in total since it was first launched.



**SUMMARY OF RECOMMENDATIONS:  
Consequences of not delivering investment in  
transport infrastructure**

- Increasing levels of pollution in towns
- Decreasing economic and social alliance between communities
- Decreasing levels of health arising from reliance on private car
- Decreasing performance of NI's largest asset – its road network
- NI a less attractive place to invest

**Actions required by the NI Executive to help  
address these problems**

- Prioritise construction of future road schemes
- Remaining strategic road schemes and station improvements should be prioritised
- Provision of new rail halts in greater Belfast area
- Deliver sustainable modes of travel through an enhanced cycle network, Belfast on the Move and Belfast Rapid Transit, supplemented by e-car and Active Travel Demonstration
- Introduce a 3 year budget for roads maintenance to make spending more predictable and thereby enable better work planning
- Introduce a more efficient ticketing system across all public transport services
- Increased provision of park and ride sites throughout NI

**Benefits of delivery**

- Reduction in road deaths through improved safety
- Improved air quality as a result of reduced traffic congestion in our towns
- Improved health as sustainable transport is implemented
- Increased inward economic investment and job creation
- Decreased journey times

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