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Planning, financing and delivering transport infrastructure

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This paper compares the various ways in which transport infrastructure is planned, financed and delivered in each of the UK regions. This includes a comparison of public spending on roads, bus and rail provision with an analysis of the subsidies paid to operators. The role of private sector finance in the delivery of infrastructure is considered and the various approaches to employing private capital, including how this is paid for, in the UK regions as well as in Belgium and Germany is set out

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Executive Summary

High quality infrastructure is a critical element of a country's economic and social prosperity and while the UK ranks highly in the global infrastructure league tables it does fall short of a number of countries of similar size and wealth.

At a regional level within the UK most powers relating to transport are devolved and as a result of this there is significant variation in the level of transport investment. However, the significant institutional differences between the transport sectors in GB and NI mean that any comparisons made within this paper should be treated with care.

Comparing public expenditure on transport among the UK regions

Public spending per capita is higher in Northern Ireland than in any of the other UK regions. However, less is spent on transport with Scotland's investment (per capita) more than twice as high as NI's in 2015-16 at £504, compared to £232 in NI.

- Road expenditure in Northern Ireland accounted for over 70% of all transport expenditure in three of the last five years;
- As a proportion of overall expenditure, England has the lowest level of road spend, averaging 41.5% over the past five years, followed by Scotland (44%), then Wales (53%);

Public Transport

Reductions to overall public spending in recent years have increased pressure on transport budgets across the UK. This has resulted in a series of cuts that have resulted in reduced services and increased fares. That said, subsidies in the UK regions make up a significantly higher proportion of bus operator revenue than in Northern Ireland; fare paying passengers contribute a higher proportion of operating revenue in NI (75%) than in England (58%), Scotland (48%) or Wales (58%).

The structure and scale of the rail sectors in GB and NI are so different that they cannot be readily compared. Even within GB, regional differences in funding are partly due to the very different operating environment with average passenger densities of 129 per train in England compared to 81 in Scotland and 69 in Wales impacting on expenditure.

Future Investment

As a result of uncertainty around future budgets in Northern Ireland, the Executive has agreed a number of 'flagship projects' that are to be delivered by DfI up to 2020-21. The 2016-17 budget statement notes that: "*it is important to provide funding certainty beyond that [one year] time span.*" Therefore, the Executive has agreed to identify a number of flagship projects where funding will be agreed now for future periods."¹

¹ Written Ministerial Statement: BUDGET 2016-17, Thursday 17 December 2015 [online] available from: <http://nia1.me/2wd>

Northern Ireland's reliance on the block grant creates great uncertainty around the delivery of such schemes. The York Street Interchange is an example of a key infrastructure project that has the potential to unblock a major bottleneck in Northern Ireland's road network, improve access to our major gateways and reduce congestion thereby supporting economic development.

Planning and delivering Infrastructure

The UK Government launched a National Infrastructure Plan (NIP) in 2010. The NIP, which has been regularly updated, outlines the government's strategy for meeting the UK's infrastructure needs to 2020. Significantly it sets out how the Government intended to plan, prioritise, finance and deliver critical projects. The newly established Infrastructure and Projects Authority (IPA) will oversee the implementation of the NIP.

Private sector investment will be a critical component of delivering this plan. The NIP indicates that around 50% of the infrastructure pipeline to 2020-21 will be financed and delivered by the private sector; however, around 85% of the planned transport expenditure will be publically funded.

The OECD has stated that leveraging private sector investment in strategic transport infrastructure will be essential and that quite simply, governments that fail to attract this type of investment will fail to deliver the infrastructure they need.²

Public Private Partnerships in infrastructure

While private sector provision of infrastructure can involve networks that are wholly owned and operated by the private sector, like those in GB's water and sewerage and energy sectors, for instance. There are also those commissioned by government but at least partly financed by the private sector - these are known as public private partnerships (PPP).

The uptake of PPP programmes varies significantly around the world, with many countries viewing it as a first choice for strategic infrastructure above a certain cost threshold, whilst others are more reluctant to expose themselves to the long-term debt liability.

PPPs have made a significant contribution to the Irish Government's delivery of its National Development Plan (2000-06) which included €6.7bn expenditure on national roads and €3 billion on public transport. A substantial proportion of the road improvements were implemented by means of concession type (financed by user tolls, locations shown in figure 5) PPP which involve the private sector designing, building, operating and financing (DBOF) the infrastructure (value €1.3bn). Much of the remainder of the capital was accessed from European funds such as the ERDF.³

² OECD (2012) Strategic Transport Infrastructure Needs to 2030 [online] available from: <http://nia1.me/3ib>

³ Scally F. (2006) Public Private Partnerships in Ireland: An Overview [online] available from: <http://nia1.me/3it>

PPPs in Northern Ireland

The Infrastructure Strategy for Northern Ireland (ISNI) sets out plans for over £19 billion to be invested by 2021. The majority of the finance for ISNI comes from the NI Block Grant. However, there are 39 operational PFI/PPP schemes in Northern Ireland that have delivered investment in major road improvements, water and wastewater infrastructure, secondary care, further education colleges and schools representing a capital investment of around £2bn.

Transport NI is signed up to two Design Build Finance Operate (DBFO) PPP Contacts each for a period of 30 years:

- DBFO Package 1 with Highway Management (City) Ltd commenced 27 February 2006. It involved a programme of major improvement works for the M1/Westlink route in Belfast valued at approximately £200 million.⁴
- DBFO Package 2 with Amey Lagan Roads Ltd commenced 19 December 2007. It involves £250M of expenditure for 38km of new road in three separate locations including the A1 (12km of new road).
- The combined cost of these repayments will average £245m per year until 2030, peaking in 2017 at £260m – repayments representing less than 3% of the Resource Budget available to the Northern Ireland Executive.

According to the OECD, PPPs have been used sparingly in NI due, in part, to concerns over the overall level of exposure to long term commitments which are removing flexibility from (or gradually 'silting up') departmental revenue budgets, particularly since the Northern Ireland Executive already borrows approximately £200 million per year from Treasury through the Reinvestment and Reform Initiative (RRI).⁵

A new PPP model in Scotland

The Non-Profit Distributing (NPD) model was developed as an alternative to the traditional Private Finance Initiative (PFI) model in Scotland and a range of projects in three main sectors: further education, health and transport have been delivered or are either under construction or in development.

This model is a variation of traditional PFI/PPP that seeks to address public concerns about profiteering and transparency. Like PPP, this model involves a partnership with a private sector provider who designs, builds, finances and maintains an asset. This enables the Scottish Government to greatly reduce the requirement for up-front capital, enabling it to spread the payments over the 30-year life of the contract. It differs from PPP in that it:

- Fixes the rate of return for the private sector partner;

⁴ NIAO (2009) Improving the Strategic Roads Network – The M1/Westlink and M2 Improvement Schemes [online] available from: <http://nia1.me/3jg>

⁵ OECD (2015) Public Governance of PPPs in the UK [online] available from: <http://nia1.me/3ik>

- Allows the public sector greater control and improves transparency of the private partner, usually through a “golden share” giving enhanced voting rights on key issues, although other methods are possible; and
- Surplus profits are not distributed to the private sector. Instead, they can be returned to the public sector, used to pay off debt, or invested in more or higher-standard services or infrastructure.

Enhancing Infrastructure Delivery: Highways England

Highways England’s (HE) role is to operate, maintain and modernise England’s strategic road network and in doing so it must deliver the UK Government’s Road Investment Strategy. This strategy is to be delivered with a guaranteed funding allocation of £15.2 billion for Highways England.

As stated around 85% of this money will be funded from the public purse by grants-in-aid from the Department for Transport. However, the decision to transform the Highways Agency into a publicly-owned corporation has made it more independent from the government, and has allowed it to move from a one, to a five-year funding cycle. The OECD has commented that this is a positive step⁶ based on its assessment that annual budget cycles for infrastructure result in unsatisfactory outcomes.⁷

Transport Expenditure in Belgium

According to the International Monetary Fund (IMF), while capital spending on general public services is relatively high in Belgium, investment in “*economic affairs*” including transport, at only 0.6 percent of GDP, is about half the EU average.

The European Commission has reported Belgium’s per capita spend on transport for 2014 was €2000, this is €1000 below the reported per capita spend in the UK (€3000).⁸

Private Finance

Private financing of infrastructure is a relatively new development in Belgium. However, a substantial number of PPP projects have commenced in Belgium, particularly in Flanders, since 2004. These schemes are initiated at the regional government level and include transport projects such as tramways and road construction schemes. The political context and problems with realising schemes of sufficient scale within the regions, given their size, is an issue Belgium shares, to some degree, with Northern Ireland. The Flemish government has therefore adjusted its PPP practices accordingly, opting to cluster a number of schemes to optimise the return of a project, and to attract private partners.⁹

⁶ OECD (2015) Improving infrastructure in the United Kingdom [online] <http://nia1.me/3ik>

⁷ OECD (2012) Strategic Transport Infrastructure Needs to 2030 [online] available from: <http://nia1.me/3ib>

⁸ European Commission [online] Transport and Mobility: Belgium. Available from: <http://nia1.me/3ja>

⁹ Verhost, et al. (2013) Public Private Partnerships in Transport: Trends & Theory P3T3 [online] available from: <http://nia1.me/3id>

This approach could be of interest in the NI context given many proposed schemes in the infrastructure pipeline are below the Treasury's minimum threshold of £50m. Would a grouping of, for example, two or more bypass schemes be possible to make a PPP beneficial for both partners and ultimately facilitate delivery of a backlog of schemes, which have remained on the 'shelf' for decades?

Germany

Germany's transport infrastructure is considered amongst the best in the world, given its dense network of railways, roads and waterways that is very well developed by international standards.¹⁰ However, this assessment does not reflect the growing concern around the condition of the country's existing transportation infrastructure, with *"an accelerating, large-scale erosion of infrastructure assets."*¹¹

The main barriers that Germany faces in attempting to deliver the key improvements required to enable the country, whose export driven economy depends on high quality transport infrastructure, are almost universal: access to funding and overcoming bureaucracy. In Germany for example funding for maintenance of roads has lapsed to the extent that it would require €2.65 billion per year to address its maintenance backlog.

The need for funding certainty is discussed in this paper as a prerequisite for efficient infrastructure planning and delivery. However, Germany like the UK (until recently) has allocated funding for capital schemes on an annual basis which does not align itself with the multi-year (i.e. medium-term) planning horizon anchored in the Federal Transport Infrastructure Plan.

*the system does not provide a stable funding framework which allows for reliable medium-term financial planning for transportation infrastructure projects. This represents a considerable challenge for major infrastructure construction projects, which are typically characterized by a multi-year planning horizon.*¹²

The construction and maintenance of Germany's trunk road network would have been traditionally funded entirely by the Federal government. However, as a result of budgetary pressures and increasing maintenance requirements legislation was passed in 1994 permitting private sector involvement. In the aftermath of this, two types of PPP model have emerged in Germany:

- Type A-PPPs were used to increase the capacity of some congested motorway sections by adding more lanes. Construction and maintenance costs for all Type A-projects are financed out by HGV charges while passenger vehicles remain exempt.

¹⁰ World Economic Forum (2016) Global Competitiveness Report [online] available from: <http://nia1.me/3ip>

¹¹ Roland Berger (2013) Planning and financing transportation infrastructures in the EU – A best practice study [online] available from: <http://nia1.me/3it>

¹² Roland Berger (2013) Planning and financing transportation infrastructures in the EU – A best practice study [online] available from: <http://nia1.me/3it>

In 2013, toll revenues totalled around €4.39 billion. This means that HGV tolls are making a sizeable contribution to the funding of transport infrastructure in Germany.

- Type F-PPPs were developed to overcome local infrastructure bottlenecks on the interstate highway system such as bridges and tunnels, and is essentially financed by user charges.

The German Government has now launched a “new generation” of PPPs to improve the federal trunk road network (motorways and federal highways). This will involve 11 projects and investment totalling around €15 billion for the construction, structural maintenance and operation of around 670 kilometres of federal trunk roads.

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1 Introduction

Broadly speaking the role of most national governments with regards to transport is to establish policy, set the legislative framework and determine funding priorities. They will often have responsibility for ownership and regulation of national networks such as strategic road and railway networks.¹³ However, typically, within the European Union (EU), most powers relating to transport are held by local or metropolitan authorities, including:

- the delivery of services, whether by contracting, franchising or licensing services, or owning and operating the provision of public transport services;
- Operation and maintenance of local road networks including pedestrian and cycling facilities, public lighting, bus stops and bus lanes; while
- They often have powers to raise taxes from land use, parking charges, from public transport fares and may have powers to borrow.¹⁴

A key element of local transport governance is that these bodies are deemed to be in the best position to determine the key issues, options, solutions and priorities for transport provision within their jurisdiction based on their knowledge of local needs.

In contrast, transportation policy, planning and delivery is highly centralised in Northern Ireland, with the Department for Infrastructure (DfI) responsible for:

- transport strategy and policy;
- provision and maintenance of all public roads;
- public transport policy and management/oversight of Translink;
- implementation of a range of transportation projects ranging from capital investment to education and awareness; and
- road safety and vehicle registration, licensing, testing and enforcement.¹⁵

The purpose of this paper is to explore and compare approaches to planning, financing and operating transport infrastructures in the United Kingdom (UK), Republic of Ireland (ROI) and broader European Union (EU).

2 Investing in Infrastructure

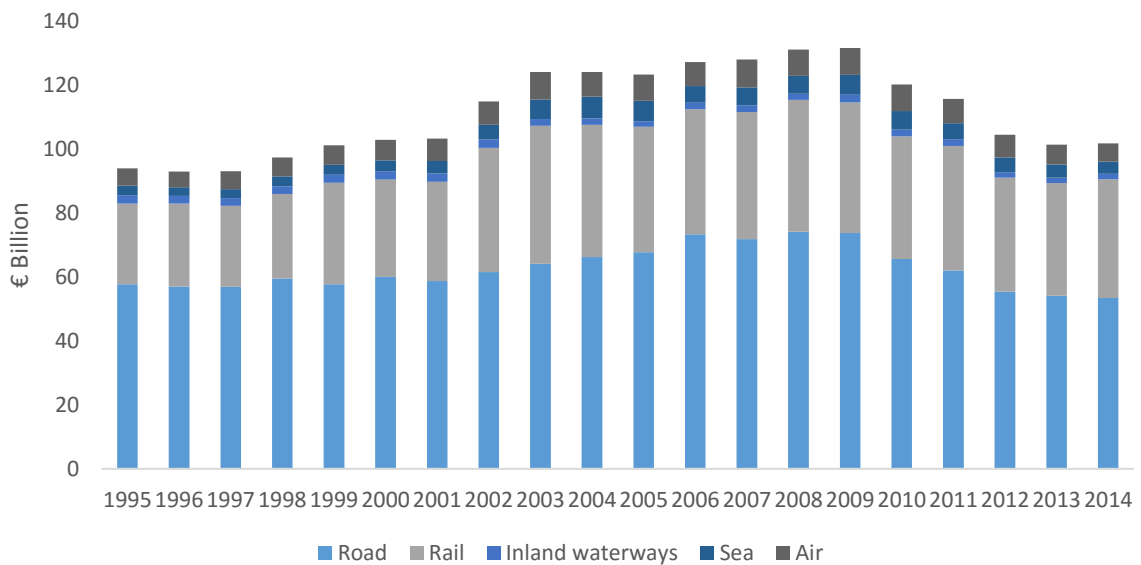
Since the mid-1990s, spending on transport infrastructure has increased significantly in Europe, reaching a peak in 2009. It has subsequently decreased each year. However, despite these reductions, in 2014, the level of spending was 8 % higher than in 1995.

¹³ Booz and Co. (2012) Study on the financing needs in the area of sustainable urban mobility: Final Report Prepared for: Directorate-General for Mobility and Transport [online] available from: <http://nia1.me/3h8>

¹⁴ Booz and Co. (2012) Study on the financing needs in the area of sustainable urban mobility: Final Report Prepared for: Directorate-General for Mobility and Transport [online] available from: <http://nia1.me/3h8>

¹⁵ DfI (2016) DFI FUNCTIONAL BREAKDOWN. Ministerial Briefing, 8th June 2016.

Fig. 1: Investment in transport infrastructure in the European Union



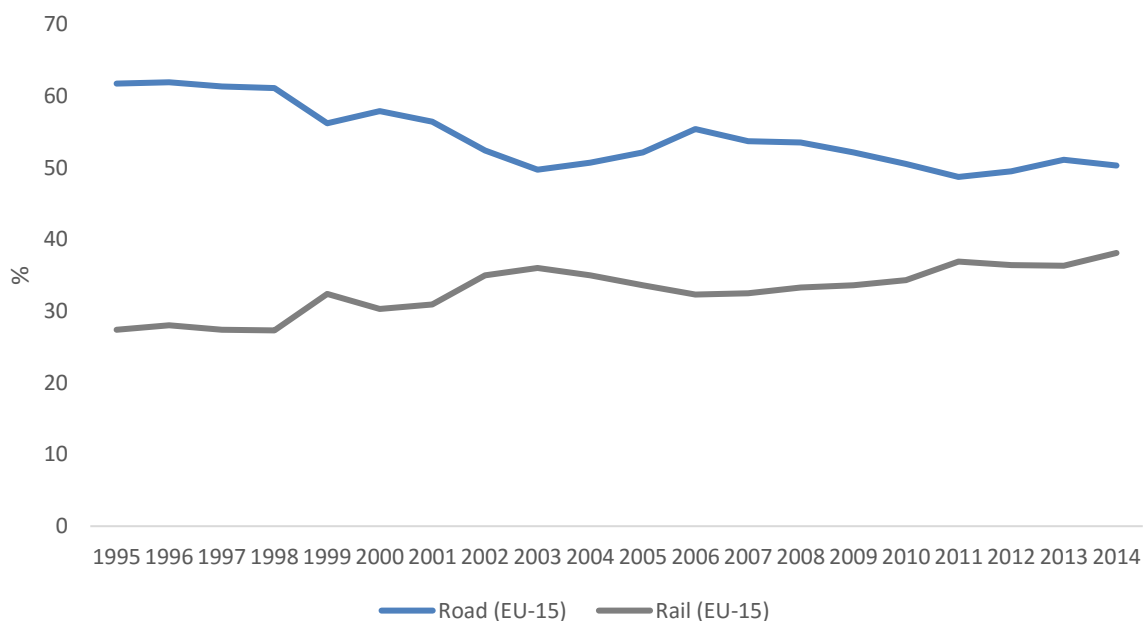
Source: Eurostat

Figure one shows that road and rail accounts for the bulk of infrastructure investment. However, this does fluctuate:

- The share of road transport investment has decreased from a high of 61% in 1995 to a 52% share of total investment in 2014.
- Rail investments comprised a 37% share in 2014, a larger fraction than in 1995 when the figure was less than 27%.

Infrastructure spending on other transport modes has remained broadly constant.

Figure 2: Modal share of expenditure on transport infrastructure



Source: OECD

The drop-off in infrastructure investment after 2009 is clearly linked to the global financial crisis. However, despite the crisis which led to increased deficits, debt and unemployment:

“Countries with good planning processes and strategic infrastructure plans linked to assured funding are continuing to successfully build the strategic infrastructure they need.”¹⁶

2.1 Investment in the United Kingdom

Analysis of infrastructure investment in the UK, conducted by the OECD has shown public spending in the UK has been lower than in other OECD countries, including the United States, France, Canada and Switzerland (see figure three). However, it has pointed to the numerous privatisation and liberalisation reforms of the 1980s involving infrastructures such as rail, energy, telecommunications, water and public transport which have seen private sector investment partly offset the decline in public spending.¹⁷

Figure 3: UK infrastructure investment, comparison with Canada, France, Switzerland and United States

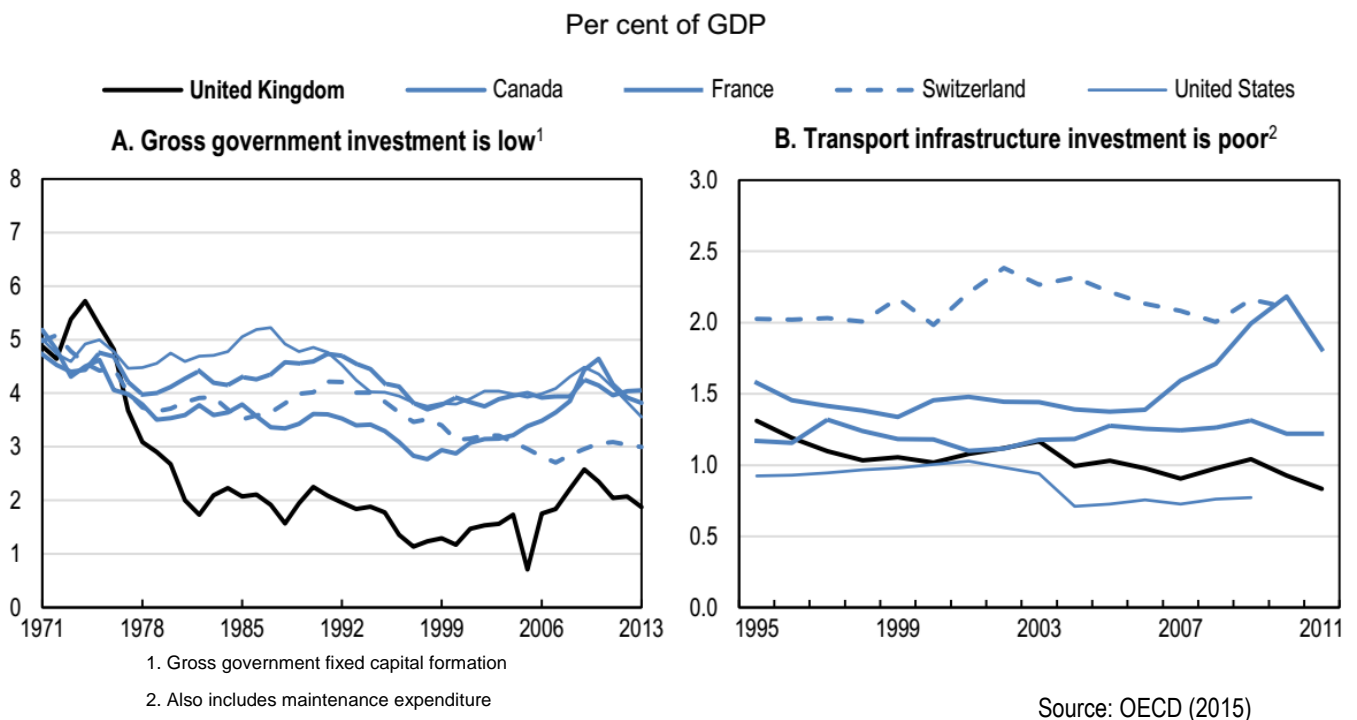


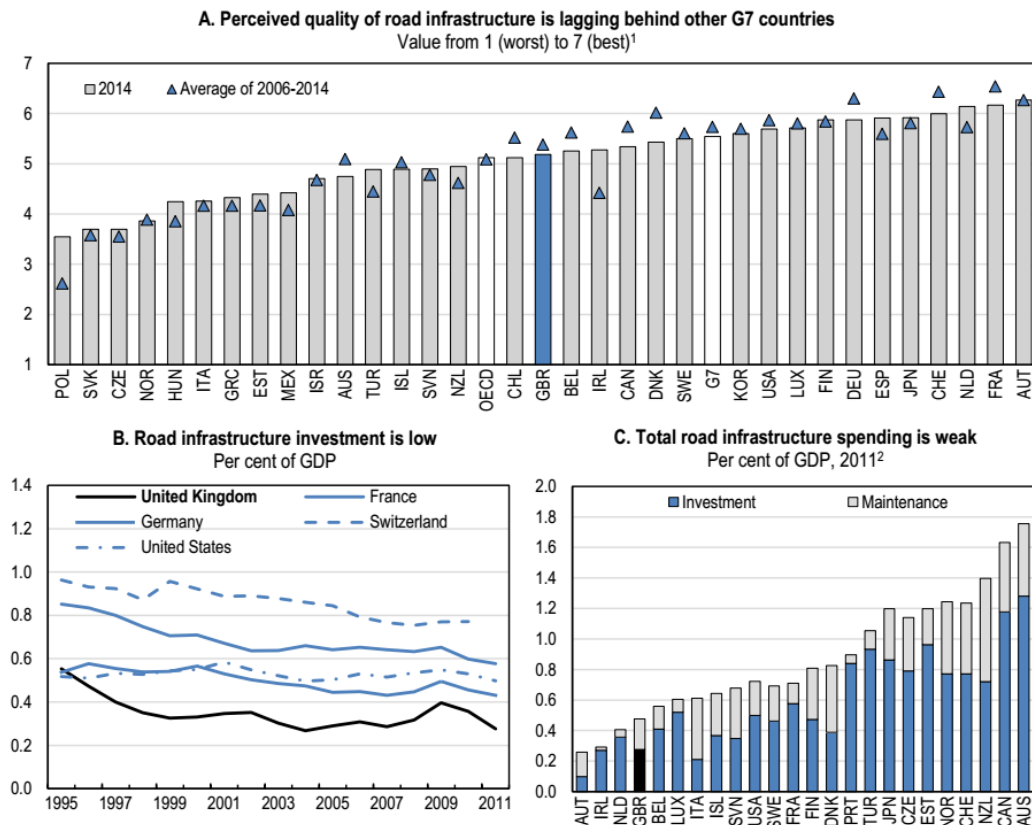
Figure four (A.) shows that the perceived quality of the UK’s road system is worse than in most OECD countries of similar size and wealth, while investment levels have been considerably below the levels seen in Germany and France (figure 4B).¹⁸

¹⁶ OECD (2015) Strategic Transport Infrastructure Needs to 2030 [online] available from: <http://nia1.me/3ib>

¹⁷ OECD (2015) Improving infrastructure in the United Kingdom [online] <http://nia1.me/3ik>

¹⁸ OECD (2015) Improving infrastructure in the United Kingdom [online] <http://nia1.me/3ik>

Figure 4: The United Kingdom has underspent on roads compared to peers



Box 1: The World Economic Forum’s (WEF) Global Competitiveness Report 2015

The Global Competitiveness Report assesses the competitiveness of 138 economies, providing unique insight into the drivers of their productivity and prosperity. Within this report infrastructure is one of 12 pillars of competitiveness and is viewed as a key determinant of economic prosperity.

The report findings are based on analysis of data from internationally recognised organisations, notably the International Monetary Fund (IMF); the World Bank; and various United Nations’ specialized agencies, including the International Telecommunication Union, UNESCO and the World Health Organization. An ‘Executive Opinion Survey’ provides world business leaders with an opportunity to contribute. Respondents were asked to assess the transport infrastructure in their country and assign a value out of 7 where 1 = extremely underdeveloped – among the worst in the world; and 7 = extensive and efficient – among the best in the world.

The UK’s transport infrastructure was ranked in 13th position in the latest report, this is behind a number of EU peers, including: The Netherlands; Spain; France; and Germany. In terms of general transport infrastructure:

- UK citizens gave it a score of 5.3 putting it in 24th place;
- Road infrastructure scored 5.2, putting the UK in 29th – Ireland scored 5.3 and was in 24th place;
- The UK ranked 18th for its rail infrastructure (4.8).

Source: World Economic Forum @ <http://nia1.me/3ip>

2.2 Regional differences

The main authoritative source of public spending across different types of services and across different UK regions is the HM Treasury's Public Expenditure Statistical Analyses (PESA). Table one details the total expenditure on services for each of the last five years 2011-12 to 2015-16, public expenditure was broadly flat over this period in line with the UK Government's curtailing of public spending.

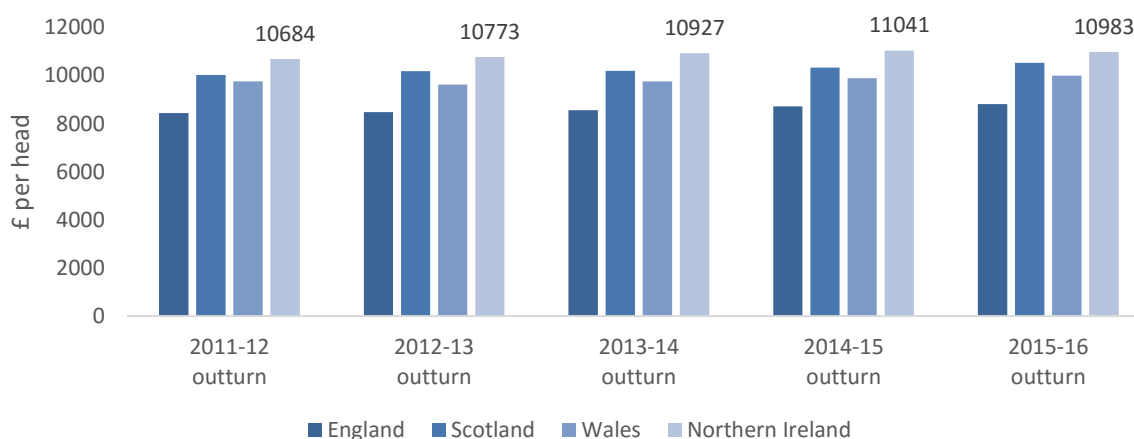
Table 1: Total identifiable expenditure on services by country and region, 2011-12 to 2015-16 (£million)

	2011-12 outturn	2012-13 outturn	2013-14 outturn	2014-15 outturn	2015-16 outturn
Total England	448,204	453,854	461,230	473,401	483,007
Scotland	53,104	54,128	54,322	55,223	56,610
Wales	29,902	29,582	30,100	30,571	30,978
Northern Ireland	19,384	19,645	19,992	20,321	20,336

Source: PESA Country and Regional Analysis 2016 (Table A.1)

Overall public spending per capita is higher in Northern Ireland than in any of the other UK regions. In 2015-16, for example, the Northern Ireland Executive spent £10,983 per capita, compared to £10,536 in Scotland; £9,996 in Wales and £8,816 in England.

Figure 5: Total identifiable expenditure by region (£ per capita)



Source: PESA Country and Regional Analysis 2016 (Table A.2)

Whilst overall public expenditure per capita is higher in NI than in the other UK regions, a smaller proportion of overall expenditure is spent on transport. Table two shows the percentage of total expenditure on transport in GB and NI for the last two years.

Table 2: Percentage (%) of total identifiable expenditure attributed to transport in GB and NI 2014/15 and 2015/16

	2014/15	2015/16
England	3.42	5
Scotland	4.95	4.8
Wales	3.23	4
Northern Ireland	2.53	2.1

Source: PESA (2016)

Table three details the current, capital and total (public) expenditure on transport by each of the four regions between 2011-12 and 2015-16. During this period public expenditure on transport rose by over 50% in England and by 17% in Wales. Expenditure in Scotland was maintained at a comparatively high level, whereas in NI transport expenditure fell by almost 30%.

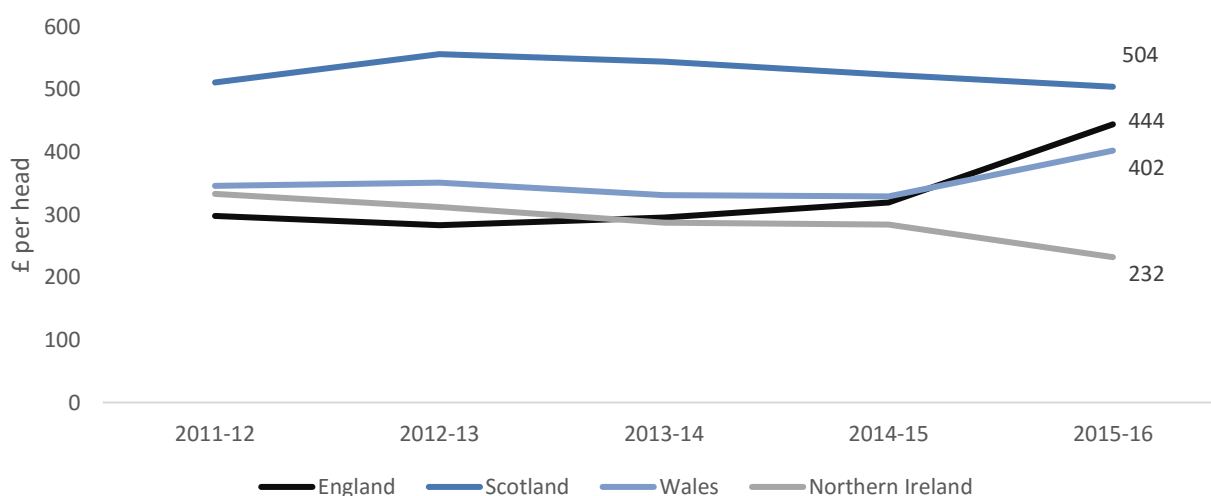
Table 3: Identifiable expenditure on transport by country and region, 2011-12 to 2015-16

England Expenditure Current vs. Capital (£m)		2011-12	2012-13	2013-14	2014-15	2015-16	% Change
	Current		5,781	5,187	5,111	4,352	7,944
Capital		10,052	9,929	10,775	12,982	16,397	+63%
Total		15,833	15,116	15,886	17,334	24,341	+54%
Scotland Expenditure Current vs. Capital (£m)		2011-12	2012-13	2013-14	2014-15	2015-16	% Change
	Current		1,448	1,531	1,549	1,327	1,511
Capital		1,261	1,424	1,349	1,468	1,197	-5%
Total		2,709	2,955	2,898	2,795	2,708	-
Wales Expenditure Current vs. Capital (£m)		2011-12	2012-13	2013-14	2014-15	2015-16	% Change
	Current		523	490	467	442	576
Capital		538	591	553	576	670	+25%
Total		1061	1081	1020	1018	1246	+17%
Northern Ireland Expenditure Current vs. Capital (£m)		2011-12	2012-13	2013-14	2014-15	2015-16	% Change
	Current		298	298	283	260	267
Capital		307	271	242	262	161	-48%
Total		605	569	525	522	428	-29%

Source: PESA Country and Regional Analysis 2016 (Table A.8e)¹⁹

As figure six shows, transport expenditure in Scotland (per capita) has remained the highest of any UK region, indeed Scotland’s spend per capita was more than twice as high as NI’s in 2015-16 at £504, compared to £232 in NI.

Figure 6: Identifiable expenditure on transport per capita 2011-12 to 2015-16



Source: PESA Country and Regional Analysis 2016 (Table A.15)

¹⁹ HM Treasury [online] PESA Country and Regional Analysis 2016 [online] available from: <http://nia1.me/3gs>

3 Roads

Whereas the Department for Infrastructure is responsible for the entire road network in Northern Ireland, responsibility for local roads, which make up more than 90% of the UK's roads, is devolved to local government. Highways England (formerly the Highways Agency) is a government owned company charged with operating, maintaining and improving England's strategic road network, whilst Transport Scotland and the Welsh Government have similar responsibilities with regards to their national trunk road networks.

3.1 Expenditure

Table six provides a breakdown of all roads expenditure in Northern Ireland between 2010-11 and 2015-16. During this period more than £2.5 billion has been spent on roads in Northern Ireland. However, expenditure in 2015-16 was down 27% from 2010-11 levels. There are a number of events that have shaped the profile of this expenditure over the period:

Table 6: Public expenditure on NI roads: 2010-11 to 2015-16

						£ Thousands
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
New construction and improvement	252,682	74,888	70,223	107,651	124,430	93,014
Maintenance						
Structural	84,119	115,677	105,740	125,829	88,597	49,804
Routine	30,936	35,012	35,261	38,733	32,433	26,812
Winter	10,613	4,602	7,871	6,157	7,767	5,396
Public lighting	21,457	20,537	20,700	17,852	17,708	16,360
All road expenditure*	512,568	400,223	396,745	436,147	421,780	372,278

* 5 Includes other expenditure. The total is the full expenditure of TransportNI i.e. includes admin, resource & capital.

Source: Department for Infrastructure (2016)²⁰

- A number of major contracts were concluded in 2010-11 meaning spend on new construction and improvement was high that year (£252 million);
- 2011-12 represents the first year of a new 4-year budget settlement, within which the new construction and improvement budget was reduced (-70%);
- From 2012-13 to 2013-14, the structural maintenance spends increased as a result of successful in-year bids – largely as a result of reallocations from the stalled A5 scheme;
- The new construction figure increased in 2013-14 due to large strategic road improvement schemes such as the A2 (work began March 2013) and A8 (Work began August 2012).
- The decrease in the structural maintenance expenditure from 13/14 to 14/15 is indicative of the level of funding made available during the 2014-2015 year.²¹

²⁰ DfI (2016) Northern Ireland Transport Statistics 2015-2016 [online] available from: <http://nia1.me/3cr>

²¹ DfI (2016) Northern Ireland Transport Statistics 2015-2016 [online] available from: <http://nia1.me/3cr>

3.2 Roads in GB

Highways England (formerly the Highways Agency) is a government owned company charged with operating, maintaining and improving England's strategic road network i.e. its motorways and major A roads. Transport Scotland and the Welsh Government have similar responsibilities as regards to their national trunk road networks. However, in each region local roads are managed by the relevant local authority. Annex one provides a detailed comparison of how roads are managed across the UK and ROI.

- In 2014/15 national road expenditure accounted for 39% of all road spend in England; it was 45% in Scotland; and 49% in Wales.
- The Welsh Government has spent more on local roads per capita than any of the other regions (£189 per head in 14-15 compared to £120 in England and £83 in Scotland).
- The Welsh Government spend the least on national roads (£7 per head in 14-15, compared to £80 in Scotland and £104 in England).
- Overall Northern Ireland spends less per capita (£131 in 2014-15) on roads (local and national combined) than each of the other UK jurisdictions.

Table 4: Total expenditure and per capita spend on roads (national and local in the UK 2010-11 to 2014-15)

		2010-11 outturn	2011-12 outturn	2012-13 outturn	2013-14 outturn	2014-15 outturn	2010-11 outturn	2011-12 outturn	2012-13 outturn	2013-14 outturn	2014-15 outturn
		Total Expenditure (£million)					£ per head				
England	National roads	2,727	2,426	2,019	2,336	2,846	105	85	115	107	104
	Local roads	4,334	3,747	3,425	3,675	4,287	133	128	130	130	120
Scotland	National roads	551	451	610	569	554	89	65	70	80	80
	Local roads	697	677	691	691	642	114	109	118	94	83
Wales	National roads	271	200	216	247	246	20	11	12	8	7
	Local roads	346	334	362	289	256	272	186	184	202	189
Northern Ireland	National roads	36	20	22	14	13	52	46	38	43	52
	Local roads	490	337	335	369	349	82	71	64	68	79

Source: PESA 2016

4 Public Transport: Buses

Local transport is one of the most commonly used services provided by local authorities in Great Britain and Europe. In most regions local authorities have a broad suite of transport related responsibilities including: provision and maintenance of pavements and local roads, traffic signals and signs, pedestrian crossings, car parking, cycle lanes, transport interchanges, local air quality, road safety, light rail, park and ride facilities and bus services. In Northern Ireland these functions are delivered centrally by DfI.

Where GB differs from most of Europe is that the local transport (bus) market is deregulated. Theoretically this enables any individual or company (subject to meeting

licensing requirements) to provide a bus service; with the autonomy to determine routes, set timetables, fares and to choose the vehicles they will use.²²

While this open market approach was envisaged as a driver of low fares and improved services (as was the case following deregulation of the aviation market) that would ultimately save public money, this did not transpire. Instead, the industry is dominated by the 'big five' operators – Arriva, First, Go-Ahead, National Express and Stagecoach who run what have been described as monopolies in many areas²³. Even where two or more of the 'big five' operate in the same area, this has not always (or often) led to streamlined services and cheaper fares.²⁴

4.1 Impact on public spending

Despite the deregulation of the bus market, significant public funds continue to go into the bus industry, although in line with recent reductions in public expenditure, the industry has faced significant cuts (see below). Research by The Campaign for Better Transport (CBT) states since 2010:

- local authority funding for bus services (in England and Wales) has been cut by 15% (£44m);
- more than 2,000 routes have been reduced or withdrawn;
- in the present financial year, funding for supported services has been reduced by £9m.

Translink do not receive any route subsidy with the understanding that uneconomical routes are cross-subsidised by profitable routes.

4.2 Types of Bus subsidy

The Bus Service Operators Grant (BSOG) is paid to all eligible operators of registered local bus services and offsets a proportion of the duty paid on fuel consumed. It was administered nationally (GB-wide) until 2010, however, it has since been devolved allowing for some variations in how it is administered, for example: in Scotland BSOG is paid according to the distance operated²⁵. In Wales the BSOG was completely replaced by a new grant (Regional Transport Services Grant) that combined or replaced both the BSOG and the Welsh Local Transport Support Grant (LTSG) in April 2013. This was then replaced in 2014 by the Bus Service Support Grant (BSSG) which is allocated directly to local authorities²⁶.

Payment of a fuel duty rebate to bus operators in Northern Ireland, consistent with the BSOG in GB, ceased in 2013.

²² Urban Transport Group (2016) UK Transport Governance [online] available from: <http://nia1.me/3e0>

²³ House of Commons Transport Select Committee (2012) Competition in the local bus market [online] available from: <http://nia1.me/3f2>

²⁴ Butcher, L. (2010) Buses: deregulation in the 1980s [online] available from: <http://nia1.me/3er>

²⁵ Scottish Government [online] Scotland's Spending Plans and Draft Budget 2016-17: Chapter 12 Infrastructure, Investment and Cities. Available from: <http://nia1.me/3ey>

²⁶ Minnis, A. (2014) Funding for bus services [online] available from: <http://nia1.me/3ez>

There are a range of statutory and discretionary **concessionary travel schemes** (CTS) operating across GB. These vary in terms of eligibility and coverage (for example, some schemes only offer free travel “off-peak”) but broadly there is a statutory requirement to provide concessionary travel for older people and the registered disabled; whilst some jurisdictions offer discretionary concessions to certain groups, for example, Scotland’s *young scot national entitlement card* gives travel discounts to 16-18 year olds, or full time volunteers under the age of 26.²⁷

CTS schemes generally involve bus operators being reimbursed by local authorities on the basis that they are “no better and no worse off”, therefore it is not a subsidy. However, concessionary fare reimbursement makes up at least one third of total operator revenue across GB.

Tendered services involve local transport authorities (LTA) paying bus operators to provide services that would not be provided on a purely commercial basis; These services are normally allocated through a tender process. According to DfT tendered bus services typically fall into one of two categories: day services that provide links to employment, education and local services; and evening and Sunday services which support shift workers as well as leisure travel. In both cases, insufficient demand and local geography combine to make these routes commercially unsustainable.²⁸

4.3 Bus expenditure by region

Table five provides a compilation of the various revenue sources received by bus operators in GB and Northern Ireland. These figures show that Northern Ireland’s two bus companies Metro and Ulsterbus (combined) generate a significantly higher proportion of their operating revenue (75%) from fares than bus companies in the other UK regions. This reflects the contrasting nature of the sector; whereas bus companies in England must satisfy their shareholders and make profit, Translink while maintaining its ‘going-concern’ status by covering its costs, can cross subsidise loss making routes with profits made on others.

The fact that subsidies are lower in Northern Ireland can be viewed in two ways; from the point of view of public expenditure it appears that savings have been made and the system is operating efficiently. However, if we look deeper at what impact this has on service provision it is apparent that, in a largely rural and relatively dispersed region such as NI, policies such as those aimed at increasing public transport usage (modal shift) are being severely undermined²⁹ as Translink will simply not be able to offer the level of service that will be required to encourage people to choose public transport ahead of their car.

²⁷ Transport Scotland [online] Young Scot National Entitlement Card. Available from: <http://nia1.me/3f0>

²⁸ DfT (2016) Value for Money of Tendered Bus Services [online] available from: <http://nia1.me/3fb>

²⁹ NIAO (2015) DRD: the effectiveness of public transport in Northern Ireland [online] available from: <http://nia1.me/3ga>

Table 5: Comparison of bus operator revenue sources in GB and Northern Ireland 2014-15³

	England ³⁰	Scotland ^{31 32}	Wales ^{33 34}	Great Britain	Northern Ireland
Bus Operating Revenue ¹	£5,593m ³⁵	£648m ³⁶	£186m ³⁷	£6,427m ³⁸	£178m
Passenger Revenue	£3,314m ³⁹	£357m	£88.5m	£3,759.5m	£135m
As a percentage of total (%)	59%	55%	48%	58%	75%
Passenger Journeys ⁴⁰	4,648m	416m	101m	5,165m	66.9m
Of which concessionary	1,570m (34%)	148m (36%)	47m (47%)	1,767m (34%)	22 (33%) ⁴¹
BSOG Total	£251m	£51m	-	£302m	-
Per Passenger Journey	£0.5	£0.12	-	£0.5	-
Concessionary Travel	£1,054m ⁴²	£190m ⁴³	£70m ⁴⁴	£1,314m	£42.9m
Per Passenger Journey	£0.22p	£0.46	£0.69	£0.25	£0.64
Tendered Services	£993m ⁴⁵	£57m ⁴⁶	£24.9m ⁴⁷	£1,071m ⁴⁸	-
Per Passenger Journey	£0.21	£0.14	£0.25	£0.21	-
All Government Support PPJ ²	£0.47	£0.72	£0.94	£0.42	£0.64

1 Operating revenue includes BSOG, Concessionary fare reimbursement, contracts, other public support to passengers fare receipts

2 Revenue support only

3 Some figures may not sum due to rounding

This is because the extent of the service Translink provides; route coverage; frequency etc. are essentially determined by the DfI who have signed a contract with Translink (1 October 2015) to provide most public transport services in Northern Ireland.⁴⁹ As a result of this contract, the DfI must provide Translink with the funds needed to operate the service it specifies, i.e. while it can ensure it operates as efficiently as possible, DfI cannot ask Translink to operate an extensive, loss making, network of bus routes if it is not prepared to either provide it with financial support/subsidy it needs to do this or allow the company to increase the fares it charges across the network to cover any losses elsewhere. Fare increases are also likely to have a detrimental impact on reaching any modal shift targets.

³⁰ DfT Bus Statistics, Table: BUS501b [online] available from: <http://nia1.me/3kd>

³¹ Scottish Government [online] Scottish Transport Statistics No 34 - Datasets Available from: Transport Scotland <http://nia1.me/3j3>

³² Transport Scotland [online] Bus and Coach Travel: Scottish Transport Statistics No 34 2015 Edition [online] available from: <http://nia1.me/3ke>

³³ Welsh Government [online] Transport Statistics. Available from: <http://nia1.me/3j1>

³⁴ Stats Wales [online] Roads and transport revenue expenditure, by authority (£ thousand). Available from: <http://nia1.me/3fh>

³⁵ DfT Bus Statistics, Table: BUS0401a [online] available from: <http://nia1.me/3kd>

³⁶ Ibid.

³⁷ Ibid.

³⁸ Ibid.

³⁹ DfT Bus Statistics, Table: BUS501b [online] available from: <http://nia1.me/3kd>

⁴⁰ DfT Bus Statistics, Table: BUS0103 [online] available from: <http://nia1.me/3kd>

⁴¹ Used 2015-16 stats: DfI [online] Concessionary fares expenditure and usage statistics 2015-16. Available from: <http://nia1.me/3j5>

⁴² DfT Bus Statistics, Table: BUS0501a [online] available from: <http://nia1.me/3kd>

⁴³ Table 2.9 Bus and Coach Travel Scottish Transport Statistics No 34 2015 Edition [online] available from: <http://nia1.me/3ke>

⁴⁴ Stats Wales [online] Roads and transport revenue expenditure, by authority (£ thousand). Available from: <http://nia1.me/3fh>

⁴⁵ DfT Bus Statistics, Table: BUS0501 [online] available from: <http://nia1.me/3kd>

⁴⁶ Table 2.9 Bus and Coach Travel Scottish Transport Statistics No 34 2015 Edition [online] available from: <http://nia1.me/3ke>

⁴⁷ Stats Wales [online] Roads and transport revenue expenditure, by authority (£ thousand). Available from: <http://nia1.me/3fh>

⁴⁸ Transport Scotland [online] Bus and Coach Travel: Scottish Transport Statistics No 34 2015 Edition [online] available from: <http://nia1.me/3ke>

⁴⁹ Translink (2016) Annual Report and Accounts [online] available from: <http://nia1.me/3fq>

5 Public Transport: Rail

The structure and scale of the rail sectors in GB and NI are so different that they cannot be readily compared.

5.1 Northern Ireland

Northern Ireland Railways (NIR), a publicly-owned rail company with no direct equivalent in Great Britain,⁵⁰ operates all rail services and owns, maintains and develops infrastructure. The network is limited to 211 miles, 14 locomotives and 169 passenger coaches.⁵¹ However, despite its size, the sector has been performing well; over the past five years with the number of passenger journeys increasing by 29% and passenger receipts up 38% to just over £43.5million over the same period (table six).

Table 6: NI Rail service passenger journeys, miles, kilometres and receipts: 2010-11 to 2014-15

	2010-11	2011-12	2012-13	2013-14	2014-15	Change %
Passenger journeys (Millions)	10.4	10.7	11.5	12.5	13.4	29%
Passenger miles (Millions)	190.5	202.9	216.1	237.2	258.7	36%
Passenger kilometres (Millions)	306.7	326.7	347.8	381.9	416.5	36%
Passenger receipts (£ Thousands)	31,588	32,868	35,738	41,313	43,597	38%

Source: Translink

The Department for Infrastructure provides NIR with both Capital and Revenue funding. Table seven sets out the DfI's capital expenditure, on rail rolling stock and infrastructure, for 2013/14 and 2014/15.

Table 7: Capital Investment in Northern Ireland Rail Network

	2013/14 £m	2014/15 £m	2015/16 £m
Rolling Stock	3.4	6.5	12.0
Infrastructure	10.9	13.5	21.0
Total	14.3	20	33.0

Source: Translink

Expenditure of £12m on rolling stock in 15/16 relates to the overhaul of the Class 3000 and Class 4000 trains as well as the overhaul and refurbishment of the Enterprise Trains. Infrastructure expenditure of £21.0m includes £16.2m on Coleraine to Derry~Londonderry Renewals programme and £1.8m on Knockmore to Lurgan Track Ballast Rehabilitation project.⁵²

Revenue funding comes from two main sources; Public Service Obligation (PSO) payments and concessionary fare reimbursement. The level of PSO funding has fallen

⁵⁰ FGS McClure Waters (2010) Outline Business Case for Public Transport Reform. DRD Belfast [online] available from: <http://nia1.me/138> (Chapter 8)

⁵¹ DfI [online] Northern Ireland Transport Statistics 2014/15: Public Transport. Available from: <http://nia1.me/3j7>

⁵² Translink (2016) Annual Report and Accounts [online] available from: <http://nia1.me/3fq>

by 17% over the seven-year period 09/10 to 15/16 set out in table eight. Translink do not publish separate rail and bus figures for concessionary fare reimbursements.

Table 8: PSO payments to NI Railways 2009-10 to 2015-16

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
	£m						
PSO	22.9	21.6	23.2	24.2	21	15.6	18.9

Source: Translink

In addition to the reduced PSO subsidy paid to NIR, Translink as a group, has seen significant cuts to its overall resource funding in recent years, particularly on the bus side with the removal in full of Fuel Duty Rebate and NILGOSC (pension contributions) subsidy which together account for approximately £16m or 20% since 2013/14.⁵³

5.2 Great Britain

In GB railways were privatised under the Railways Act 1993. This Act led to the separation of infrastructure and passenger services (train operators) with the dual aim of attracting private investment for infrastructure upgrades; and improving service and value for customers through competitive franchising of train operations. Under these new arrangements:

- Network Rail is the monopoly owner and operator of the national rail network and its assets – such as track, bridges and signalling; while
- Private train operating companies (TOCs) and freight operating companies (FOCs) run the trains.

While it was anticipated that privatisation would see the government save money by passing many of its liabilities to the private sector, the reality has been somewhat different with the government continuing to provide billions of pounds in funding. A recent analysis of the industry by a railway action group concluded that:

UK rail privatisation has been a failure. Today's railways require billions more in government funding, private investment has failed to materialise and passengers face the highest fares and travel on some of the oldest rolling stock in Europe. Private train operating companies are net recipients of public subsidy while distributing nearly all their operating profits as dividends to the shareholders of their parent companies.⁵⁴

Some of the key financial information with regards to the GB rail industry is outlined below:

- In 2014/15 the overall cost of running Great Britain's railways was £13.6 billion, with 54% of these costs incurred on train operations and 46% on rail infrastructure;
- Most of this was from passengers (71%), with governments providing 26% of funding.

⁵³ Translink (2016) Annual Report and Accounts [online] available from: <http://nia1.me/3fq>

⁵⁴ Action for Rail (2015) The four big myths of UK rail privatisation [online] available from: <http://nia1.me/3j8>

- Compared to 2013/14 the UK Government's funding of the rail industry as a whole reduced by 9%, from £3.9 billion to £3.5 billion in 2014/15.
- In 2013-14 franchises received net support of £0.1 billion, in 2014-15 they made net payments of £0.7 billion to governments. This was largely due to a change from governments supporting train operators to increased support for Network Rail.
- Rail infrastructure net funding from governments increased by 12% from £3.7 billion to £4.2 billion.
- Total government funding varied from £1.66 per passenger journey in England to £6.70 per journey in Scotland and £9.14 per journey in Wales.
- By comparison the level of government funding per passenger journey in NI (capital + resource) is £5.89.
- The level of funding provided by government varied from 21% of total industry income in England to 56% in Scotland and 54% in Wales.⁵⁵

The rail industry has high fixed costs, so these differences in funding are partly due to the very different average passenger densities, with 129 passengers per train in England, 81 in Scotland and 69 in Wales. Comparative figures are not available for Northern Ireland. However, the fact subsidy levels are lower in NI suggests the rail network is comparatively efficient compared to Scotland and Wales.

6 Transport expenditure: roads vs. public transport

The publication of Northern Ireland's Regional Transportation Strategy (RTS) in 2002 was intended to address "*decades of under-investment and an ad hoc approach to transportation planning [providing] a strategic framework for the future planning, funding and delivery of transportation throughout the region.*"⁵⁶ This document was an indication of the government's commitment to providing a modern transport system with major improvements to both road and public transport infrastructure; the types of initiatives proposed included:

- Upgrade of the existing rail network and services;
- Quality Bus Corridors (QBCs) on all main Belfast commuter routes;
- Commencement of a rapid transit system in the Belfast Metropolitan Area (BMA);
- Improved walking and cycling infrastructure;
- Elimination of 75% of the road maintenance backlog – with two-thirds of this expenditure in rural areas; and
- A range of strategic highway improvements, such as bypasses, dual carriageway upgrades, and major junction improvements.

The strategy identified some £3.5 billion of expenditure for the period 2002-2012:

- £2.2 billion for roads;
- £628.5m for buses;

⁵⁵ ORR (2015) GB rail industry financial information 2014-15 [online] available from: <http://nia1.me/3j6>

⁵⁶ Department for Regional Development (2002) Regional Transportation Strategy for Northern Ireland 2002-2012. DRD: Belfast Northern Ireland Assembly, Research and Information Service

- £502.9m for upgrades to rail infrastructure and services;
- £100.7m for the Belfast Rapid Transit (BRT) scheme; and
- £86.8m for improved walking and cycling infrastructure.⁵⁷

6.1 NI Audit Office - the effectiveness of public transport in NI

The RTS had proposed a split between roads and public transport expenditure of 62:35 over the period 2002-2012; however, the actual outturn was 70:28.⁵⁸

Table 1: RTS - Planned/Actual Expenditure (2002-03 to 2011-12)

	Planned Expenditure £m (2002-03 Prices)	Planned Share of funding %	Actual Expenditure £m (2002-03 Prices)	Actual Share of funding %
Roads	2,176.1	62.2	2,737.6	70.3
Public Transport	1,227.4	35.0	1,103.5	28.4
Walk/Cycle	86.5	2.5	50.2	1.3
All/Other	10.0	0.3	0.6	0
Total	3,500	100	3,891.9	100

Source: NIAO

This additional road expenditure was explained by the NI Audit Office in its report into *the effectiveness of transport in Northern Ireland (2015)*:

*The DRD's 2012 RTS monitoring report indicates that actual expenditure over the 10 years to March 2012 exceeded planned expenditure by £392 million (calculated at 2002-03 prices). Within this, however, an additional £561 million was directed towards road-based schemes, in line with the Investment Strategy for Northern Ireland, while public transport received £124 million less than planned under RTS.*⁵⁹

During this period the DRD had earmarked £100m for the BRT scheme. However, by the end of the strategy's lifetime only £3.8m had been spent and the scheme was still in the planning stage; phase one is now due to come online in September 2018. Delivery of this scheme within the planned timeframe would have brought public transport expenditure to £1.2bn; much closer to the planned outlay.

6.2 Addressing legacy issues

DRD attributed the disparity in funding to the “*need for significant investment in the strategic road network to build regional connectivity and address the legacy of under investment over previous decades.*”

It may be valid to argue therefore for a continuation of investment in in road infrastructure, particularly as virtually all freight and the vast majority of public transport traffic in NI use roads, in the absence of a comprehensive rail service. Indeed, many of

⁵⁷ Department for Regional Development (2002) Regional Transportation Strategy for Northern Ireland 2002-2012. DRD: Belfast

⁵⁸ NIAO (2015) DRD: the effectiveness of public transport in Northern Ireland [online] available from: <http://nia1.me/3ga>

⁵⁹ NIAO (2015) DRD: the effectiveness of public transport in Northern Ireland [online] available from: <http://nia1.me/3ga>

the new construction schemes, both complete and proposed, are necessary to address capacity issues and improve safety.

Table five shows all road expenditure versus public transport expenditure for the period 2010-11 2015-16. Overall expenditure on both roads and public transport has fallen over this period, in line with reductions in public spending (as discussed previously outturn varies from year-to-year as projects start/finish and as new funds become available).

In four of the six years roads attracted over 70% of total transport expenditure, with the closest split taking place in 11-12 due to (as noted previously) a number of major contracts ending in 2010-11, whilst 2011-12 was the beginning of a new 4-year budget settlement with reduced capital expenditure.

The average split over the period 2010-11 to 2015-16 was in line with that seen over the duration of previous RTS. However, as new projects come online such as the delivery of BRT (up to 2018), transport hubs in Belfast and Derry/Londonderry and road schemes including the A6 and A5, this split is likely to fluctuate further in the future.

Table 9: Northern Ireland road expenditure versus public transport expenditure 2010-11 2015-16

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Total over Period
	£m						
All road expenditure	512.6	400.2	396.7	436.1	421.8	372.3	2539.7
Public Transport Expenditure	130.4	180.2	141.4	110.9	96.3	105.9	765.1
Total	643	580.4	538.1	547	518.1	478.2	3304.8
Percentage Split Road (%):							
Public Transport (%)	75:25	55:45	64:36	75:25	77:23	72:28	70:30

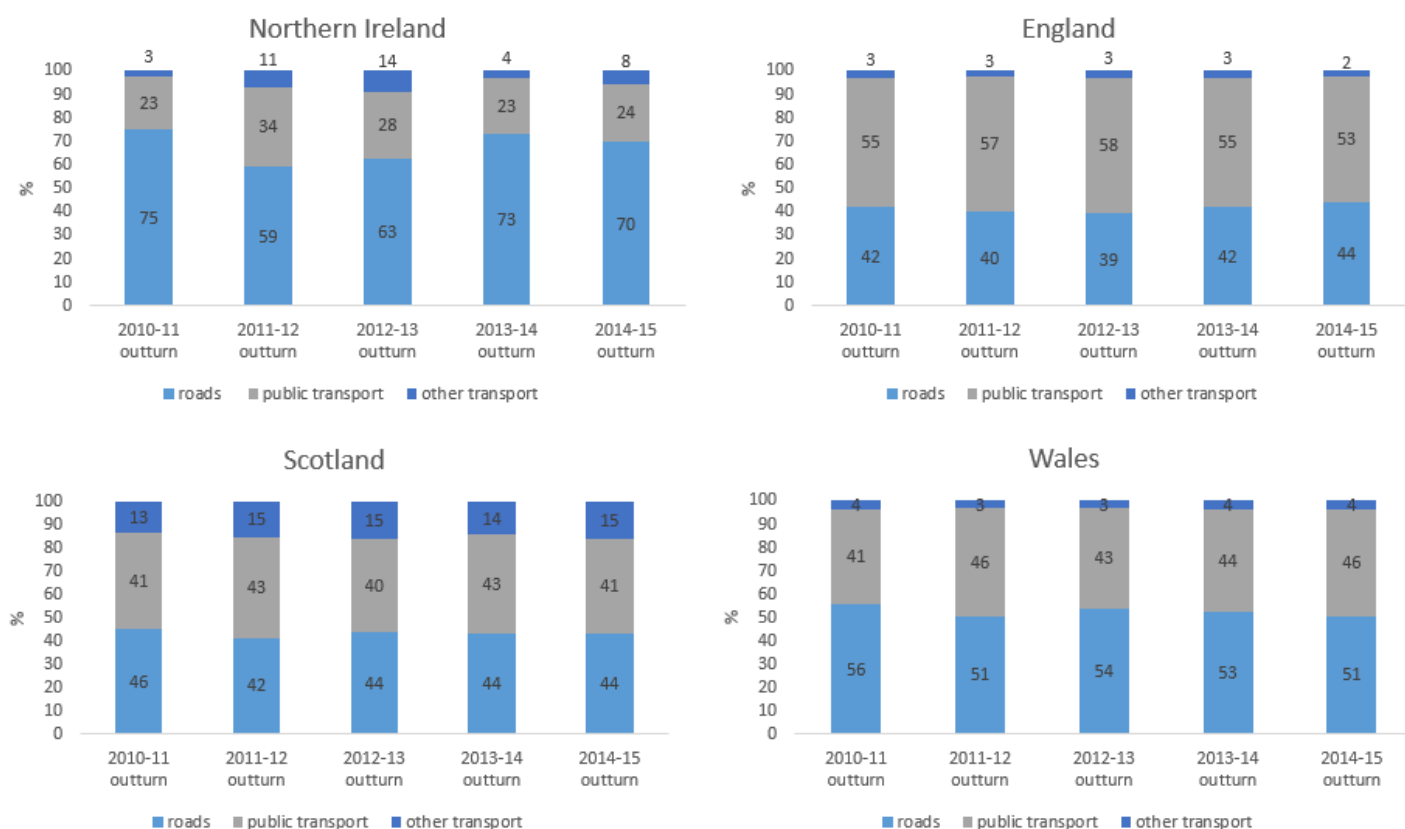
Source: DfI⁶⁰

Figure three provides a comparison of the four UK regions based on PESA data. This shows that:

- As a proportion of overall expenditure, road spend is significantly higher in NI than in all other UK regions;
- Road expenditure in Northern Ireland accounted for over 70% of all transport expenditure in three of the last five years;
- As a proportion of overall expenditure, England has the lowest level of road spend, averaging 41.5% over the past five years, followed by Scotland (44%), then Wales (53%);
- It is again worth emphasising the legacy of underinvestment in Northern Ireland's roads and the need to address capacity issues on the strategic road network as a mitigating factor in this disparity.

⁶⁰ DfI (2016) Northern Ireland Transport Statistics 2015-2016 [online] available from: <http://nia1.me/3cr>

Figure 7: Percentage (%) split transport expenditure by type in Northern Ireland, England, Scotland and Wales 2010-11 to 2014-15



Source: PESA (2016)

6.3 An uncertain future

As a result of uncertainty around future budgets in Northern Ireland, the Executive has agreed a number of ‘flagship projects’ that are to be delivered by DfI up to 2020-21. The 2016-17 budget statement notes that:

“the nature of some capital projects means it is important to provide funding certainty beyond that [one year] time span. Therefore, the Executive has agreed to identify a number of flagship projects where funding will be agreed now for future periods.”⁶¹

Table 9: Budget allocations for Department for Infrastructure Flagship projects 2016-17 to 2020-21

	2016-17	2017-18	2018-19	2019-20	2020-21	Total
A5 Road	13.2	40.0	53.0	55.0	68.0	229.2
A6 Road	21.0	57.0	60.0	60.0	60.0	258
Belfast Rapid Transit	17.0	9.0	20.0	12.9	-	58.9
Belfast Transport Hub	5.8	16.0	40.0	60.0	-	121.8

These indicative (not guaranteed as claimed) allocations include two major roads schemes (value = £487.2m) and two major public transport schemes (£180.7m); this equates to a 73: 27 split. The Minister has also indicated his intention to proceed with

⁶¹ Written Ministerial Statement: BUDGET 2016-17, Thursday 17 December 2015 [online] available from: <http://nia1.me/2wd>

the £130million York Street Interchange Scheme subject to funding becoming available.⁶²

Other 'high priority' projects, that again are subject to funding being made available, include three road schemes: Narrow Water Bridge; the A4 Enniskillen Southern Bypass; and the Ballynahinch Bypass. There are also two public transport schemes: the new Derry/Londonderry railway station; and the upgrade of the Coleraine to Derry railway line.⁶³

6.4 Addressing uncertainty

Danske Bank economists have stated that in the wake of Brexit a “significant slowdown of the local economy is expected”⁶⁴. Investment in infrastructure has the potential to boost the economy and attract foreign direct investment (FDI), off-setting these issues. However, Northern Ireland’s reliance on the block grant and uncertainty around other sources of funding, particularly European Union monies in the wake of Brexit, creates great uncertainty around the delivery of such schemes.

The York Street Interchange is an example of a key infrastructure project that has the potential to unblock a major bottleneck in Northern Ireland’s road network, improve access to our major gateways and reduce congestion thereby supporting economic development.

The junction is part of the North Sea-Mediterranean Corridor, of the Trans European Network for Transport (TEN-T) route which runs down the eastern side of Ireland linking the ports of Belfast, Dublin and Cork. As such it would be, and indeed may still be, eligible for substantial European funding. However, this will depend on when the call for funding applications is made and how that lines up with the plans for the UK leaving the EU.

The York Street Interchange links together the three busiest roads in Northern Ireland, serving over 100,000 traffic movements per day, and providing access to the Port of Belfast from the Strategic Road Network. As it stands it is considered a “bottleneck” on the Strategic Road Network in accordance with the definition established by the Regional Transportation Strategy for Northern Ireland 2002-2012, i.e.: “...where localised restrictions cause undue congestion and thereby delay for freight, public transport and cars.”

The need for improvement had been identified in key strategy documents such as the Belfast Metropolitan Transport Plan and the Investment Strategy for Northern Ireland. It is anticipated that delivery of the scheme will greatly improve conditions for strategic and local traffic, reduce severance between North Belfast and the City Centre and substantially improve facilities for pedestrians, cyclists and public transport.

⁶² Written Ministerial Statement, York Street Interchange Project - Publication of Notice of Intention to Proceed and Making of the Designation Order, 15th November 2016 [online] available from: <http://nia1.me/3gg>

⁶³ NI Executive (2016) Hazzard determined to deliver infrastructure projects to connect people west of the Bann [online] available from: <http://nia1.me/3gf>

⁶⁴ Danske Bank [online] Brexit uncertainty to slow NI's economic growth in 2016 and 2017. Available from: <http://nia1.me/3ji>

TransportNI has concluded that the Proposed Scheme, valued at between £125-165 million represents good value for money, with a cost benefit to cost ratio of 2.33 (based on National Road Traffic Forecast Central Growth factors).⁶⁵ However, how and when this scheme will be delivered, given the current constraints on public spending, remains to be seen.

7 Planning Infrastructure

The following section will explore the way in which strategic infrastructure is planned at various levels of government and describes the mechanisms, particularly financial, which are employed to deliver schemes.

7.1 The National Infrastructure Plan (NIP)

The UK Government launched a National Infrastructure Plan (NIP) in 2010. The NIP, which has been regularly updated, outlines the government's strategy for meeting the UK's infrastructure needs to 2020 and beyond, "*providing a cross-cutting and strategic approach to infrastructure planning*"⁶⁶, including how the Government intended to plan, prioritise, finance and deliver critical projects and programmes in each of the key economic infrastructure sectors: (transport; energy; communications; flood defence; water and waste; and science).⁶⁷

Since the publication of the plan in 2010, more than a quarter of a trillion pounds has been invested in UK infrastructure; this translates into around 3,000 individual projects, including dozens of major road and local transport schemes, as well as improvements to hundreds of rail stations.⁶⁸ Aside from transport there has been significant investment to enhance electricity generation capacity, access to superfast broadband and enhanced flood protection.

7.1.1 Infrastructure and Projects Authority

In January 2016, the UK Government established the new Infrastructure and Projects Authority (IPA). The IPA's role is to ensure timely and cost effective delivery of the NIP while overseeing the Government's £100 billion investment in infrastructure to 2020-21. Schemes have been prioritised according to the following criteria:

- they are nationally significant and deliver substantial new or replacement infrastructure of enhanced quality, sustainability and capacity;
- they have the potential to drive economic growth or unlock significant private investment; and

⁶⁵ Inspectors' Report: Public Inquiry – York Street Interchange [online] available from: <http://nia1.me/3ij>

⁶⁶ HM Treasury (2013) National Infrastructure Plan: finance update [online] available from: <http://nia1.me/3im>

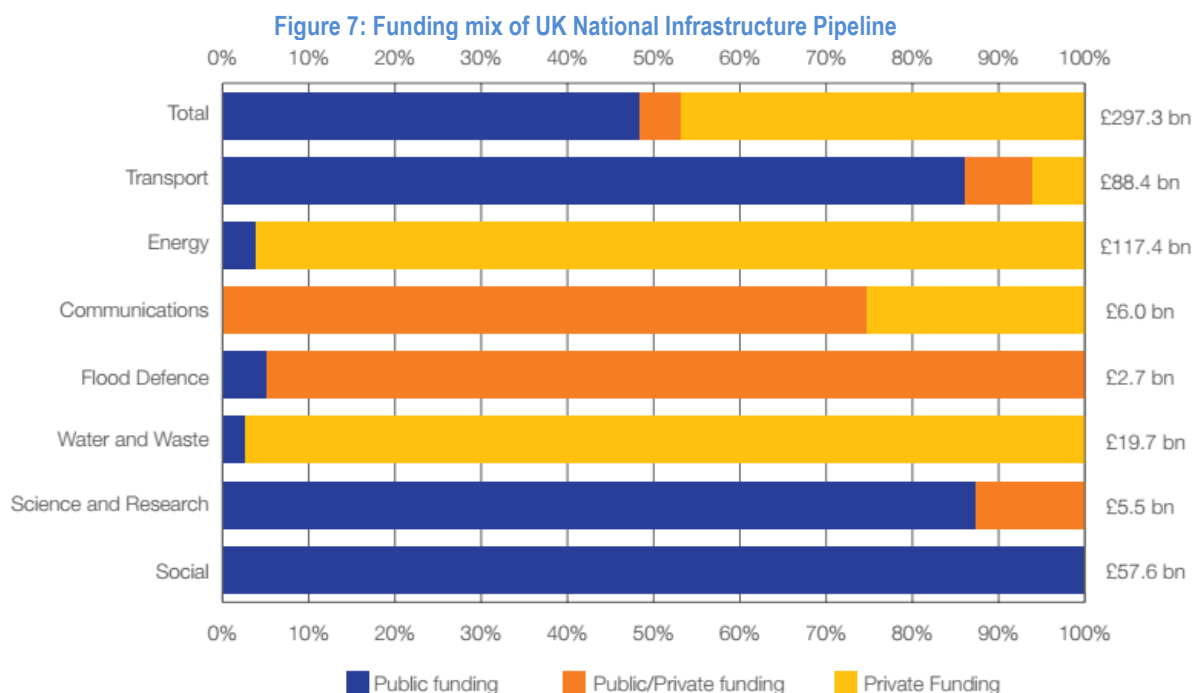
⁶⁷ Infrastructure and Projects Authority (2015) National Infrastructure Delivery Plan 2016–2021 [online] available from: <http://nia1.me/3in>

⁶⁸ Infrastructure and Projects Authority (2015) National Infrastructure Delivery Plan 2016–2021 [online] available from: <http://nia1.me/3in>

- they make a significant contribution to the government's strategic objectives.

7.2 Funding and finance

Private sector investment is a major component of delivering this plan. This provides access to the upfront capital required, whilst a combination of revenues generated through consumer bills, user charging, and public funds from taxation will cover costs such as the construction, operation and maintenance of assets. The funding source for each sector's investment up to 2020-21 is set out in figure seven.



Energy (£117.4bn) and Transport (£88.4bn) will see the largest investment in this period although with significantly different funding profiles. The plan indicates that around 50% of the infrastructure pipeline to 2020-21 will be financed and delivered by the private sector; however, around 85% of the planned transport expenditure will be publically funded.

The OECD has stated that leveraging private sector investment in strategic transport infrastructure will be essential and that quite simply, governments that fail to attract this type of investment will fail to deliver the infrastructure they need.⁶⁹ The OECD suggests that:

- Private sector financing can deliver the equity and debt financing needed to make infrastructure projects operational;
- it can also help manage the transition to user-pays/self-financing investments;
- it may increase efficiency as well as reduce public funding requirements; however,

⁶⁹ OECD (2012) Strategic Transport Infrastructure Needs to 2030 [online] available from: <http://nia1.me/3ib>

- investors demand better-quality projects that have risk-reward balances consistent with the interests of the fund contributors' interests.⁷⁰

7.3 Public Private Partnerships

Private sector provision of infrastructure can involve networks that are wholly owned and operated by the private sector, like those in GB's water and sewerage and energy sectors, for instance. There are also those commissioned by government but at least partly financed by the private sector - these are known as public private partnerships (PPP).

A PPP generally refers to a long-term contract between a private party and a government agency for providing a public asset or service, for which the private party bears significant risk and management responsibility.⁷¹ PPPs can be an effective way to build and implement new infrastructure or to renovate, operate, maintain or manage existing transport infrastructure facilities. According to the World Bank, in both areas PPPs can be a mutually beneficial way to solve critical transportation problems.⁷²

The uptake of PPP programmes varies significantly around the world, with many countries viewing it as a first choice for strategic infrastructure above a certain cost threshold, whilst others being more reluctant to expose themselves to the long-term debt liability. This will often be dependent on the nature of the PPP agreement and the government intends to service its debt, be it through agreed payments from national budgets or charges levied on end users (such as toll roads), or a combination of the both.⁷³

7.3.1 PPP in Ireland

PPPs made a significant contribution to the Irish Government's delivery of its National Development Plan (2000-06) which included €6.7bn expenditure on national roads and €3bn on public transport. A substantial proportion of the road improvements were implemented by means of concession type (financed by user tolls, locations shown in figure 5) PPP which involve the private sector designing, building, operating and financing (DBOF) the infrastructure (value €1.3bn). Much of the remainder of the capital was accessed from European Union funds such as the ERDF.⁷⁴

7.3.2 PPP in Northern Ireland

Although used sparingly in Northern Ireland,⁷⁵ private finance has been used as a method of increasing investment in public infrastructure, which is widely perceived to have suffered from under-funding in recent decades. The use of Private Finance

⁷⁰ Ibid.

⁷¹ World Bank (2014), Public-Private Partnerships Reference Guide, Version 2 [online] available from:

⁷² World Bank PPP for infrastructure resource centre [online] Public-Private Partnerships for Transport. Available from:

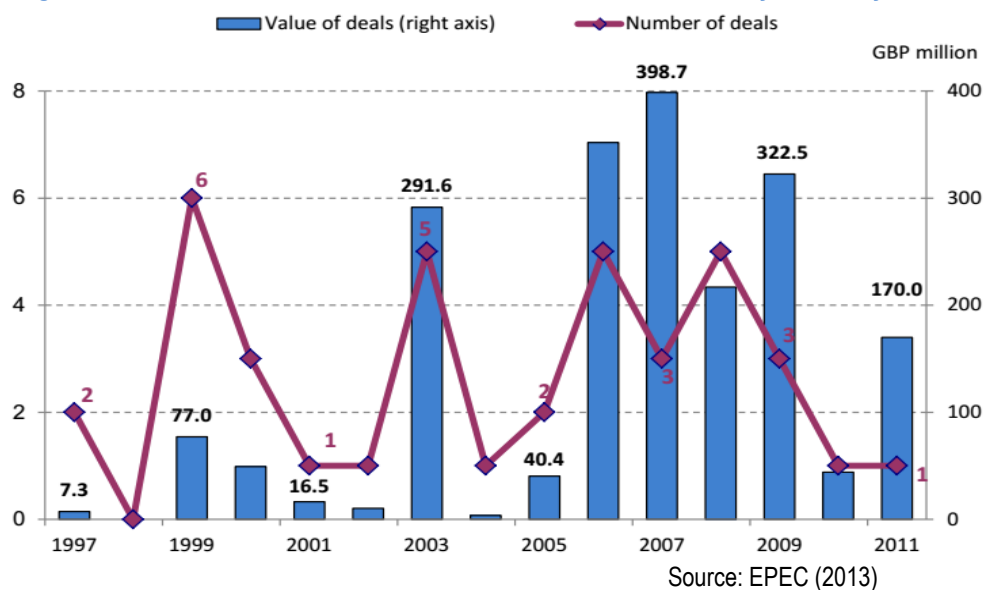
⁷³ Verhoest, et al. (2013) Public Private Partnerships in Transport: Trends and Theory P3T3. COST Programme [online] Available from: <http://nia1.me/3jd>

⁷⁴ Scally F. (2006) Public Private Partnerships in Ireland: An Overview [online] available from: <http://nia1.me/3it>

⁷⁵ OECD (2015) Public Governance of PPPs in the UK [online] available from: <http://nia1.me/3jk>

Initiative (PFI) projects, or public private partnerships (PPPs) has increased significantly since the late 1990s (figure six).

Figure 6: Number and value of PFI deals in Northern Ireland over time by financial year



The increased use of PFI/PPP around 2003 is as a result of Northern Ireland's Reinvestment and Reform Initiative (RRI); a scheme which had similar aims to the Republic's NDP, in that it aimed to address years of underinvestment in public infrastructure.

This initiative established the framework for the development of PPPs in Northern Ireland, with a lead role as the centre of excellence and expertise in PPPs given to the newly created Strategic Investment Board (SIB); established under the Strategic Investment and Regeneration of Sites (NI) Order 2003.

The SIB is a company limited by guarantee, owned by the Executive Office and financed from within its departmental expenditure limit. The Board of SIB is accountable, through its Chair, to the First Minister and deputy First Minister. The SIB supports government departments, local authorities and other public bodies by helping them to:

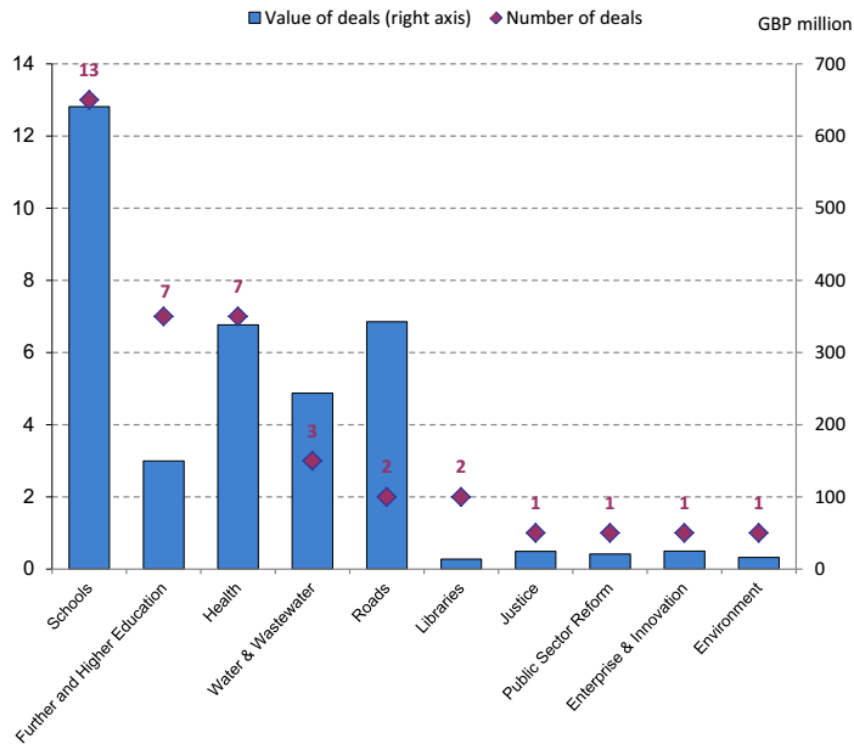
- plan infrastructure (prepare the Investment Strategy for Northern Ireland (ISNI));
- deliver major projects; and
- manage assets.⁷⁶

To date, over £11 billion has been invested under ISNI in the seven key infrastructure areas covered with a further £8 billion anticipated to be delivered by 2021.⁷⁷ **The majority of the finance for ISNI comes from the NI Block Grant.** However, there are 39 operational PFI/PPP schemes in Northern Ireland that have delivered investment in major road improvements, water and wastewater infrastructure, secondary care, further education colleges and schools representing a capital investment of around £2bn.

⁷⁶ SIB [online] Investment Strategy. Strategic Investment Board [online] available from: <http://nia1.me/3jf>

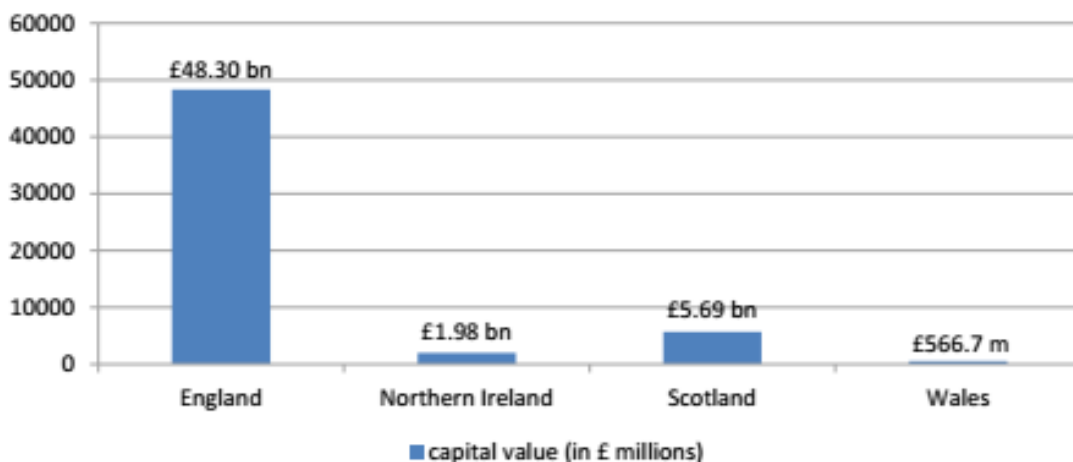
⁷⁷ SIB [online] Investment Strategy. Strategic Investment Board [online] available from: <http://nia1.me/3jf>

Figure 7: Number and value of PFI/PPP deals by sector



Source: EPEC (2013)

Figure 8: Capital value of PFI projects in the UK (as of March 2014)



Source: HM Treasury (2014) via OECD

7.3.3 Reluctance to use PFI in Northern Ireland

According to the OECD, the PFI model has been used sparingly in NI due, in part, to concerns over the overall level of exposure to long term commitments which are removing flexibility from (or gradually ‘silting up’) departmental revenue budgets, particularly since the Northern Ireland Executive already borrows approximately £200 million per year from Treasury through the Reinvestment and Reform Initiative (RRI).⁷⁸

⁷⁸ OECD (2015) Public Governance of PPPs in the UK [online] available from: <http://nia1.me/3jk>

The combined average cost of these repayments will average £245m per year until 2030, peaking in 2017 at £260m – repayments representing less than 3% of the Resource Budget available to the Northern Ireland Executive.⁷⁹

7.3.4 PPP Roads in Northern Ireland

Transport NI is signed up to two Design Build Finance Operate (DBFO) PPP Contacts each for a period of 30 years:

- DBFO Package 1 with Highway Management (City) Ltd commenced 27 February 2006. It involved a programme of major improvement works for the M1/Westlink route in Belfast valued at approximately £200 million.⁸⁰
- DBFO Package 2 with Amey Lagan Roads Ltd commenced 19 December 2007. It involves £250M of expenditure for 38km of new road in three separate including the A1 (12km of new road)

The full DBFO network is shown in figure eight; it consists of M1, M2 (other than Ballymena Bypass), M22, M3, M5, M12 (Slip Roads to M1 only), A1 (Sprucefield to Border), A4 (Dungannon to Ballygawley), A8(M), A12 Westlink, and A101.⁸¹ Each DBFO Company is responsible for maintenance of each DBFO Network but Transport NI (formerly Roads Service) retains responsibility to procure enhancement of or improvements to the DBFO Network.

Figure 9: Northern Ireland's DBFO Network



Source: Transport NI

⁷⁹ Ibid.

⁸⁰ NIAO (2009) Improving the Strategic Roads Network – The M1/Westlink and M2 Improvement Schemes [online] available from: <http://nia1.me/3jg>

⁸¹ Roads Service (NOW TRANSPORT NI) Additional Works on DBFO Networks

7.3.5 Future PPP roads in Northern Ireland?

The Northern Ireland Executive follows the guidance issued by HM Treasury which indicates that PPP solutions should only be considered for projects with a capital value of £50m or more because less capital intensive projects rarely justify the relatively high procurement and management costs.

Schemes yet to be built that are of sufficient value in Northern Ireland include the proposed upgrade of the A5 between Derry~Londonderry and Aughnacloy, now valued at around £650million⁸², and the York Street Interchange, valued at approximately £125-165m.⁸³ However, these schemes have already been procured and will be funded from the capital budget. Schemes that have yet to be procured of sufficient value include the A6 Derry~Londonderry to Dungiven Dual Carriageway, valued at £350-400m and the Belfast Transport Hub for which costs are unknown.

There are also a number of smaller value schemes including the Ballynahinch (£35-40m) and Enniskillen bypasses (£30-35m) as well as schemes not listed such as the A1-A2 Newry Southern Relief Road / Bypass which will cost £100-200 depending on the chosen route.⁸⁴

7.4 A new approach to funding infrastructure in Scotland

While traditional capital funding continues to be the most common method of financing public sector capital projects in Scotland, the Scottish Government, in its Infrastructure Investment Plan (2015-21), recognises that within the current financial climate, it must look to a range of other funding mechanisms to ensure on-going investment in essential infrastructure.⁸⁵ To enhance its capacity for capital investment the Scottish and UK Governments are engaging in detail to agree a new Fiscal Framework that can reflect the devolution of further powers to Scotland within the United Kingdom, including capital borrowing. The Scottish Government seeks to maximise investment in infrastructure by funding investments through revenue instead of capital funds by securing private investment.

7.4.1 Non-Profit Distributing Model

The Non-Profit Distributing (NPD) model was developed as an alternative to the traditional Private Finance Initiative (PFI) model in Scotland and a range of projects in three main sectors: further education, health and transport have been delivered or are either under construction or in development.

This model is a variation of traditional PFI/PPP that seeks to address public concerns about profiteering and transparency. Like PPP, this model involves a partnership with a private sector provider who designs, builds, finances and maintains an asset. This enables the Scottish Government to greatly reduce the requirement for up-front capital,

⁸² Moucel (2016) Economic Appraisal Report A5 WTC [online] available from: <http://nia1.me/3jp>

⁸³ Transport NI (2016) Procurement Plan 2016/17 [online] available from: <http://nia1.me/3iu>

⁸⁴ Ibid,

⁸⁵ Scottish Government (2015) Infrastructure Investment Plan 2015. Available from: <http://nia1.me/3jn>

enabling it to spread the payments over the 30-year life of the contract. It differs from PPP in that it:

- Fixes the rate of return for the private sector partner;
- Allows the public sector greater control and improves transparency of the private partner, usually through a “golden share” giving enhanced voting rights on key issues, although other methods are possible; and
- Surplus profits are not distributed to the private sector. Instead, they can be returned to the public sector, used to pay off debt, or invested in more or higher-standard services or infrastructure.

The first NPD model contract involving Transport was finalised by Transport Scotland in 2014. This was a £500m Contract for a series of Motorway Improvements Projects (M8, M73, M74). The contract, which includes the operation and maintenance of the project roads over 30 years, has been awarded to Scottish Roads Partnership (SRP), a consortium employing a construction joint venture of Ferrovial Agroman and Lagan.⁸⁶

The deal represents the first roads infrastructure scheme and the largest contract to be awarded as part of the Scottish Government’s £2.5 billion Non-Profit Distributing (NPD) model. The main advantages and disadvantages of employing this model, within the Scottish context, are described in table ten.

Table 10: The advantages and disadvantages of NPD finance⁸⁷

Advantages of NPD	Disadvantages of NPD
<ul style="list-style-type: none"> • There is potential for innovation as the client specifies what output is required and the private sector provider comes up with a solution at the lowest lifetime cost. • Lifetime cost estimates (and sometimes capital cost estimates) are more certain once the contract is signed than traditional capital-financed projects. • Risks are allocated to whichever party is best able to manage them as part of the contract. • The long-term contracts (typically 30 years) are an opportunity to get synergy and efficiency over the life of the assets. • There are opportunities for reducing costs through employing techniques such as value engineering. • There is a limit on the profits that the private sector provider may earn. • The private sector provider is better able to exploit commercial opportunities that may arise in parallel with providing public services. 	<ul style="list-style-type: none"> • There are longer-term public expenditure commitments that may constrain future public spending decisions. To help control this, the Scottish Government decides which projects to take forward, within a five per cent spending limit on the DEL budget for revenue-financed projects. • There is a risk that clients may accept deals that do not offer value for money in the long run. • There is a risk that clients may accept reduced levels of service in order to compensate for higher financing costs. • Changes in market conditions may affect procurement and prices. • The financing costs for NPD projects are higher than traditional capital financing and RAB financing. • Not all projects are suitable for NPD. • There are costs associated with managing the complex procurement process.

Source: Audit Scotland

The Welsh Government has committed to three infrastructure projects using the Non-NPD Model – the redevelopment of the Velindre Cancer Centre; “dualling” of sections 5

⁸⁶ Transport Scotland [online] Transport Scotland Finalises £500m Contract for M8 M73 M74 Motorway Improvements Project. Available from: <http://nia1.me/3jq>

⁸⁷ Audit Scotland (2013) Scotland’s Key Infrastructure Projects [online] available from: <http://nia1.me/3jr>

and 6 of the A465; and the 21st Century Schools Project. Together, these aim to raise £1.9 billion of infrastructure investment.⁸⁸

8 Enhancing Infrastructure Delivery: Highways England

Highways England (HE) is a corporate body established on 8th December 2014 as a company limited by shares, and wholly owned by the Secretary of State for Transport. It was established by way of an order made by the Secretary of State pursuant to section 1 of the [Infrastructure Act 2015](#).⁸⁹ It replaced the Highways Agency, a former Executive Agency of DfT, in order to avail of benefits such as end of financial flexibility and long term funding certainty not available to public bodies⁹⁰, but essential for efficient infrastructure development.⁹¹

HE's role is to operate, maintain and modernise England's strategic road network and in doing so it must deliver the UK Government's Road Investment Strategy which sets out to address decades of underinvestment in England's strategic road network.⁹² This underinvestment has seen the quality of the network decline and contributed to issues such as congestion, noise and poor air quality.⁹³

BOX 2: Strategic Road Network

England's strategic road network consists of:

- more than 4,300 miles of motorway and major A roads;
- a highly complex asset base of more than 16,000 structures;
- 21,870 miles of pavement; and
- 110,000 technology assets.

The UK Government has acknowledged that continued underinvestment in its strategic road infrastructure is no longer sustainable:

as our roads age further, they will increasingly fail to meet the social, economic and environmental aspirations we have as a nation. In simple terms: a modern country needs modern roads. This means we need a better network with smarter roads – ones that harness developments in technology and road building to address today's challenges and maximise tomorrow's opportunities.

8.1 Removing funding constraints

The UK Government has committed £15.2 billion for Highways England to spend during the first period of the road investment strategy (RP1, 2015/16 – 2019/20), and the first year of Road Period 2 (RP2) to align with the NIP. As stated around 85% of this money will be funded from the public purse by grants-in-aid from the Department for Transport. However, the decision to transform the Highways Agency into a publicly-

⁸⁸ McCann, S. (2015) Non-profit distributing model – the future for Welsh infrastructure projects? Blake Morgan [online] available from: <http://nia1.me/3jo>

⁸⁹ Highways England (2015) Highway England Delivery Plan 2015-2020 [online] available from: <http://nia1.me/3il>

⁹⁰ DfT (2013) Case for creation of a new public body in place of the Highways Agency

⁹¹ OECD (2012) Strategic Transport Infrastructure Needs to 2030 [online] available from: <http://nia1.me/3ib>

⁹² DfT (2015) Road Investment Strategy: for the 2015/16 – 2019/20 Road Period [online] available from: <http://nia1.me/3ij>

⁹³ DfT (2015) Road Investment Strategy: for the 2015/16 – 2019/20 Road Period [online] available from: <http://nia1.me/3ij>

owned corporation, make it more independent from the government, and has allowed it to move from a one, to a five-year funding cycle. The OECD has commented that this is a positive step⁹⁴ based on its assessment that annual budget cycles for infrastructure result in unsatisfactory outcomes.⁹⁵

The DfT has spoken of the importance of HE's independence suggesting the types of investment and efficiency savings it is tasked with delivering would not be possible if the strategic road network had been managed centrally by DfT:

the lack of corporate independence for roads operation would greatly dilute the strength of the guarantee that the money will be used for roads and weaken accountability for delivery against strategic outcomes. Critically suppliers would not have the confidence that this is a genuinely new relationship and hence make the changes to their long-term behaviour needed to deliver the efficiencies⁹⁶

Highways England's focus will be to enhance, renew and transform the network during Road Period 1. As well as asset renewal and maintenance, more than 100 major road schemes will either be completed or start construction by the end of 2020-21. Certainty around funding will allow investment to grow while a stable spending profile on maintenance will enable Highways England to take a longer-term approach to asset management with an asset management strategy and long term assessment management plans to be developed.

In evidence given to the House of Commons Public Accounts Committee inquiry into maintaining strategic infrastructure: roads, conducted before Highways England's status changed, **Infrastructure UK suggested that savings of 10-20% are associated with certainty of funding.** This is now reflected in plans which state funding certainty allows "*smarter procurement which can both drive down unit cost but more significantly, eliminate waste*".⁹⁷ Over the five years of the strategy HE has committed to making capital efficiency savings of £1.212bn (in nominal terms) and some £2.6bn over the next ten years.

This is a markedly different approach to that taken in Northern Ireland where maintenance of road assets is routinely under resourced, and over reliant on the Department for Infrastructure's success with in-year monitoring bids. This results in a deterioration of the road surface which calls for more reactive maintenance, that while essential in order to maintain safety, is inefficient and provides poor value for money.⁹⁸

⁹⁴ OECD (2015) Improving infrastructure in the United Kingdom [online] <http://nia1.me/3ik>

⁹⁵ OECD (2012) Strategic Transport Infrastructure Needs to 2030 [online] available from: <http://nia1.me/3ib>

⁹⁶ DfT (2013) Case for creation of a new public body in place of the Highways Agency

⁹⁷ House of Commons Public Accounts Committee (2013) HC 105 - Maintaining Strategic Infrastructure: Roads [online] available from:

⁹⁸ Snaith (2009) A review of structural maintenance funding requirements

9 Belgium

Belgium has a highly developed infrastructure of airports, ports, roads and railways, this includes:

- The densest road network in the world at 504.5 km of roads per 100km² of land area.⁹⁹ It consists of Seven international motorways (with a combined length of 1,763 km) connecting to France, Germany and the Netherlands and an extensive regional road (12,585 km) and provincial road (1,349 km) network;
- With a density of 11.8km per 100 km² Belgium has the second largest rail network in the EU¹⁰⁰, carrying 188 million passengers and over 62 million tonnes of freight each year;¹⁰¹
- Six seaports including the port of Antwerp which is the second largest sea port in Europe;¹⁰²
- An extensive inland waterway network (1,532 km) that connects to the major Belgian sea ports and with other European inland waterways. This is the second largest inland waterway network in Europe.; and
- Four International airports¹⁰³

Belgium Transport Infrastructure

Overall country rank:	20
Area (1000 km2):	31
Nominal GDP 2015 (€m)	409 407
Population 2015 (million)	11.209
Expenditure per head (€):	2, 000
Modal Split:	
• Cars	76.12%;
• Bus and Coach	15.41%
• Rail	7.62%
• Tram and Metro	0.85%

Source: EC @ <http://nia1.me/3ja>

9.1 Governance

In order to discuss how transportation and infrastructure is planned, financed and delivered in Belgium it is necessary to set out the levels of decision making and varying transport responsibilities which exist within this country's complex political system:

A three level structure of Government operates in Belgium:

- At the top level are three separate institutions, each deemed equal under law, but with different functions:
 - the Federal State;
 - the Communities (3 on the basis of language – Flemish, French and German speaking); and
 - the Regions (3 regions – the Flemish Region, the Brussels Capital Region and the Walloon Region);
- At the second level there are ten provinces; and

⁹⁹ IMD World Competitiveness Yearbook [online] Invest in Flanders. Available from: <http://nia1.me/3hr>

¹⁰⁰ IMF (2016) Belgium: IMF Country Report No.16/78 [online] available from: <http://nia1.me/3hu>

¹⁰¹ Business Belgium [online] Excellent infrastructure. Available from: <http://nia1.me/3hq>

¹⁰² Ibid.

¹⁰³ Ibid.

- At the third level are ‘communes’ – In Belgium there are 589 communes; 308 in the Flemish region; 262 in the Walloon Region and 19 in the Brussels-Capital Region.

9.1.1 The Federal State

The Federal State is concerned mainly with national issues that affect all Belgians such as the public finances, the army, the judicial system, social security, foreign affairs as well as substantial parts of public health and home affairs.

In terms of transport the Federal State, more specifically the Department for Mobility and Transport (DMT) (SPF Mobilité et Transports) implements federal policy on mobility, including safety, the environment, social issues and modal integration. This Department also oversees the Belgocontrol (Belgian national air traffic control agency); the SNCB (the Belgian national railway company) and Infrabel (the Belgian national rail infrastructure operator).¹⁰⁴

In effect the functions of Belgium’s DMT closely mirrors that of the UK’s Department for Transport (DfT).

9.1.2 The Regions

The three Belgian regions (Flanders, Brussels and Walloon) have a broad portfolio of powers, similar to those held by the UK’s devolved jurisdictions, including:

- Regional development,
- Employment,
- Housing,
- Oversight of local governments,
- Urban development, and
- Transport (except Belgian Railways).¹⁰⁵

The regions have a significant role in the provision of transport infrastructure and services, including:

- Development of transport strategy and local mobility plans;
- Promotion of sustainable mobility through awareness raising and training campaigns for schools, businesses and citizens;
- Promotion of road safety including production of the Road Safety Action Plan that aims to reduce the number of victims by half by 2020 and subscribes to ‘vision zero’.¹⁰⁶

Figure 10: The Regions of Belgium



Source: Wiki commons

¹⁰⁴ Belgian Federal Government [online] Belgium, a federal state [online] available from: <http://nia1.me/3hw>

¹⁰⁵ Belgium Federal Government [online] The Regions. Available from: <http://nia1.me/3hv>

¹⁰⁶ Bruxelles Mobilité [online] Plan de sécurité routière [online] available from: <http://nia1.me/3hs>

- Highway Authority functions including road building works and projects, procurement, maintenance, public lighting, green spaces, park-and-ride facilities, winter service and fountains.
- Bruxelles Mobilité now systematically incorporates facilities for cyclists, pedestrians and public transport in all road developments.
- Transport authority functions - securing of public transport services and contract management;
- Management of publically owned transport companies:
 - De Lijn in Flanders operates the Kusttram and the Antwerp pre-metro as well as the bus network,
 - TEC in Wallonia operates the Charleroi pre-metro as well as a bus network; and
 - MIVB/STIB in the Brussels Capital-Region operates the Brussels metro as well as the Brussels tram and bus network.
- Concessionary fare schemes:
 - In 2015 the Flemish Government took the decision to abolish its free travel scheme for those 65+ and for children under 12. This was replaced by a subscription card for which 50 euros must be paid. Since 2015 962,000 seniors have purchased a MOBIB card with a further 330 000 people considering it. This has generated more than 16.5 million euros gross in additional revenue.¹⁰⁷

9.1.3 Communities

Both the Regions and Communities have their own parliament and government. However, Communities carry out a limited number of functions including culture, education, language, health policy, youth work and social care. Communities have no powers in respect of transport. The exception to this is Flanders where the competencies of the Community and Regional Governments were merged with one parliament, one government and one administration, exercising both regional and community competencies.

- The French-speaking community comprises Wallonia and all of Brussels;
- The Dutch-speaking community comprises Flanders and all of Brussels;
- The German-speaking community is a very small part of the region of Wallonia.

Figure 11: The Communities of Belgium



Source: Wiki Commons

9.1.4 Provinces

¹⁰⁷ De Lijn (2015) Annual Report [online] available from: <http://nia1.me/3hp>

The provinces are secondary administrations that exercise their powers autonomously. However, they are ultimately answerable to the relevant Regional Government or Community depending on the competency. For example, a provincial school is run under the supervision of the Community, while any transport initiative will be supervised by the Region.¹⁰⁸

Essentially the provinces are responsible for everything in their territory that doesn't come under the general interest of the Federal State, the Communities and the Regions, or under the communal/municipal interest. Public transport, for example, is provided by publically owned (regional) companies owned and managed at the Regional level. However, each province has a provincial department responsible for the day-to-day service and contact with the stakeholders and passengers. Provinces are responsible for 'provincial roads' – but there are also Regional and Municipal roads.

Belgian provinces compare most closely in both their structure and output to the Combined Authorities in England.

9.1.5 Communes/Municipalities

There are 589 communes/municipalities each with a broad range of competencies including economic development, housing and planning. Communes or municipalities are essentially local councils, as they would appear in the UK and/or Ireland. Each has an elected council that consists of between 7 and 55 members, depending on the number of inhabitants.

The Council deals with everything of "communal interest". This includes, local roads, walking and cycling infrastructure and public transport infrastructure.

9.2 Transport Expenditure

According to the International Monetary Fund (IMF), while capital spending on general public services is relatively high in Belgium, investment in "*economic affairs*" including, at only 0.6 percent of GDP, is about half the EU average. In particular

*"Transport Infrastructure is perceived to be of lower quality than in the three neighbouring countries. The perceived quality of both road and rail infrastructure have declined in recent years, and traffic congestion is a serious problem. Within transport infrastructure, the priority appears to be maintenance rather than expanding the size of the networks"*¹⁰⁹

The OECD report that Belgium invested €1.593 billion in transport infrastructure in 2014, this represents 0.4% of GDP.¹¹⁰ This investment consisted of:

- € 1,073,000,000 (€1bn) on rail infrastructure investment plus €333m on maintenance; and

¹⁰⁸ Belgium [online] The powers of the provinces. Available from: <http://nia1.me/3hx>

¹⁰⁹ IMF (2016) Belgium: IMF Country Report No.16/78 [online] available from: <http://nia1.me/3hu>

¹¹⁰ OECD Stats [online] Transport infrastructure investment and maintenance spending [online] available from: <http://nia1.me/3ht>

- € 417,000,000 (€0.5bn) on road infrastructure investment plus €147m on maintenance.¹¹¹

The European Commission has reported Belgium's per capita spend on transport for 2014 was €2000, this is €1000 below the reported per capita spend in the UK (€3000).¹¹²

Note these figures include all transport expenditure across all modes. They differ from those reported in HM Treasury's PESA as they include private sector expenditure.

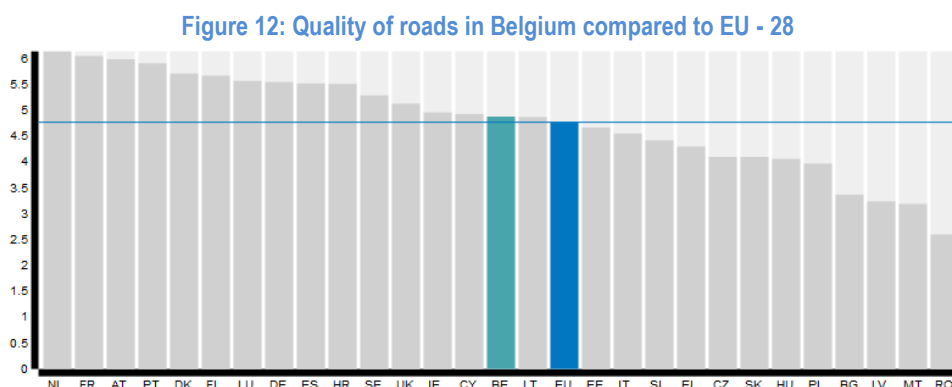
9.2.1 Private Finance

A substantial number of PPP projects have commenced in Belgium, particularly in Flanders, since 2004. These schemes are initiated at the regional government level and include transport projects such as tramways and road construction schemes. The political context and problems with realising schemes of sufficient scale are difficult within the regions, given their size an issue it shares to some degree with Northern Ireland. The Flemish government has therefore adjusted its PPP practices accordingly, opting to cluster a number of schemes to optimise the return of a project, and to attract private partners.¹¹³

This approach could be of interest in the NI context given many proposed schemes in the infrastructure pipeline are below the treasury's minimum threshold of £50m. Would a grouping of, for example, two or more bypass schemes be possible to make a PPP beneficial for both partners and ultimately facilitate delivery of a backlog of schemes, which have remained on the 'shelf' for decades?

9.3 Quality of Infrastructure

Figure twelve compares the quality of Belgium's road infrastructure with the rest of the European Union based on the WEF's Global Competitiveness Report. Belgium's road infrastructure is rated at 15/28 with a score of 4.88 (out of seven). Belgium's railroad (8th) and port (2nd) infrastructure rank considerably higher.¹¹⁴



¹¹¹ OECD Stats [online] Transport infrastructure investment and maintenance spending [online] available from: <http://nia1.me/3ht>

¹¹² European Commission [online] Transport and Mobility: Belgium. Available from: <http://nia1.me/3ja>

¹¹³ Verhost, et al. (2013) Public Private Partnerships in Transport: Trends & Theory P3T3 [online] available from: <http://nia1.me/3jd>

¹¹⁴ European Commission [online] Transport and Mobility: Belgium. Available from: <http://nia1.me/3ja>

10 Germany

Germany is a federal state made up of 16 constituent states - the Länder. Two other levels of Government: county (Kreise) and municipal (Gemeinden) or city (Städte) are constitutional parts of the Länder.

Germany's transport infrastructure is considered amongst the best in the world, given its dense network of railways, roads and waterways that is very well developed by international standards.¹¹⁵ However, this assessment does not reflect the growing concern around the condition of the country's existing transportation infrastructure, with "an accelerating, large-scale erosion of infrastructure assets."¹¹⁶ Some of the key that will need attention in the coming years and significant resources include:

- Almost one fifth of the country's freeways ("Autobahnen") have already exceeded the critical warning threshold used to assess the condition of road surfaces;
- For its highways ("Bundesstraßen"), the figure is nearly 40%;
- Congestion is a growing issue as the capacity of the road network is being stretched with the volume of traffic growing continuously;
- Virtually half of the bridges along Germany's long-distance roads have exceeded the warning threshold;
- The tracks and switches that make up the German rail network are around 20 years old on average; while
- The country's railway bridges have an average age of 55 years.

The main barriers that Germany faces in attempting to deliver the key improvements required to enable the country, whose export driven economy depends on high quality transport infrastructure, are the same as most places, including Northern Ireland: access to money and overcoming bureaucracy:

*The recent deterioration in the overall condition of the German transportation infrastructure is the **result of insufficient financial resources** and too little investment in maintenance, new construction and expansion. The so-called "Daehre Commission", appointed by the Conference of Ministers of Transport, calculated that real gross investment in transportation has declined by around 24% over the past 20 years.*

Funding for maintenance and the investment backlog alone reveals an annual funding shortfall of €7.2 billion across all modes of transportation.

German Transport Infrastructure (2014)

Overall country rank:	3
Area (1000 km ²):	357
Nominal GDP 2015 (€m)	3 032 820
Population 2015 (million):	81,200
Expenditure per head (€):	2 600

Modal Split:

• Car	84.45%
• Bus and coach	5.8%
• Rail	8.21%
• Tram and Metro:	1.54%

Source: EC @ <http://nia1.me/3js>

¹¹⁵ World Economic Forum (2016) Global Competitiveness Report [online] available from: <http://nia1.me/3ip>

¹¹⁶ Roland Berger (2013) Planning and financing transportation infrastructures in the EU – A best practice study [online] available from: <http://nia1.me/3it>

To make up for the cumulative backlog of unrealized maintenance investments from the past over the next 15 years, it would be necessary to invest around EUR 2.65 billion a year.

*Apart from the considerable lack of funding, delays in the realization even of those projects for which money is in principle available are increasingly impeding the delivery of an adequate transportation infrastructure that satisfies demand. In many cases, this is due to **protracted administrative processes and legal proceedings**, especially as a result of lawsuits filed by stakeholders and environmental association.¹¹⁷*

10.1 Governance Structures

The German Federal Government (GFG) is responsible for the construction and maintenance of the federal transport infrastructure (federal railway infrastructure, federal waterways, federal trunk roads).¹¹⁸

The Federal Ministry of Transport and Digital Infrastructure (BMVI) sets the strategic guidelines for the direction of German infrastructure and publishes a Federal Transport Infrastructure Plan ("Bundesverkehrswegeplan"). Germany's Länder (state or regional governments, as opposed to federal government) do however, play a key role in submitting proposals for infrastructure projects to be funded through the federal government's Federal Transport Infrastructure Plan ("Bundesverkehrswegeplan"). The FTIP is a framework program and planning tool. It is not a funding plan or program. The current Federal Transport Infrastructure Plan is the FTIP 2030.

10.2 Funding

Funding for transport in Germany has been relatively low in recent decades which has contributed to difficulties in maintaining and delivering new assets. The way in which funding is allocated however is also problematic. The need for funding certainty has already been discussed within this paper as a prerequisite for efficient infrastructure planning and delivery. However, Germany like the UK (until recently) has allocated funding for capital schemes on an annual basis which does not align itself with the multi-year (i.e. medium-term) planning horizon anchored in the Federal Transport Infrastructure Plan.

the system does not provide a stable funding framework which allows for reliable medium-term financial planning for transportation infrastructure projects. This represents a considerable challenge for major infrastructure construction projects, which are typically characterized by a multi-year planning horizon.¹¹⁹

¹¹⁷ Roland Berger (2013) Planning and financing transportation infrastructures in the EU – A best practice study [online] available from: <http://nia1.me/3jt>

¹¹⁸ The Federal Ministry of Transport and Digital Infrastructure [online] Transport Infrastructure. Available from: <http://nia1.me/3ju>

¹¹⁹ Roland Berger (2013) Planning and financing transportation infrastructures in the EU – A best practice study [online] available from: <http://nia1.me/3jt>

In 2014, about €10.5 billion was available for investment in the federal transport infrastructure.¹²⁰ This is equivalent to approximately €130 per capita. In addition to investment Federal subsidies in the transport sector were expected to rise from €2.4 billion in 2013 to €2.7 billion in 2016. The transport sector accounts for just under 12% of all subsidies and is the third largest subsidy category after trade and industry and miscellaneous subsidies.

In March 2016 the German federal government announced investment of €265 billion in transport as part of its national infrastructure plan (up to 2030). This will be split between building new infrastructures: about €88 billion, with the majority (around two-thirds) of the investment going towards modernising existing infrastructure. The estimated breakdown of investment is as follows:

- 49.4 percent of the investment will be invested in roads;
- 41.3 percent in railways; and
- 9.3 percent in waterways.

10.2.1 New generation PPP projects in the federal trunk roads sector

The construction and maintenance of Germany's trunk road network would have been traditionally funded entirely by the Federal government. However, as a result of budgetary pressures and increasing maintenance requirements legislation was passed in 1994 permitting private sector involvement. In the aftermath of this, two types of PPP model have emerged in Germany:

- Type A-PPPs were used to increase the capacity of some congested motorway sections by adding more lanes. Construction and maintenance costs for all Type A-projects are financed out by HGV charges while passenger vehicles remain exempt (Box 1).
- Type F-PPPs were developed to overcome local infrastructure bottlenecks on the interstate highway system such as bridges and tunnels, and is essentially financed by user charges.

BMVI has now launched a "new generation" of PPPs to improve the federal trunk road network (motorways and federal highways). This will involve 11 projects and investment totalling around €15 billion for the construction, structural maintenance and operation of around 670 kilometres of federal trunk roads.

Germany's new policy for investment in its Federal trunk roads is based on five elements:

BOX 3: HGV Toll

Since the beginning of 2005, The German Federal Government has levied a distance-based charge for heavy goods vehicles using motorways.

In 2013, toll revenues totalled around €4.39 billion. This means that HGV tolls are making a sizeable contribution to the funding of transport infrastructure in Germany.

Source: BMVI @ <http://nia1.me/3ih>

¹²⁰ BMVI (2015) [online] available from: <http://nia1.me/3ih>

1. Provide additional Federal Government funding totalling around 10 billion euros over the period to 2018.
2. A system change away from infrastructure funding primarily through taxation towards funding based on the user pays principle and the ring-fencing of the revenue generated in this way for the financing of infrastructure.
3. The establishment of clear priorities.
4. The principle of giving structural maintenance precedence over new construction.
5. The greater involvement of private sector capital – *“because the modernization of our infrastructure cannot in the long run be paid for exclusively from public finances”*.¹²¹

Introducing the new policy, Alexander Dobrindt, Member of the German Bundestag and Federal Minister of Transport and Digital Infrastructure stated:

Our experience of public-private partnerships (PPPs) to date clearly shows that construction is more economical, the quality of construction is high and roads are available more quickly. The implementation of PPPs is thus a genuine win-win situation. Everyone benefits – the Federal Government, motorists and investors.

*Building on the success stories to date, I have joined forces with the Federal Minister of Finance, Wolfgang Schäuble, to launch a new generation of PPPs. This involves 11 projects and investment totalling around 15 billion euros for the construction, structural maintenance and operation of around 670 kilometres of federal trunk roads.*¹²²

10.3 Local Transport

Local authorities (districts and municipalities) are responsible for providing and maintaining district roads (Kreisstraßen) and communal roads (Gemeindestraßen) as well as ensuring the provision of local public transport. They can apply to the federal states for grants for investments in roads with a regional connective function, for cycling infrastructure and local public transport. While it remains regulated the local transport market was liberalised in 1993 allowing private companies to bid for eight year ‘concessions’ within the various local transport authority jurisdictions.

¹²¹ BMVI (2013) Public-Private Partnerships in the Federal Trunk Road Sector - the New Generation [online] available from: <http://nia1.me/3if>

¹²² Ibid

11 Summary and conclusions

Northern Ireland differs from the other UK regions in that all transport functions remain highly centralised with the Department for Infrastructure (DfI) responsible for all aspects of planning, delivery and financing of transport.

This paper has compared the level of transport expenditure across the devolved UK jurisdictions and shown that while public spending per capita is higher in Northern Ireland than in any of the other UK regions less is spent on transport with Scotland's investment (per capita) more than twice as high as NI's in 2015-16 at £504, compared to £232 in NI.

On a per capita basis, public expenditure on roads, rail and bus services is lower in Northern Ireland than in Scotland, Wales and England although a much higher proportion of public spending in NI is on roads. The prioritisation of spending on roads over public transport has been criticised by the NI Audit Office. However, the argument could equally be made that transport infrastructure, the quality of which is recognised as critical for economic development, is underfunded.

The delivery of strategically important transport infrastructure remains uncertain beyond the Executive's flagship projects identified in the 2016-17 budget statement. This document recognises that multi-year funding certainty is critical for the efficient delivery of transport infrastructure and a funding has been set aside two major roads schemes (value = £487.2m) and two major public transport schemes (£180.7m); there are however a number of other 'high priority' projects, in particular the York Street Interchange for which no definite timeframe for delivery is agreed.

In contrast the UK Government has put in place time bound costed plans that have guaranteed funding in place. In January 2016, the UK Government established an independent Infrastructure and Projects Authority (IPA) to ensure timely and cost effective delivery of the NIP while overseeing the government's £100 billion investment in infrastructure to 2020-21.

Private sector investment is a critical component of delivering this plan, with around 50% of the projects in the UK's infrastructure pipeline to 2020-21 to be financed and delivered by the private sector. This approach is in line with recommendations by the

OECD which has stated that leveraging private sector investment in strategic transport infrastructure will be essential and that quite simply, governments that fail to attract this type of investment will fail to deliver the infrastructure they need.¹²³

Given the profusion of recommendations regarding the use of private finance this paper explored the use of PPPs in the UK, Ireland, Belgium and Germany. PPPs have been shown to be an effective way to build and implement new infrastructure or to renovate, operate, maintain or manage existing transport infrastructure facilities. However, the uptake of PPP programmes varies significantly around the world, with many countries viewing it as a first choice for strategic infrastructure above a certain cost threshold,

¹²³ OECD (2012) Strategic Transport Infrastructure Needs to 2030 [online] available from: <http://nia1.me/3ib>

whilst others more being more reluctant to expose themselves to the long-term debt liability.

According to the OECD, PPPs have been used sparingly in NI due, in part, to concerns over the overall level of exposure to long term commitments which are removing flexibility from (or gradually 'silting up') departmental revenue budgets. This concern is not unique to NI and prompted the Scottish Government to introduce a new non-profit PPP.

The Non-Profit Distributing (NPD) model involves a partnership with a private sector provider who designs, builds, finances and maintains an asset. This enables the Scottish Government to greatly reduce the requirement for up-front capital, enabling it to spread the payments over the 30-year life of the contract. Significantly it differs from PPP in that it:

- Fixes the rate of return for the private sector partner;
- Allows the public sector greater control and improves transparency of the private partner, usually through a "golden share" giving enhanced voting rights on key issues, although other methods are possible; and
- Surplus profits are not distributed to the private sector. Instead, they can be returned to the public sector, used to pay off debt, or invested in more or higher-standard services or infrastructure.

PPPs are employed across the EU to deliver key infrastructure and this paper looked at their use in both Belgium and Germany. Given the diversity of the European Union Member States it is not surprising that approaches vary. However, within the various Member States there are interesting approaches worth considering.

In Belgium for example, the regions, given their size have had difficulty in achieving the scale of scheme to be attractive to private companies – this is an issue it shares to some degree with Northern Ireland where many schemes in the infrastructure pipeline fall below minimum thresholds identified in HM Treasury. The Flemish Government has therefore adjusted its PPP practices accordingly, opting to cluster a number of schemes to optimise the return of a project, and to attract private partners.¹²⁴

Despite the noted benefits of PPPs there remains a degree of concern about the long-term liability involved in contracts of this type. The German model addresses this by employing user charges. PPPs on the strategic road network are effectively paid by HGV charges; in 2013, toll revenues totalled around €4.39 billion. PPPs on the local interstate highway system are financed by charges applied to all road users.

The German Government has now launched a "new generation" of PPPs to improve the federal trunk road network (motorways and federal highways). This will involve 11 projects and investment totalling around €15 billion for the construction, structural maintenance and operation of around 670 kilometres of federal trunk roads.

¹²⁴ Verhost, et al. (2013) Public Private Partnerships in Transport: Trends & Theory P3T3 [online] available from: <http://nia1.me/3id>

In addition to guaranteeing resources for infrastructure the UK Government has adapted the means by which this is delivered in order to overcome some of the inherent difficulties caused by public expenditure rules. The decision to transform the Highways Agency into a publicly-owned corporation, make it more independent from the government, and has allowed it to move from a one, to a five-year funding cycle. The OECD has commented that this is a positive step¹²⁵ based on its assessment that annual budget cycles for infrastructure result in unsatisfactory outcomes.¹²⁶

¹²⁵ OECD (2015) Improving infrastructure in the United Kingdom [online] <http://nia1.me/3ik>

¹²⁶ OECD (2012) Strategic Transport Infrastructure Needs to 2030 [online] available from: <http://nia1.me/3ib>