Llywodraeth Cymru
Welsh Government

STATISTICS, DOCUMENT

Road traffic: 2021

Information on volume of traffic by type of vehicle and class of road for 2021.

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Contents

An error was identified in the 2021 release which showed an incorrect figure for new motor vehicle registrations in Charts 8a and 8b. This was revised on 4 October 2023.

Main points

- Road traffic volume in Wales increased by 12.8% in 2021, compared to 2020, but remains below pre-pandemic levels.
- In 2021, the total volume of motorised traffic in Wales was 26.5 billion vehicle kilometers (bvk). This is equivalent to 8,405 vehicle kilometers (5,223 miles) per person.
- Most of the traffic (61.9%) was on major roads (motorways or A roads). The remaining 38.1% of traffic was on minor roads, i.e. B, C and unclassified roads.

Impact of COVID-19 on traffic volume

Traffic volume decreased considerably during 2020 in light of the COVID-19 pandemic (a decrease of 23.4% compared to 2019). COVID-19 restrictions continued to impact travel in 2021, though to a lesser extent. In 2021, traffic volume saw an increase of 12.8% compared to the previous year but remains below pre-pandemic levels.

How do we measure traffic volume

Traffic volume is estimated using traffic counts data collected by the Department

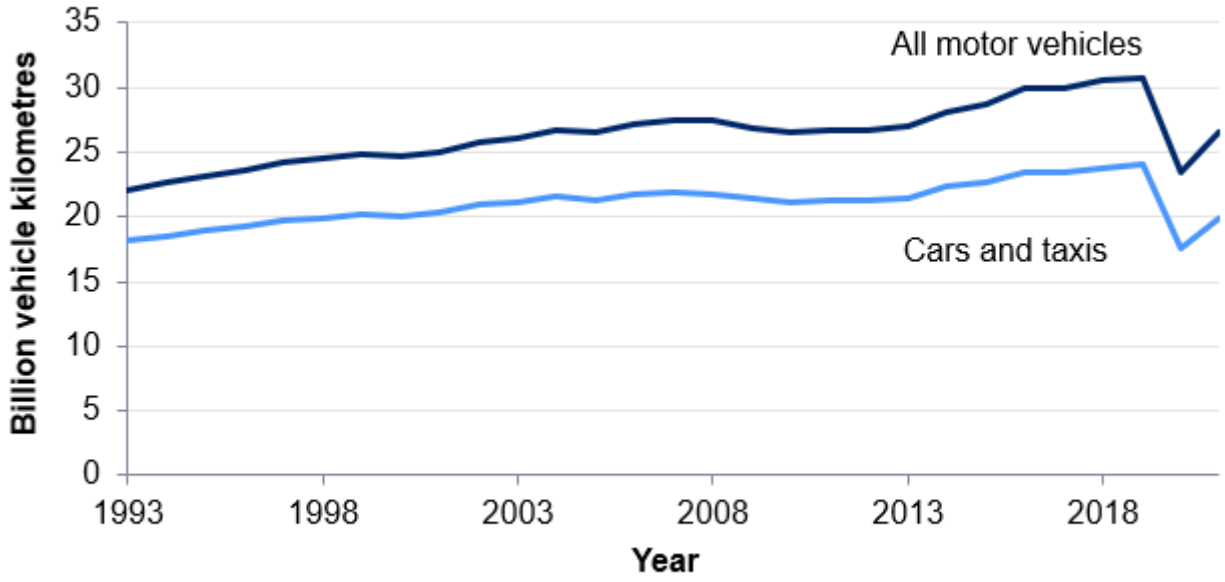
for Transport (DfT). Data from manual traffic counts are combined with data from automatic traffic counters to calculate annual average daily flows (AADF). These daily flows are combined with road lengths to calculate the number of vehicle miles travelled each year by vehicle type, road category and region. In this release estimates are presented as billion vehicle kilometres (bvk).

More detailed information is provided in the **DfT's road traffic estimates methodology note**.

Trends in road traffic in Wales

Chart 1 shows the long-term trend in traffic volume from 1993 to 2021. Between 1993 and 2019, traffic volume increased overall by 39.0% reaching a peak of 30.7bvk in 2019. Traffic volume gradually increased up to 2007, and then fell slightly during the 2008-09 economic downturn. Since 2012 traffic volume began increasing again before a significant fall in 2020 as result of the coronavirus (COVID-19) pandemic travel restrictions. In 2021, traffic volume increased by 12.8% to 26.5bvk compared to the previous year.

Chart 1: Volume of traffic, 1993 to 2021



Source: Welsh Government analysis of annual average daily flows (AADF) data
Note: Data for periods 2010 to 2021 have been revised.

Volume of road traffic by road classification and year (StatsWales)

There are a variety of factors that have the potential to influence road traffic volume in Wales. For example, labour market changes (employment/ unemployment, working remotely or from home) can reduce commuting traffic; increases in fuel prices might cause motorists to consider shifting to other modes of travel or cutting non-essential trips; increases or decreases in people holidaying within the British Isles related to the strength or weakness of the pound, can have corresponding impacts on traffic.

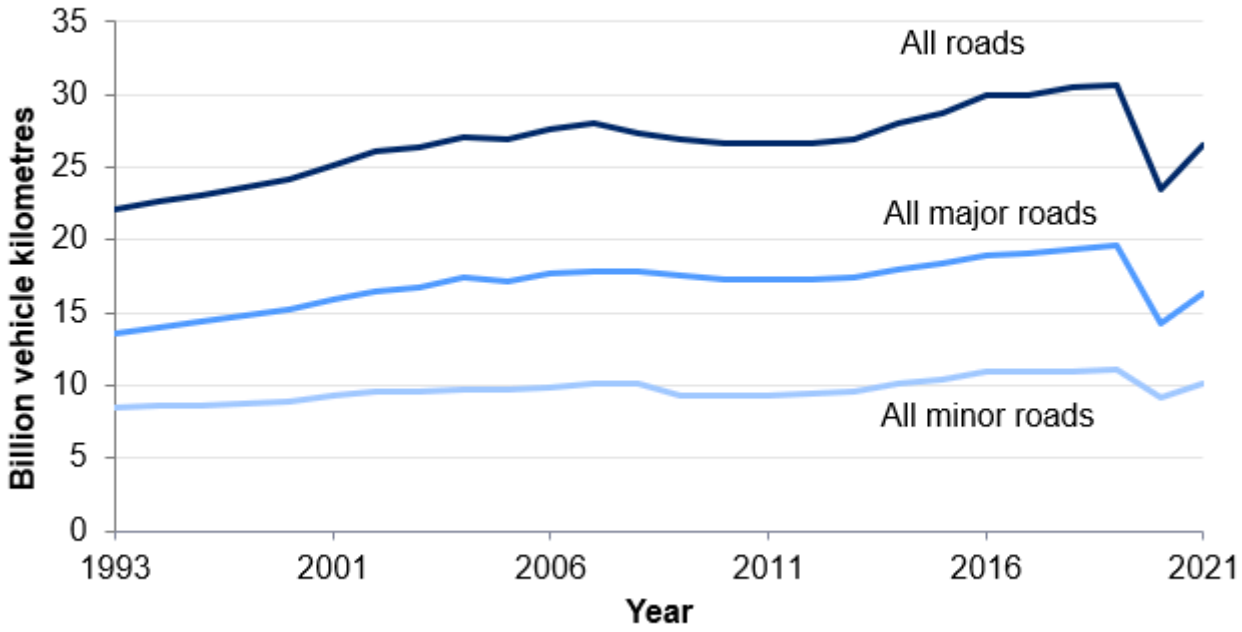
Traffic by road class

Major roads accounted for 62% of total traffic volume in Wales in 2021, and minor roads accounted for 38%. The proportion share has broadly been similar

for the last 26 years. Since 1993, traffic volume on major roads has increased by 20.7% and traffic volume on minor roads has increased by 18.7% Chart 2.

In 2021, traffic volume increased by 14.7% on major roads and increased by 9.8% on minor roads, compared with 2020.

Chart 2: Volume of traffic by main road, 1993 to 2021



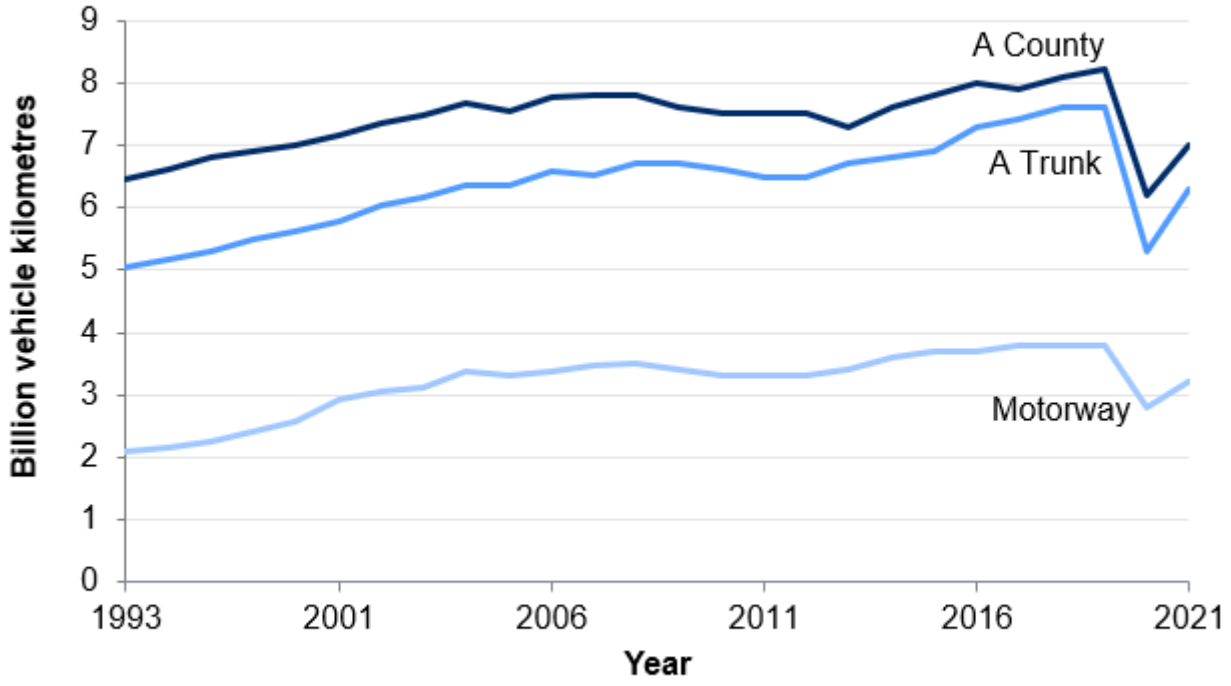
Source: Welsh Government analysis of annual average daily flows (AADF) data

Volume of road traffic by road classification and year (StatsWales)

Major roads are comprised of motorways and A roads (roads intended to provide large-scale transport links within or between areas). ‘A’ roads are further sub-categorised as ‘A Trunk’ roads (part of the strategic road network owned by and operated on behalf of government) and ‘A county’ roads (all other A roads). Chart 3 shows the trend in traffic volume for the three categories of major roads. A county roads account for more traffic volume than A trunk roads and motorways, though traffic on trunk roads has increased in recent years.

Traffic volume in 2021 increased on all major roads compared to the previous year. Traffic on A trunk roads saw the largest increase (18.9%) compared to 2020, followed by motorways (14.3%), and then A county roads (12.8%).

Chart 3: Volume of traffic by categories of major road, 1993 to 2021

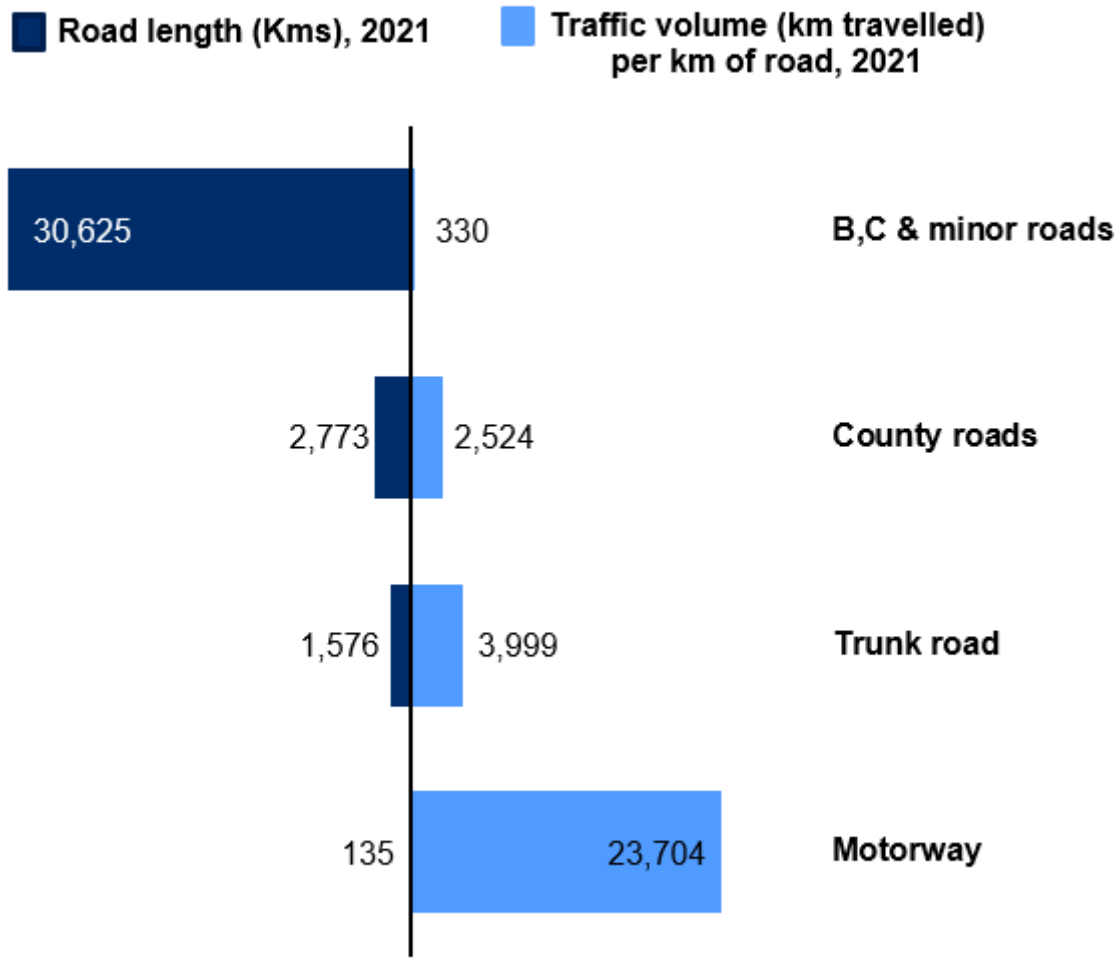


Source: Welsh Government analysis of annual average daily flows (AADF) data
Note: Data for periods 2010 to 2021 have been revised.

Volume of road traffic by road classification and year (StatsWales)

To help provide context for these figures, the length of the motorway in Wales is 135 km, the length of the trunk road network is 1,576 km, county roads are 2,773 km in length and B, C and minor roads total 30,625 km. Chart 4 highlights that although B, C and minor roads account for the most road length (km) in Wales, motorways account for the highest traffic volume (km travelled) per km of road.

Chart 4: Road length and motorised road traffic volume by class of road, 2021



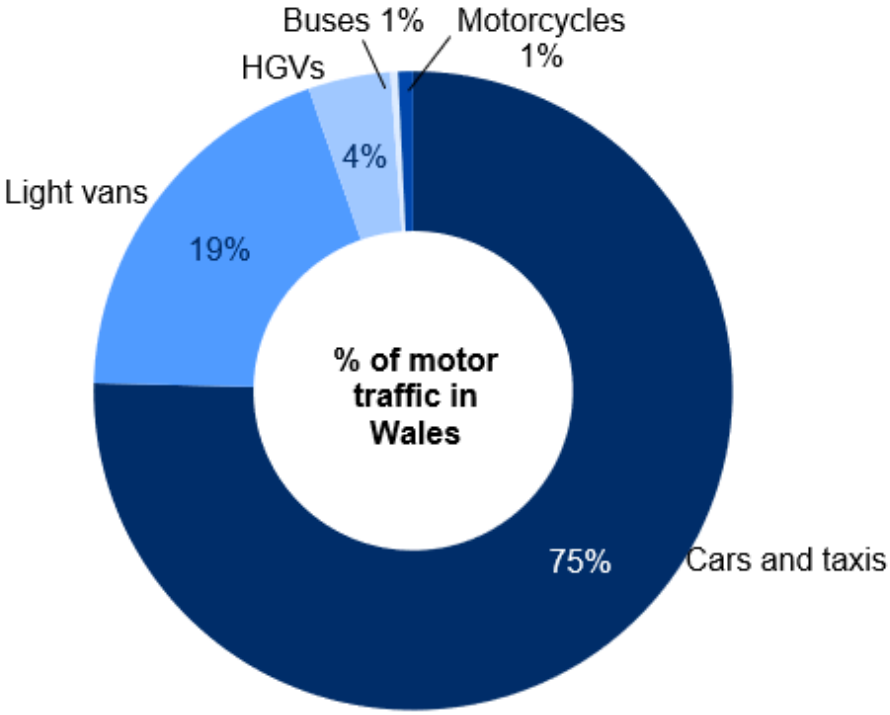
Source: Welsh Government analysis of annual average daily flows (AADF) data

Volume of road traffic by road classification and year (StatsWales)

Traffic by vehicle type and road class

Proportions of traffic flow by type of vehicle are shown in Chart 5a and Chart 5b. 75.1% of all motor vehicle traffic volume in 2021 was accounted for by cars and taxis (20 bvk) and vans (5 bvk).

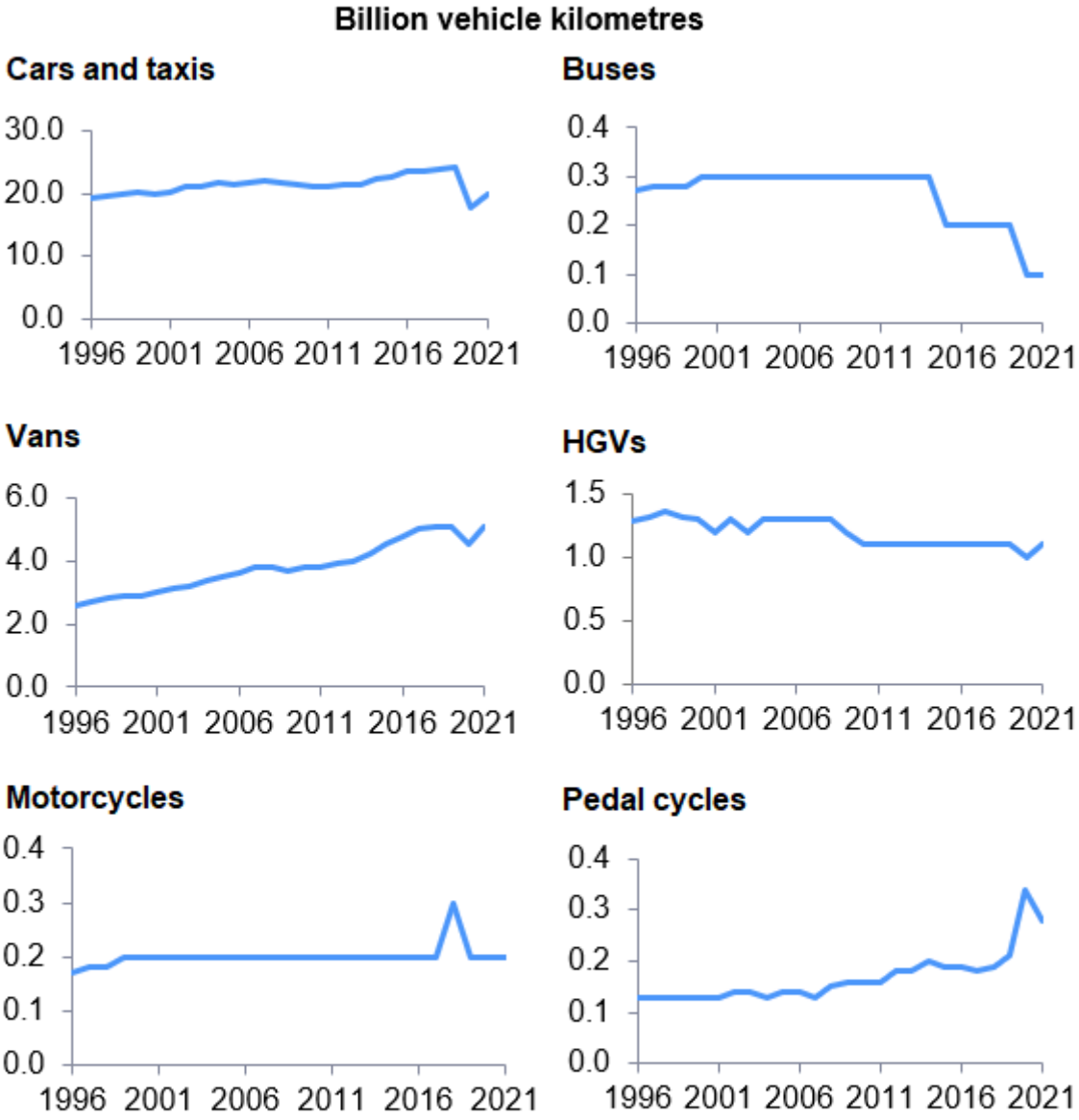
Chart 5a: Volume of road traffic by type of vehicle, 2021



Source: Welsh Government analysis of annual average daily flows (AADF) data

Volume of road traffic by road classification and type of vehicle (StatsWales)

Chart 5b: Volume of road traffic by type of vehicle, 1996 to 2021 (a)(b)



Source: Welsh Government analysis of annual average daily flows (AADF) data
(a) For further information on vehicle classifications see Notes section.
(b) Vans refers to light vans and buses includes coaches
Note: Data for periods 2010 to 2021 have been revised.

Volume of road traffic by type of vehicle (StatsWales)

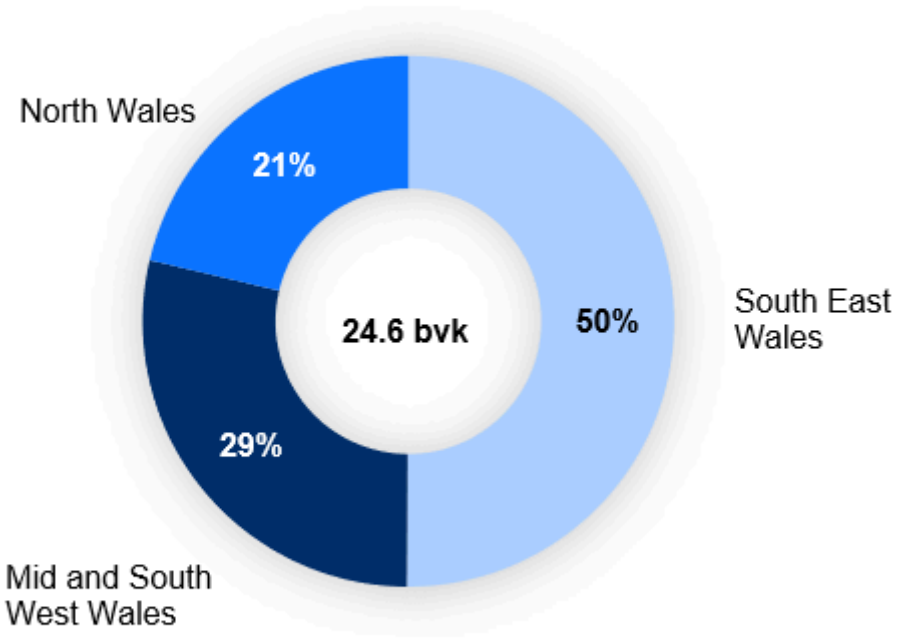
Cars and taxis were the dominant category on all classes of road in 2021, accounting for 20bvk (75.1% of motor vehicle traffic), followed by light vans at 5bvk (19.2%) and HGVs at 1.1bvk (4.2%).

Volume of road traffic by road classification and type of vehicle (StatsWales)

Traffic by economic region and local authorities

Excluding trunk roads (roads that form part of the strategic road network owned by and operated on behalf of the Welsh Government), South East Wales accounts for the highest proportion of the total traffic volume in Wales (50.1%), with North Wales accounting for the lowest (21.3%) (Chart 7). This distribution is consistent over time and broadly reflects where the population of Wales lives and works.

Chart 6: Volume of motor vehicle traffic by economic region, 2021



Source: Welsh Government analysis of annual average daily flows (AADF) data

Volume of road traffic by local authority and year (StatsWales)

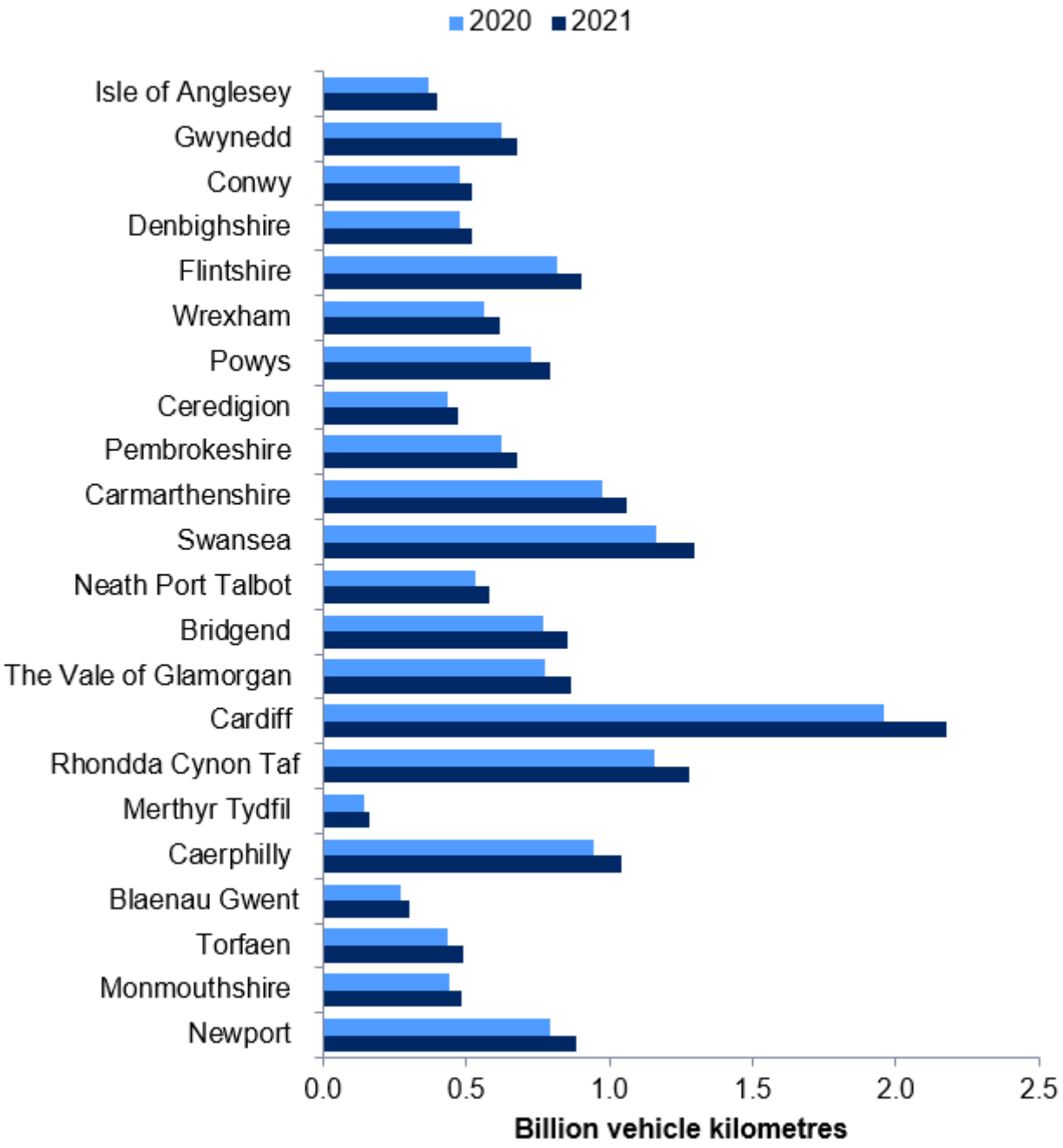
Chart 7 shows estimated traffic volume for the 22 Welsh local authorities in 2021 compared to 2020 levels.

- Cardiff, Rhondda Cynon Taff, Carmarthenshire and Swansea had the highest volumes of motor vehicle traffic. Their combined volume represented 34.1% of total traffic in Wales.
- Ceredigion, Isle of Anglesey, Blaenau Gwent and Merthyr Tydfil had the lowest volumes of motor vehicle traffic and their combined volume

represented just 7.8% of total traffic in Wales.

- Out of the 22 local authorities, Cardiff registered the highest volume of traffic in 2021 at 2.2bvk which was 11.1% higher than 2020. In general, these figures reflect where people live and work in Wales.

Chart 7: Volume of motor vehicle traffic by local authority, in Wales 2020 and 2021



Source: Welsh Government analysis of annual average daily flows (AADF) data

Volume of road traffic by local authority and road classification (StatsWales)

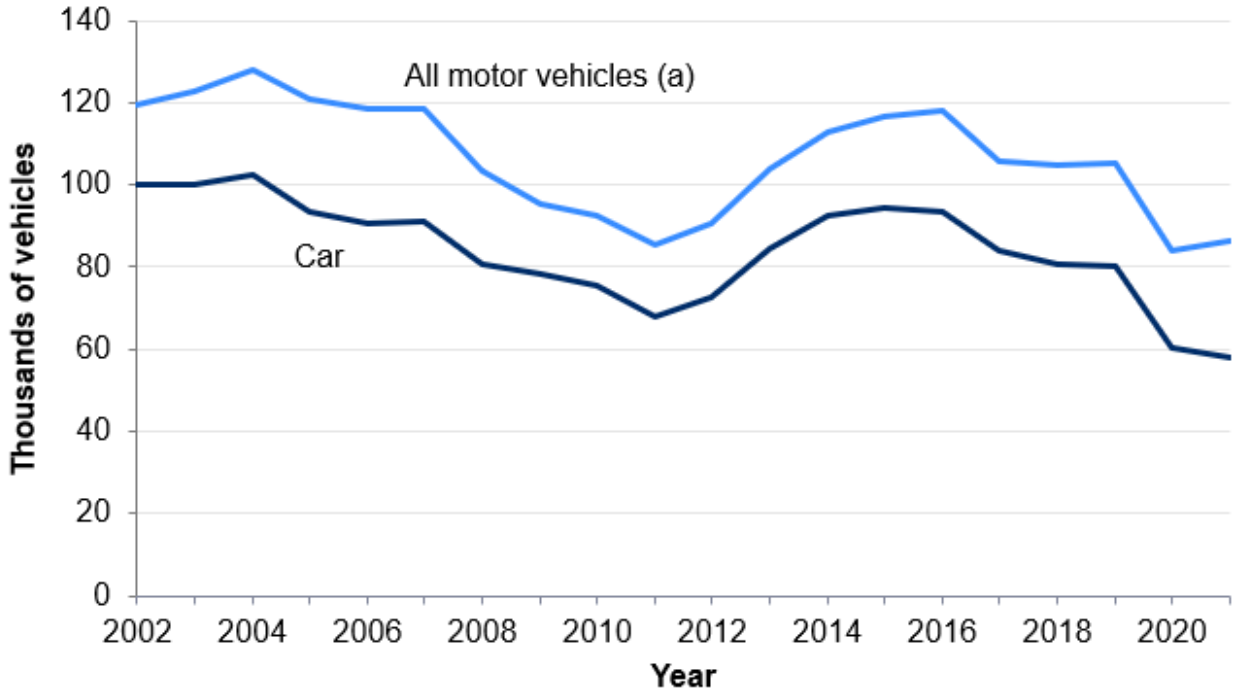
New registrations and licensed vehicles (revised)

Revision note

An error was identified in the 2021 release which showed an incorrect figure for new motor vehicle registrations in Charts 8a and 8b. This was revised on 4 October 2023.

Chart 8a shows new vehicle registrations in Wales since 2002. Registrations peaked in 2004 and a subsequent downward trend lasted until 2011. The trend then turned upwards, reaching over 115,000 in 2016 before falling once again. In 2021 the number of new vehicle registrations was 86,600 (r), an increase of 3.3(r)% (3,000(r)) compared to 2020.

Chart 8a: New motor vehicle registrations for cars and all vehicles, 2002 to 2021 (revised)



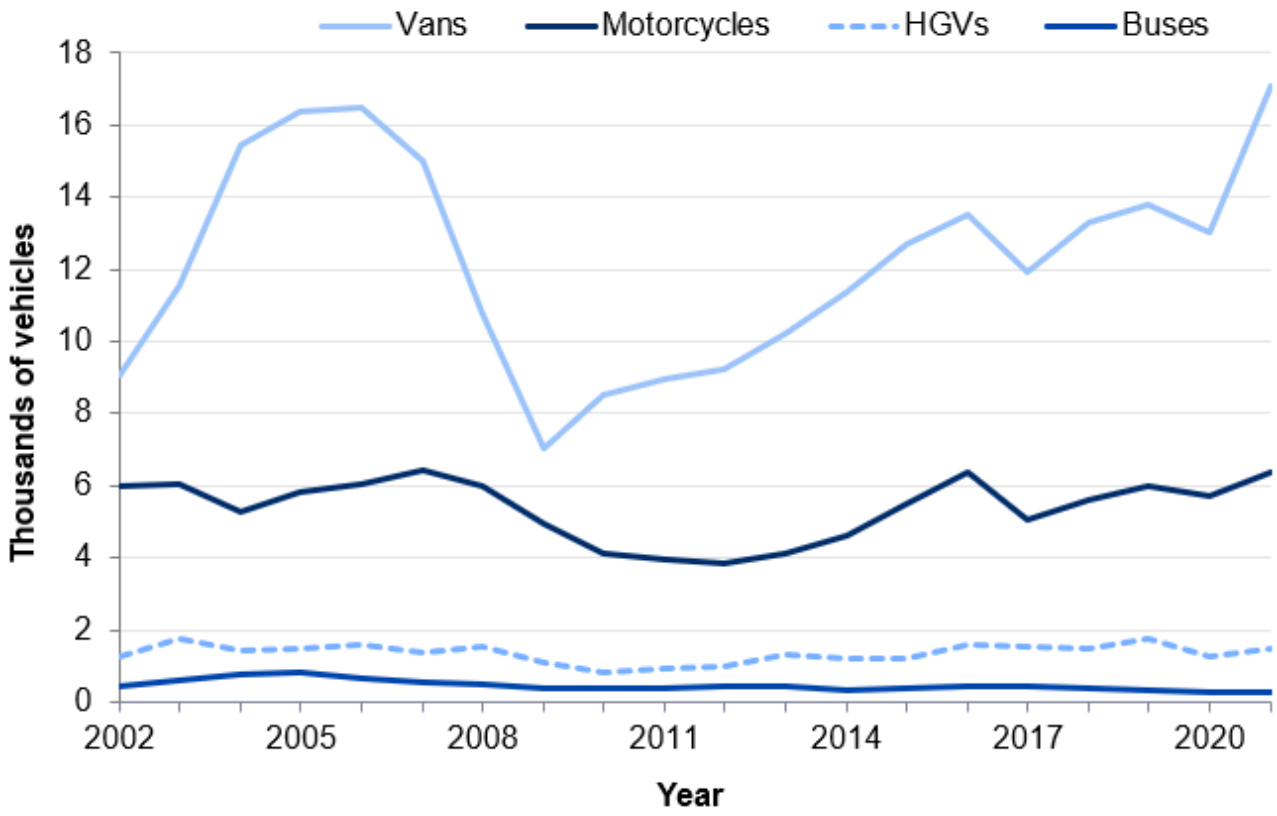
Source: Welsh Government analysis of DVLA/DfT vehicle licensing data
(a) 'All motor vehicles' excludes other and agricultural vehicles.

New motor vehicle registration by type of vehicle and year (StatsWales)

There was a 3.3(r)% increase in vehicle registrations in 2021 compared to 2020. Registrations of LGVs increased the most (an increase of 31.4(r)%), followed by HGVs (16.9(r)%) and motorcycles (11.8(r)%).

For vehicles excluding cars, the long-term picture is varied (8b). Between 2007 and 2009 there was a sharp fall in the number of new registrations for vans. Despite an overall increase since then, figures remain well below the peak.

Chart 8b: New motor vehicle registrations by body type, 2002 to 2021 (excluding cars) (revised)

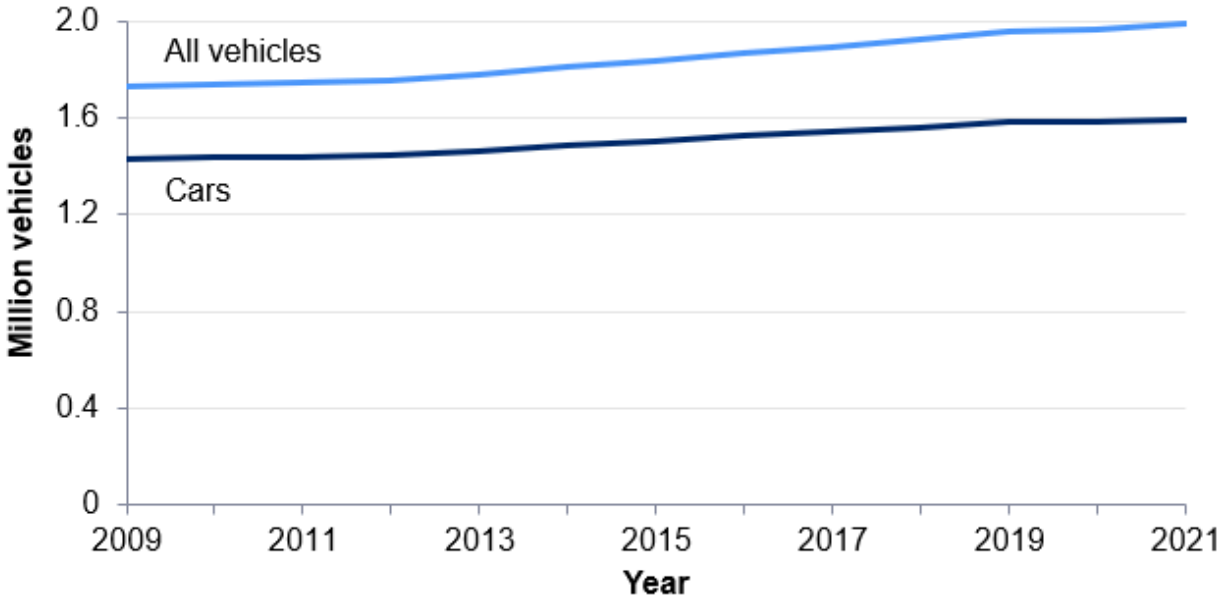


Source: Welsh Government analysis of DVLA/DfT vehicle licensing data
(a) 'All motor vehicles' excludes other and agricultural vehicles.

New motor vehicle registration by type of vehicle and year (StatsWales)

Chart 8c shows the number of cars and all vehicles licensed in Wales since 2010. The trend for cars and all vehicles is similar over time. In 2021, the number of licenced cars increased marginally by 0.6% to 1.6 million while all vehicles increased by 1.5% to 2.0 million.

Chart 8c: Cars and all vehicles licensed, 2009 to 2021 (a)



Source: Welsh Government analysis of annual average daily flows (AADF) data

(a) 'All vehicles' excludes other and agricultural vehicles.

New motor vehicle registration by type of vehicle and year (StatsWales)

Notes

Context

Related publications

The **Department for Transport (DfT) produces traffic statistics** which provide estimates of the vehicle miles travelled each year in Great Britain, by vehicle type, road category and region:

Transport Scotland produces an annual publication titled 'Transport and Travel in Scotland' which includes information on motor vehicles, traffic and driving.

Data source

Road traffic estimates for Wales are compiled by the Department for Transport on behalf of the Welsh Government. These estimates are based on the annual roadside manual road traffic counts carried out across Wales during the year and the automatic traffic count (ATC) data, which are combined with road lengths figures to produce overall traffic estimates.

Definitions

Coverage

Traffic estimates for major roads are based on a census of all such roads whereas traffic estimates for minor roads are estimated by calculating growth rates from a fixed sample of count points on the minor road network. **Further details of the methodology are available from DfT**.

Traffic volume

Traffic volume is estimated using traffic counts data collected by the Department for Transport (DfT). Data from manual traffic counts are combined with data from automatic traffic counters to calculate annual average daily flows (AADF). These daily flows are combined with road lengths to calculate the number of vehicle miles travelled each year by vehicle type, road category and region. In this release estimates are presented as billion vehicle kilometres.

Vehicle type

Pedal cycles

Includes all non-motorised cycles.

Motorcycles

Two-wheeled motor vehicles, including mopeds, motor scooters and motorcycle combinations.

Cars and taxis

Includes estate cars, all light vans with windows to the rear of the driver's seat, passenger vehicles with 9 seats or fewer, three-wheeled cars, motorised-invalid carriages, Land Rovers, Range Rovers and Jeeps. Cars towing caravans or trailers are counted as one vehicle

Buses and coaches

Includes all public service vehicles and works buses other than vehicles with less than 10 seats.

Light vans

All goods vehicles up to 3,500kg gross vehicle weight. This includes all car-based vans and those of the next larger carrying-capacity, such as transit vans. Also included are ambulances, pick-ups, milk floats and pedestrian-controlled

motor vehicles. Most of this group are delivery vans of one type or another.

Goods vehicles (HGVs)

All goods vehicles over 3,500kg gross vehicle weight. Includes tractors (without trailers), road-rollers, box vans and similar large vans. A two-axle motor tractor unit without trailer is also included.

All motor vehicles

All vehicles except pedal cycles.

Road class

All surfaced roads are included in the estimates.

Major roads

Motorways

Dual carriageways designed for fast traffic with access limited to motor vehicles, and with relatively few places for joining or leaving. The only motorway in Wales is the M4.

A Trunk roads

Part of the strategic road network owned by and operated on behalf of Government

A County roads

All other A roads.

Estimates for A roads are also available with sub-categories for urban and rural roads on StatsWales. Urban roads are those within the boundaries of settlements with a population of 10,000 or more, and rural roads are all other non-motorway major roads.

Minor roads

B roads

Roads intended to connect different areas, and to feed traffic between A roads and smaller roads on the network.

Classified unnumbered

Smaller roads intended to connect together unclassified roads with A and B roads, and often linking a housing estate or a village to the rest of the network. Similar to ‘minor roads’ on an Ordnance Survey map and sometimes known unofficially as C roads.

Unclassified

Local roads intended for local traffic. The vast majority of roads fall within this category.

Quality information

Relevance

These statistics are used to inform government, businesses, media and society and are used internally for policy formulation and monitoring. There are no other comprehensive data sources to enable the production of statistics about traffic for Wales and Great Britain. Some specific uses include: Welsh National Transport Plan monitoring indicators include these traffic flow data. The indicator measures the change in traffic flows for Wales as a whole and for individual local authority areas.

- These data will also be used as part of the calculations to meet any requests for the casualty rate per volume of traffic over individual road links.
- The national and local CO_2 emissions, relating to transport, use these traffic flows estimates.

Accuracy

Road traffic estimates are based on the results of 12-hour manual counts taken throughout the year which are grossed up to estimates of annual average daily flows using expansion factors based on data from automatic traffic counters on similar roads. These averages are needed so that traffic in off-peak times, at weekends and in the summer and winter months (when only special counts are undertaken) can be taken into account when assessing the traffic at each site. DfT now sort roads into 22 groupings (previously there were only 7). This allows a better match of manual count sites with automatic count sites. These groupings were based on detailed analyses of the results from all the individual automatic count sites and take into account regional groupings, road category (i.e. both the urban/rural classification of the road and the road class), and traffic

flow levels.

Minor road estimates are calculated differently to major roads. Due to the large number of minor roads it is not possible to count them all, instead a representative sample of minor roads are counted each year. This means that the accuracy of estimates for minor roads is likely to be of a lower quality than for major roads.

Data on motor vehicle registrations are collected by the Driver and Vehicle Licensing Agency (DVLA) and published by DfT. The DVLA database is regarded as being virtually complete in terms of the number of licensed vehicles.

Timeliness and punctuality

The **Department for Transport published road traffic estimates** for Great Britain in 2021 on 28 September 2022. Our release uses data in this publication and normally follows about three months later.

Revision

The road traffic statistics team (DfT) carry out a minor road traffic benchmarking exercise approximately every 10 years, with the aim to improve the accuracy of traffic estimates for minor roads. This was undertaken in 2020 (included in our October 2020 publication) and included revisions to the minor road traffic estimates covering 2010 to 2018. A table detailing these revisions was published as part of our **2020 statistical release**. For more information about the minor roads benchmarking exercise, please refer to the **documentation from the 2019 exercise (Department for Transport)**.

Accessibility and clarity

This statistical bulletin is pre-announced and then published on the **Statistics & Research** website. Road traffic data for Wales is published on **StatsWales**.

Comparability and coherence

The statistics presented here are from the DfT data collection and are fully comparable and coherent with the estimates for Great Britain.

National Statistics status

The **United Kingdom Statistics Authority** has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the **Code of Practice for Statistics**.

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value.

All official statistics should comply with all aspects of the Code of Practice for Statistics. They are awarded National Statistics status following an assessment by the UK Statistics Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate. The designation of these statistics as National Statistics was confirmed in February 2011 **following a full assessment against the Code of Practice**.

Since the latest review by the Office for Statistics Regulation, we have continued to comply with the Code of Practice for Statistics, and have made the following improvements:

- Added to and refined information about dimensions of quality and described links to policy.
- Improved our understanding of the various data sources and the methodology behind them, including their strengths and limitations.
- Added new relevant data sources to provide a broader view of the topic.
- Improved visuals by de-cluttering and standardising charts and tables.

It is Welsh Government's responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

Well-being of Future Generations Act (WFG)

The Well-being of Future Generations Act 2015 is about improving the social, economic, environmental and cultural wellbeing of Wales. The Act puts in place seven wellbeing goals for Wales. These are for a more equal, prosperous, resilient, healthier and globally responsible Wales, with cohesive communities and a vibrant culture and thriving Welsh language. Under section (10)(1) of the Act, the Welsh Ministers must (a) publish indicators ("national indicators") that must be applied for the purpose of measuring progress towards the achievement of the wellbeing goals, and (b) lay a copy of the national indicators before Senedd Cymru. Under section 10(8) of the Well-being of Future Generations Act, where the Welsh Ministers revise the national indicators, they must as soon as reasonably practicable (a) publish the indicators as revised and (b) lay a copy of them before the Senedd. These national indicators were laid before the Senedd in 2021. The indicators laid on 14 December 2021 replace the set laid on 16 March 2016.

Information on the indicators, along with narratives for each of the wellbeing

goals and associated technical information is available in the **Wellbeing of Wales report**.

Further information on the **Well-being of Future Generations (Wales) Act 2015**.

The statistics included in this release could also provide supporting narrative to the national indicators and be used by public services boards in relation to their local wellbeing assessments and local wellbeing plans.

We want your feedback

We welcome any feedback on any aspect of these statistics which can be provided by email to **stats.transport@gov.wales**

Contact details

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