

National Transport Strategy Refresh – Transport Statistics – Change Since 2006

The refreshed National Transport Strategy (NTS) includes a section on Transport Context, which outlines key trends in transport using recent statistics. This document provides more detail on the transport statistics with comparison to the picture in 2006, when the original NTS was published. It expands on the data around emissions (carbon and non-carbon) and then goes on to describe the challenges outlined in the 2006 NTS under the three key strategic outcomes and provide some further analysis for those. It should be read in conjunction with Section 2 of the NTS document: Transport Context.

The table below updates the statistics across transport from 2006, using the same definitions as in 2006, to the most current position.

Table 1: Transport Activity in Scotland

		2006	2014
Walking	Proportion of journeys to work made on foot (as usual and main mode of travel)	13.8%	12.9%
	Pedal cycle traffic (Vehicle-kilometres)	260 million	339 million
Cycling	Percentage of all journeys made by pedal cycle	0.9%	1.4%
	Proportion of journeys to work made by bicycle (as usual and main mode of travel)	2.0%	2.6%
Bus	Local bus service kilometres per year	385 million ^a	330 million ^(2013/14)
	Local bus passenger journeys per year	476 million ^a	414 million
	Proportion of journeys to work by bus (as usual and main mode of travel)	11.8%	10.2%

		2006	2014
	Km rail lines open for traffic (passengers and goods)	2,736 ^a	2,763 ^{(2012/13)*}
	Rail passengers in Scotland (inc. cross border originating in Scotland, not just Scotrail)	69.8 million ^a	86.7 million ⁽²⁰¹³⁻¹⁴⁾
Rail	ScotRail passenger km per annum	2.3 billion ^a	2.8 billion ^(2013/14)
	Tonnes rail freight lifted in Scotland per annum	13.0 million ^a	8.4 million ^(2012/13)
	Proportion of journeys to work made by rail (as usual and main mode of travel)	3.6%	4.2%
	Vehicles licensed as at end December	2.6 million	2.8 million
	Kilometres of road	55 thousand	56 thousand
	Vehicle-km per annum	44 billion	45 billion
	Tonnes road freight lifted in Scotland per annum	170 million	136 million ⁽²⁰¹³⁾
Road	Road casualties (killed and serious)	2,949	1,899
	Proportion of driver journeys delayed due to congestion	12.7%	11.7%
	Proportion of journeys to work made as car/van driver or passenger (as usual and main mode of travel)	66.8%	67.7%
	Airports with more than 5,000 passengers per year (includes 3 with more than 1 million passengers)	16	16
Airports	International routes from Scotland	122	167
	Terminal passengers per annum	24 million	24 million
	Tonnes air freight per annum	83 thousand	54 thousand ⁽²⁰¹³⁾
	Major ports (handling over 1m tonnes cargo per annum)	10	9
Sea ports	Tonnes inward and outward traffic (all ports)	102 million	72 million ⁽²⁰¹³⁾

		2006	2014
Ferry services	Passengers per annum (including CalMac, Northlink, Western Ferries, Orkney and Shetland intra-island services, services between Scotland and Ireland and Rosyth to Zeebrugge)	10.6 million	9.7 million
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Transport Emissions	Carbon Dioxide equivalent (transport only)	14.5 MtCo2e	12.9 MtCo2e ⁽²⁰¹³⁾
	Transport's share of total Scottish CO2 emissions	20.6%	24.4% ⁽²⁰¹³⁾
	Oxides of nitrogen (transport only)	58,800 tonnes	37,800 tonnes ⁽²⁰¹³⁾
	Transport's share of total NOx emissions	38%	40% ⁽²⁰¹³⁾
	Particulate Matter PM10 (transport only)	3,260 tonnes	2,410 tonnes ⁽²⁰¹³⁾
	Transport's share of total PM10 emissions	21%	17% ⁽²⁰¹³⁾

Notes: a: 2006/07; * does not include the Scottish Borders Railway; Sources: Scottish Transport Statistics 2014; Transport And Travel in Scotland 2014; Key Reported Road Casualties Scotland 2014

Further detail on transport emissions

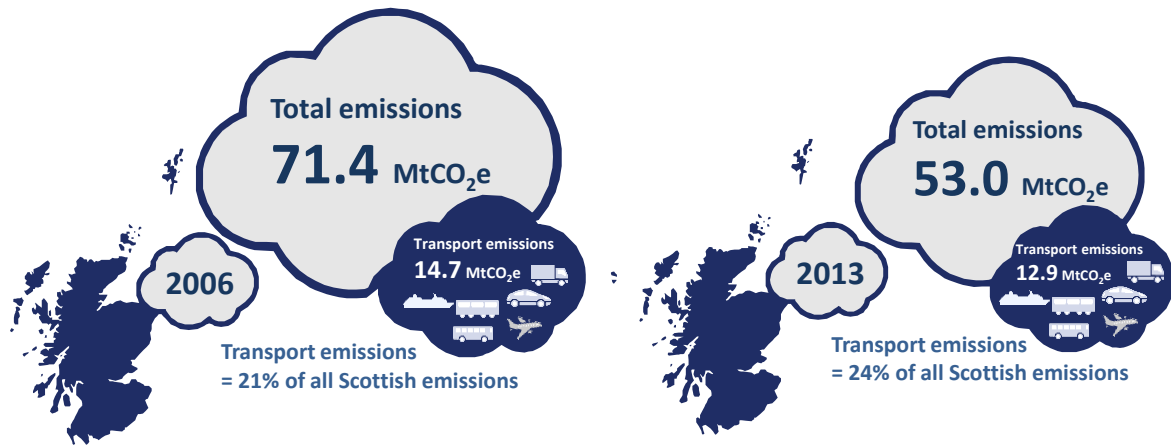
The regular publication of the [Carbon Account for Transport](#)¹ meets the 2006 NTS commitment to develop a carbon balance sheet for transport. Its latest edition in 2015 states that transport emissions, including international aviation and shipping, have fallen for six years running and have reduced by 1.9 MtCO₂e since the 2007 peak figure of 14.8 MtCO₂e. Transport accounts for just under one quarter of Scotland's total emissions but this proportion has increased since 2006 due to a faster rate of decline in overall emissions in Scotland. Transport's share of total Scottish emissions is a matter of record and the Committee on Climate Change, our independent advisors, project that transport emissions will remain a large proportion of total emissions out to 2030. Thereafter car emissions in particular are expected to fall driven by increased take-up of electric and plug in vehicles.

The following two figures illustrate the level of emissions measured in terms of carbon dioxide equivalents (CO₂e) for transport and non-transport and emissions of air pollutants since 2006.

¹ http://www.transportscotland.gov.uk/report/carbon-account-transport-no-7-2015-edition-8685?utm_content=buffer3c6b5&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer

Since 2006, emissions from transport have fallen (figure 1) by 12% however, during the same period, emissions from other sources in Scotland have fallen by 26% meaning that transport emissions as a share of the total emissions have increased slightly since 2006, from 20.6% to 24.4%.

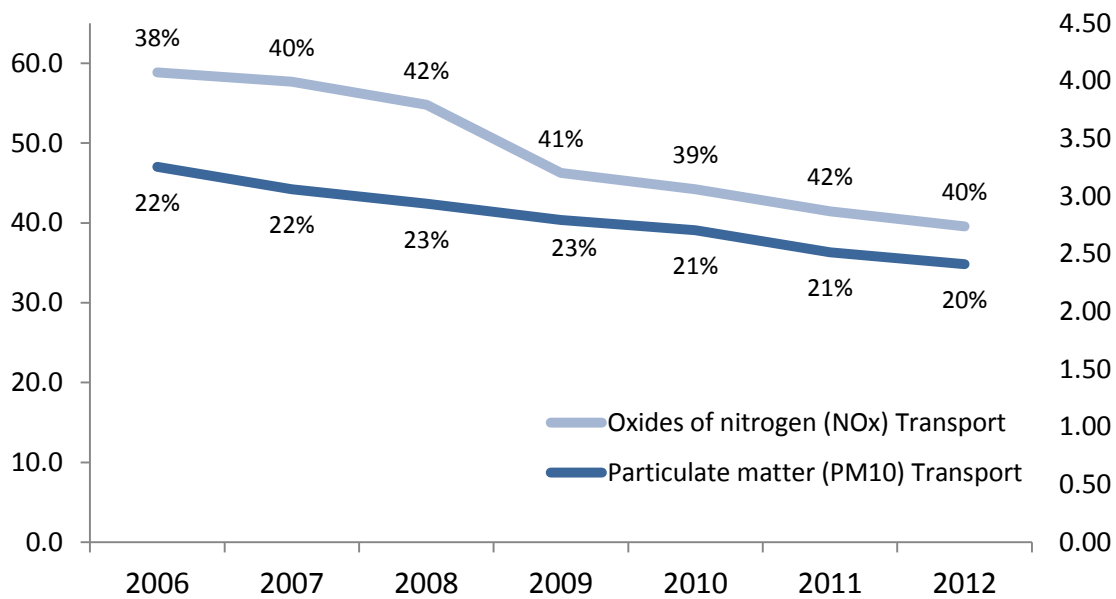
Figure 1: Carbon emissions from transport (2006 to 2013)



Source: Carbon Accounts for Transport, 2015 Edition

Looking at non-carbon emissions, both particulate matter and oxides of nitrogen from transport have fallen since 2006 as shown by the steady downward trend in figure 2, however, the overall level of emissions have also fallen and therefore the proportion of all emissions that are from transport has remained similar for both Oxides of nitrogen and particulates. 2006 was a low year for NO_x emissions, in terms of transports share, the trend has remained fairly flat over the longer term at around 40%.

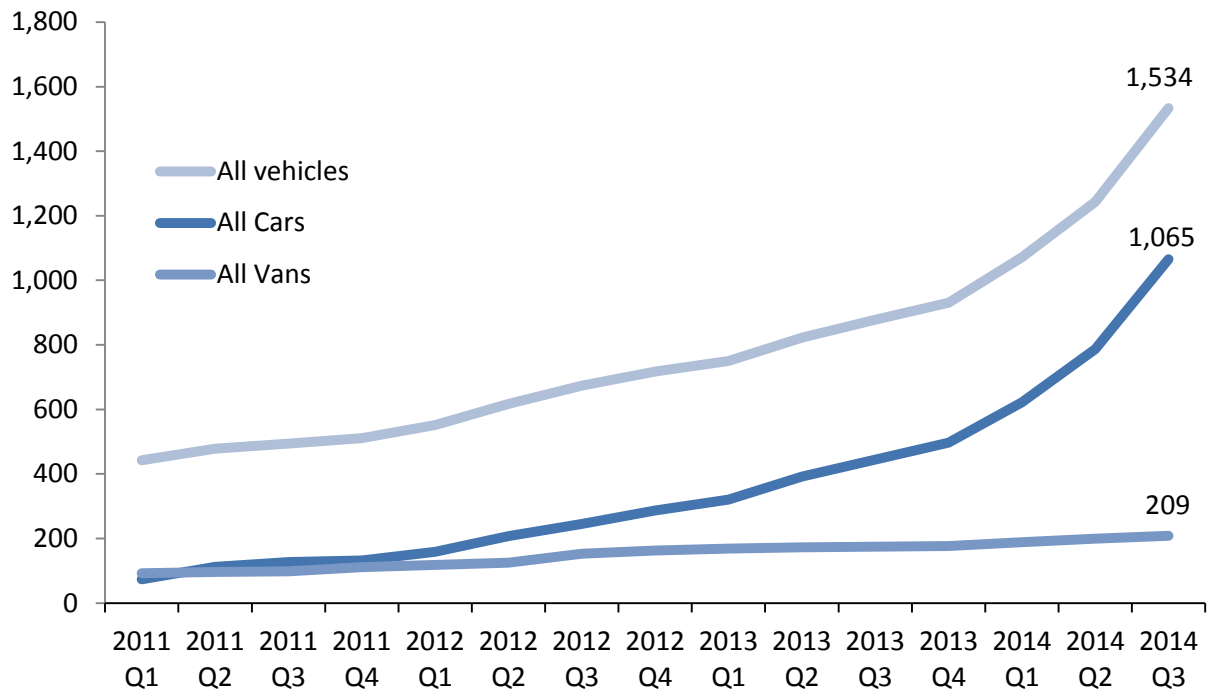
Figure 2: NOx and particulate emissions from transport (2006 to 2012)



Source: National Atmospheric Emissions Inventory - Not National Statistics.

Motorists purchasing a qualifying ultra-low emission vehicle can receive a grant towards the cost from the UK Government. Transport and Travel in Scotland 2014 statistics show that in the last few years there has been an increase in the number of ultra-low emissions vehicles (those with tail pipe emissions below 75g/kg) licenced in Scotland, particularly for cars (see figure 3 below). Some of this may be due to the increased availability and choice of models being manufactured as well as the Plug-In grant scheme, which offers a grant towards the cost of purchase of plug-in electric cars. The number of ultra-low emission cars licenced in Scotland in quarter 3 of 2014 was just over 1000, compared to less than 100 at the start of 2011.

Figure 3: Number of ULEV licenced in Scotland (2011 to 2014)



Source: Scottish Transport Statistics 2014

Transport challenges from the 2006 NTS

The statistics provided above support the fact that the challenges faced in 2006 are still relevant today. This section lists those challenges and gives some further supporting data. It should be read with reference to Table 1 above.

The 2006 NTS identified the following transport challenges grouped by the three Key Strategic Outcomes of improved journey times and connections; reduced emissions, and improved quality, accessibility and affordability.

Improved journey times and connections:

- Increasing road congestion:* Table 2 below shows national road model network statistics, including annual vehicle kilometres, annual vehicle hours and overall average road speeds slightly worsening between 2005 and 2012.

Table 2: Summary of road network performance

	Annual Veh KM (millions)	Annual Veh Hours (millions)	Average Road Speed (kph)
2005²	28,900	461	58
2012	34,500	610	57

- *Limited freight modal shift:* See Section 2 of the NTS document: Transport Context.
- *Continuous road safety issues:* See Section 2 of the NTS document: Transport Context.
- *Increasing air passenger numbers in recent years:* This has been somewhat ameliorated by the effects the recession had on the aviation industry, with the level of terminal passengers in 2014 being the same as 2006. However, aviation traffic in Europe is predicted to reach 14.4 million flights in 2035, 50% more than in 2012³.

Reduced emissions

- *Increasing transport demand:* The Transport Model for Scotland 2012 shows that at the national level there are approximately 10% more daily car trips on the road network in the current 2012 base year compared with the 2012 STPR forecast year. There are approximately 26% more daily public transport trips in the current 2012 base year compared to 2012 STPR forecast. The increased transport demand is further evidenced through an increase by 2% between 2006 and 2012 of Nitrogen oxide emissions from transport.
- *Lack of behavioural change:* Overall public and active travel to work has remained at around 30% for the last decade.

Improved quality, accessibility and affordability

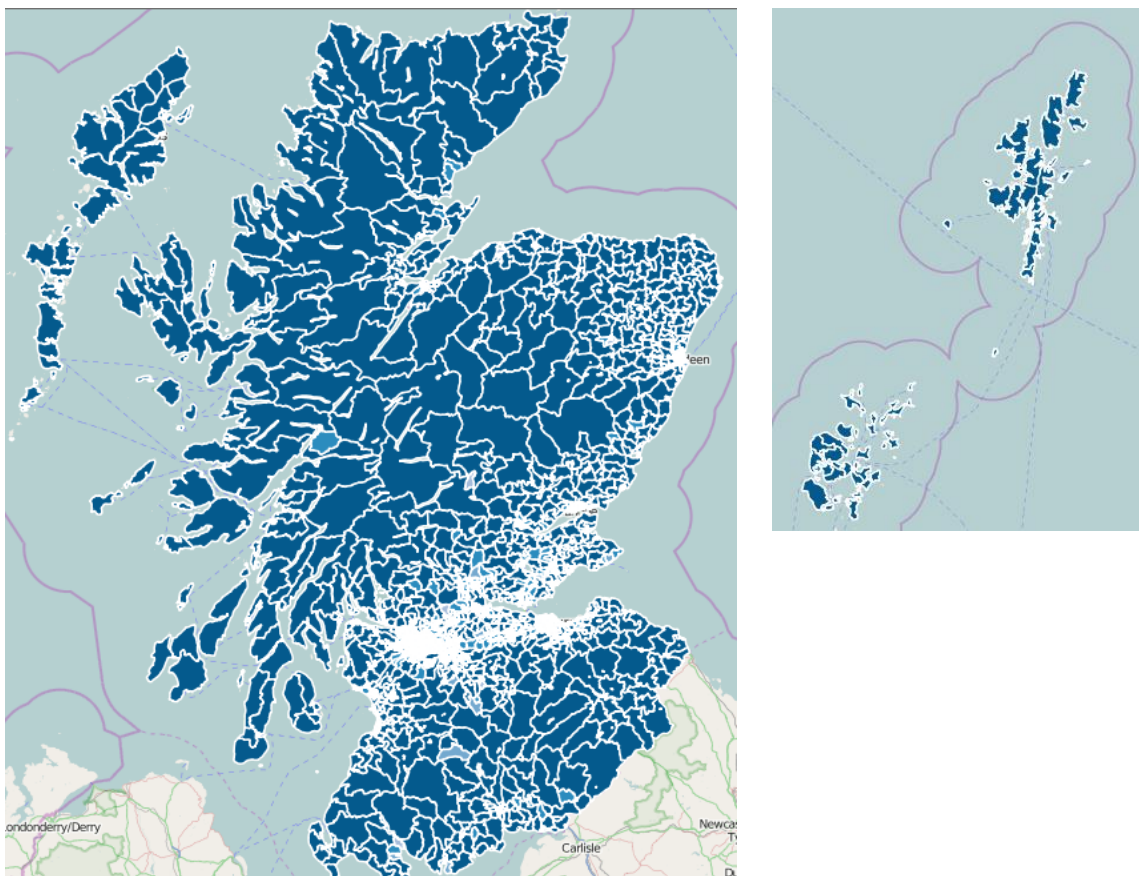
- As a proxy for lack of access to public transport, time taken to travel to local services either by public transport or private travel has been illustrated in the following map which shows the areas of Scotland termed access deprived in 2012. The dark areas are areas with the highest travel times to services such as shops, GPs and post offices. The areas most deprived tend to be in the more rural areas of Scotland as might be expected. This differs from other forms of deprivation which tend to be concentrated in more urban

² Note that the input data and assumptions made in the land-use and transport modelling work undertaken for the STPR and for the above network performance work are very different. These differences will be a contributing factor to the differences shown in the tables below.

³ http://ec.europa.eu/transport/newsletters/2015/12-07/articles/aviation_strategy_en.htm

environments in Scotland. The white areas, around the central belt and major cities are those areas least deprived in terms of access. Given the above and the fact that households in rural areas were more likely to have access to a car (and more than one) than those in urban areas (Source: Transport and Travel in Scotland 2014) we can see that access to public transport is still an issue for rural and remote communities across Scotland. One potential way to alleviate the need to travel and therefore addressing the issue of access to public transport is via digital connectivity. As part of a public and private sector funding package of over £400m to that end, local authorities have invested over £90m.

Figure 4: Map of deprivation by time taken to travel to local services by public or private transport



Source: Scottish Index of Multiple Deprivation 2012

- *Ageing population:* Scotland's Population 2014⁴ reports that the ageing of the population is evident in the rises in the older age groups (+13 per cent in the 45-59 age group and +17 per cent in both the 60-74 and 75 and over age

⁴ <http://www.nrscotland.gov.uk/statistics-and-data/statistics/stats-at-a-glance/registrars-general-annual-review/2014>

groups) and the falls in some of the younger age groups (minus three per cent in the under 16 age group and -11 per cent in the 30 to 44 age group).

- *Poor health:* The latest [Scottish Health Survey](#)⁵ states that the proportion of adults (aged 16 and over) self-reporting 'good' or 'very good' general health has been relatively constant since 2008 (between 74% and 77%). 22% of Scotland's population is inactive (relatively constant since 2008).
- *Decreasing safety and security on public transport:* The majority of Scottish Household Survey respondents had not experienced criminal activity or antisocial behaviour on a bus or train in the previous year. Since 2007 the percentage reporting experiencing this has remained fairly static at around 20%. Women were generally slightly less likely to report experiencing criminal activity or anti-social behaviour on a bus or train, though this was not the case in 2012 or 2013, when more women reported this than men. However, research, as detailed in [Equally Safe: Scotland's strategy for preventing and eradicating violence against women and girls](#)⁶, which was produced by Scottish Government and COSLA, has shown that women express much higher levels of fear for their personal security in public places, whether on or waiting for transport, or in the use of car parks, particularly at night. This fear can, in turn, place a constraint on the mobility of women and their participation in public life as they factor personal safety into routine decisions and activities.

⁵ <http://www.gov.scot/Topics/Statistics/Browse/Health/scottish-health-survey>

⁶ <http://www.gov.scot/Resource/0045/00454152.pdf>