



Llywodraeth Cymru
Welsh Government

STATISTICS, DOCUMENT

Road traffic: 2023

Information on volume of traffic by type of vehicle and class of road for 2023.

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Main points

- Road traffic volume in Wales in 2023 increased by 2.1% compared to 2022, to 29.8 billion vehicle kilometers (bvk) but remained around 2.9% below pre-pandemic levels (30.7bvk in 2019).
- In 2023, the total volume of motorised traffic in Wales was 29.8bvk. This is equivalent to 9,417 vehicle kilometers (5,846 miles) per person.
- Most of the traffic (63.4%) was on major roads (motorways or A roads). The remaining traffic was on minor roads – i.e., B, C and unclassified roads.

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 estimated 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).

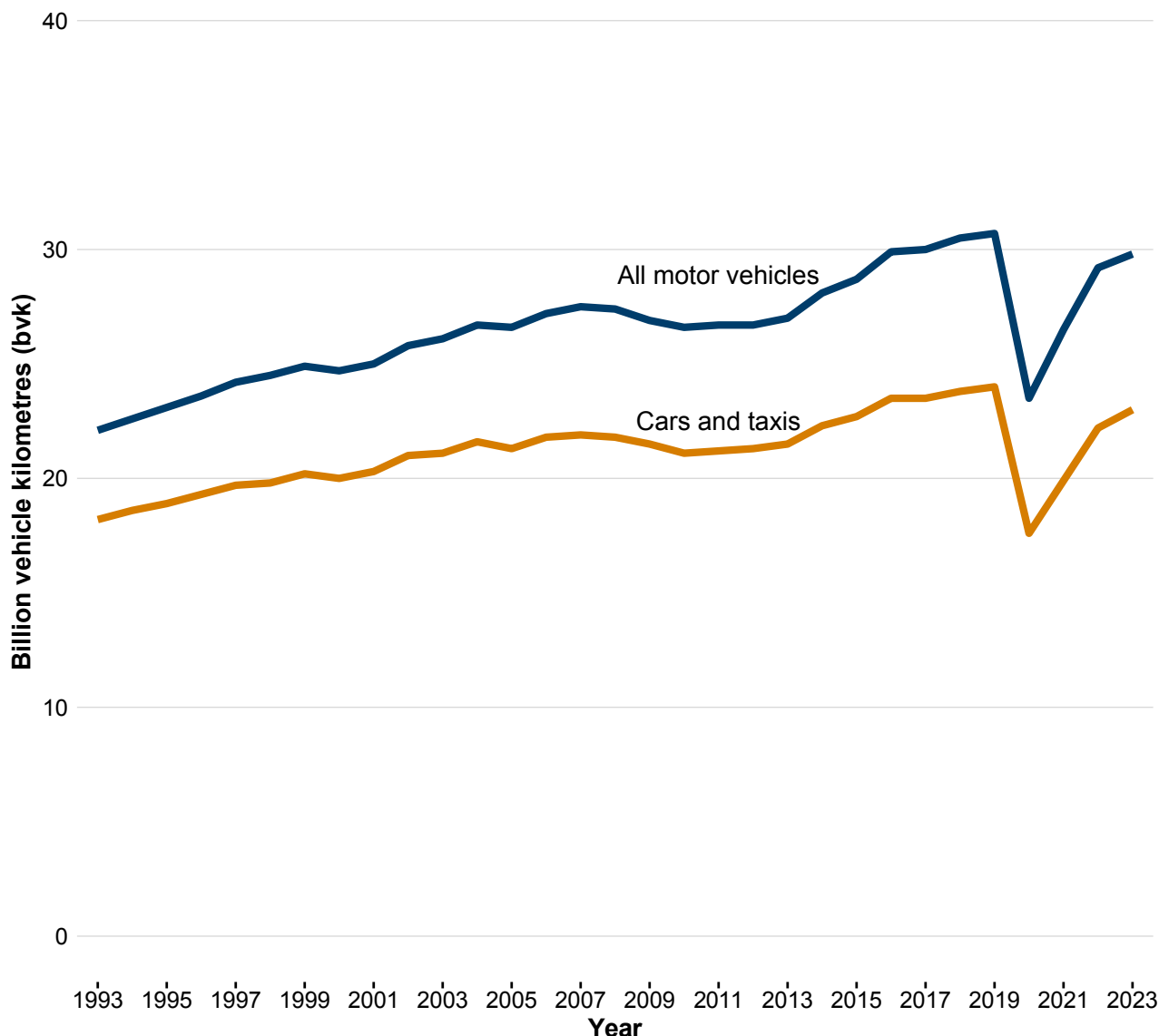
More detailed information is provided in the [DfT's road traffic estimates methodology note](#).

Trends in road traffic in Wales

Figure 1 shows the long-term trend in traffic volume from 1993 to 2023. Between 1993 and 2019, total traffic volume increased by 38.9% 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 a result of the coronavirus (COVID-19) pandemic travel restrictions. In 2023, traffic volume increased by 2.1% compared to the previous year, to 29.8bvk.

Figure 1: Volume of traffic in Wales, 1993 to 2023



Description of Figure 1: A line chart showing the trend in volume of traffic in Wales over time. In 2023, the total volume of motorised traffic in Wales was 29.8 billion vehicle kilometers (bvk). This is equivalent to 9,417 vehicle kilometers (5,852 miles) per person.

Source: Welsh Government analysis of AADF data

Volume of road traffic by type of vehicle 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 volume decreased considerably during 2020 in light of the COVID-19 pandemic. COVID-19 restrictions continued to impact travel in 2021, though to a lesser extent.

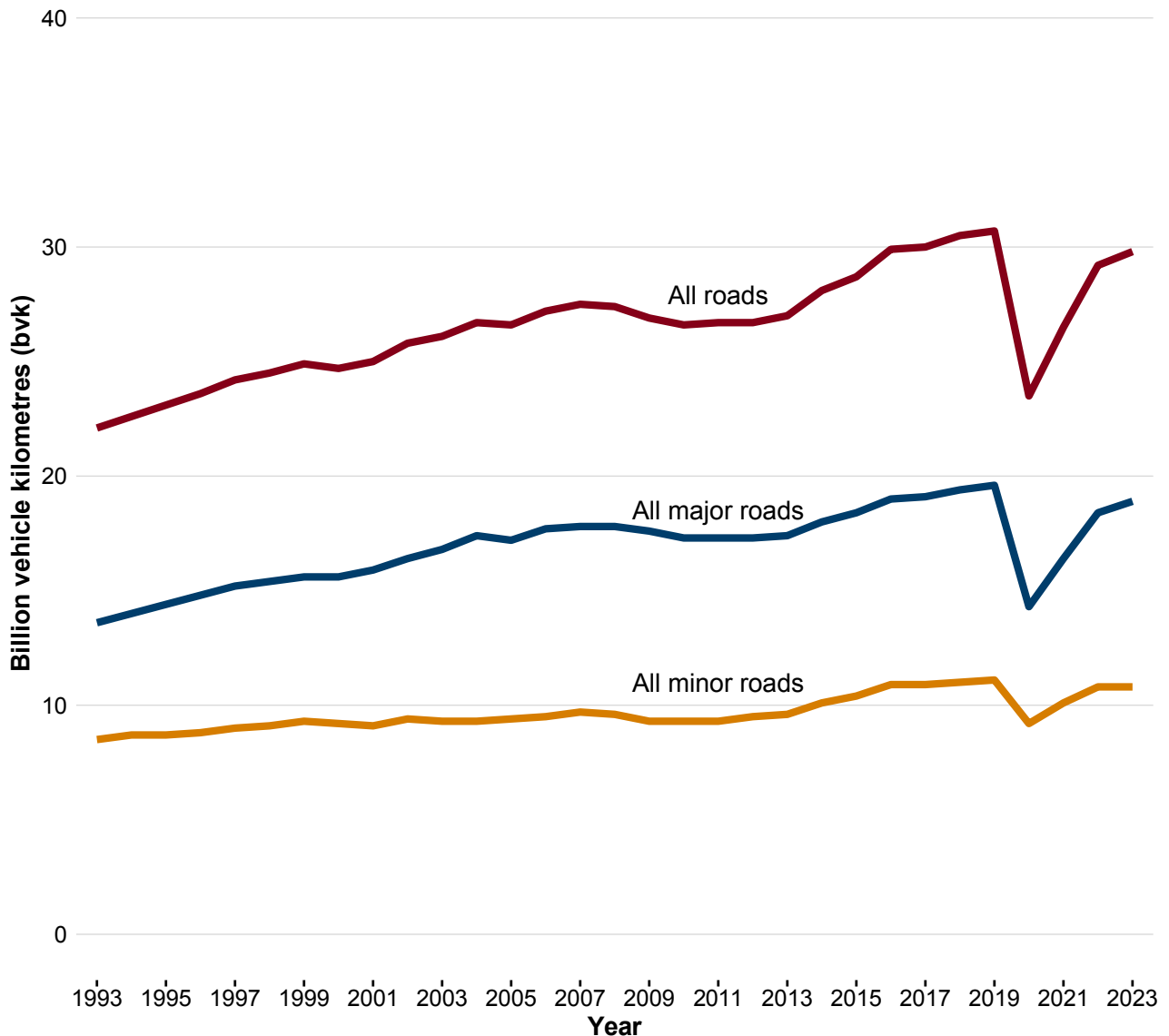
Traffic by road class

Major roads accounted for 63.4% of total traffic volume (18.9bvk) in Wales in 2023, and minor roads (10.8bvk) accounted for 36.2%. The proportion share has broadly been similar over time. Since 1993, traffic volume on major roads has increased by 39.0% and traffic volume on minor roads has increased by 27.1%. Figure 2.

In 2023, traffic volume increased by 2.7% on major roads and there was no change on minor roads, compared with the previous year.

Note: Totals may not sum to 100% due to rounding.

Figure 2: Volume of traffic by main road, Wales, 1993 to 2023



Description of Figure 2: A line chart showing the trend in volume of traffic by main road overtime. In 2023 63.4% of total traffic volume in Wales was accounted by major roads.

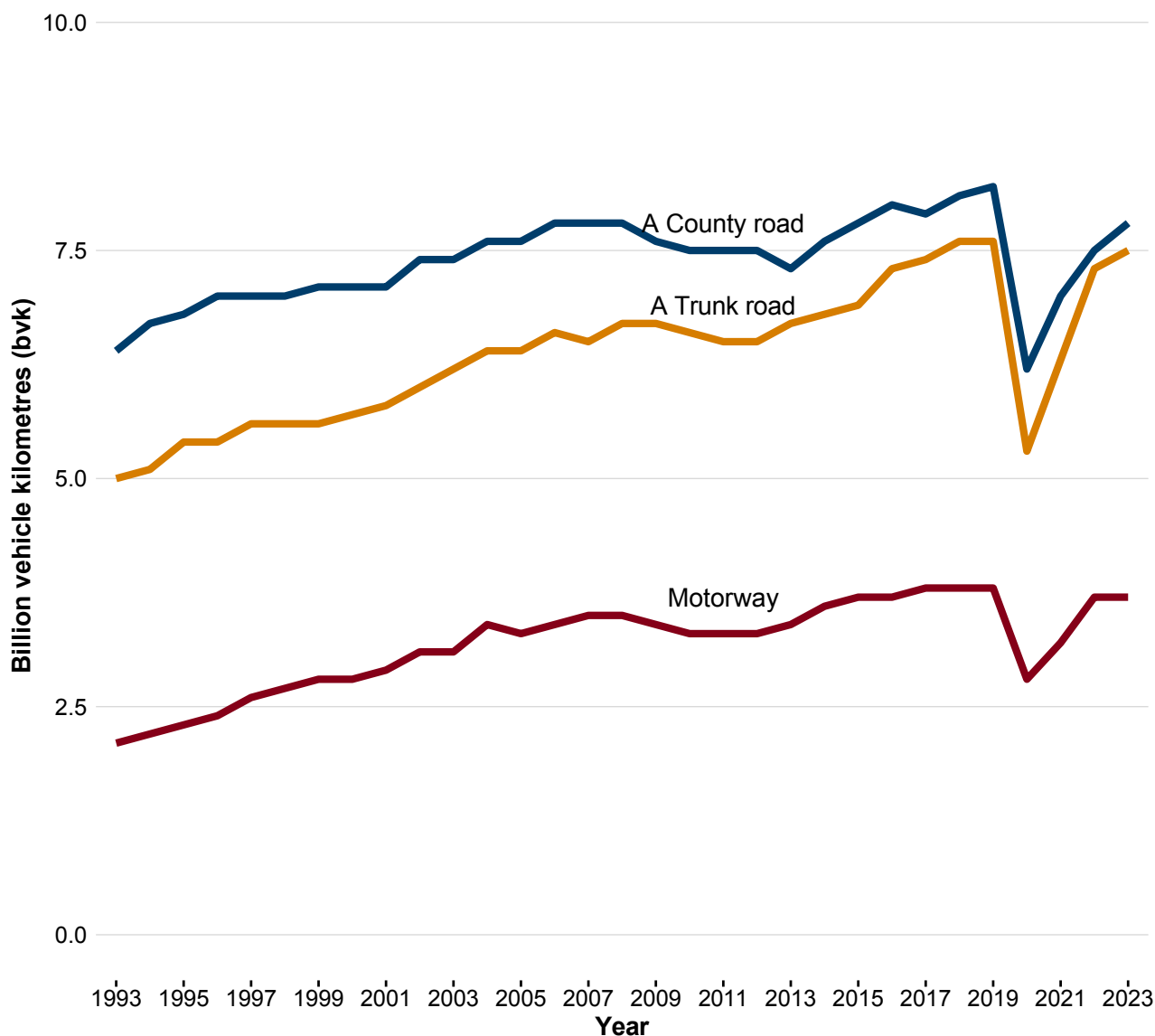
Source: Welsh Government analysis of AADF data

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). Figure 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.

In 2023 traffic on roads saw the largest increase on A County roads (4.0%) compared to 2022, followed by A Trunk road (2.7%). There was no change on Motorway and B, C & minor roads.

Figure 3: Volume of traffic by categories of major road, Wales, 1993 to 2023



Description of Figure 3: A line chart showing the trend in volume of traffic by categories of major roads overtime. In 2023, A County roads saw the largest increase (4.0%) compared to 2022.

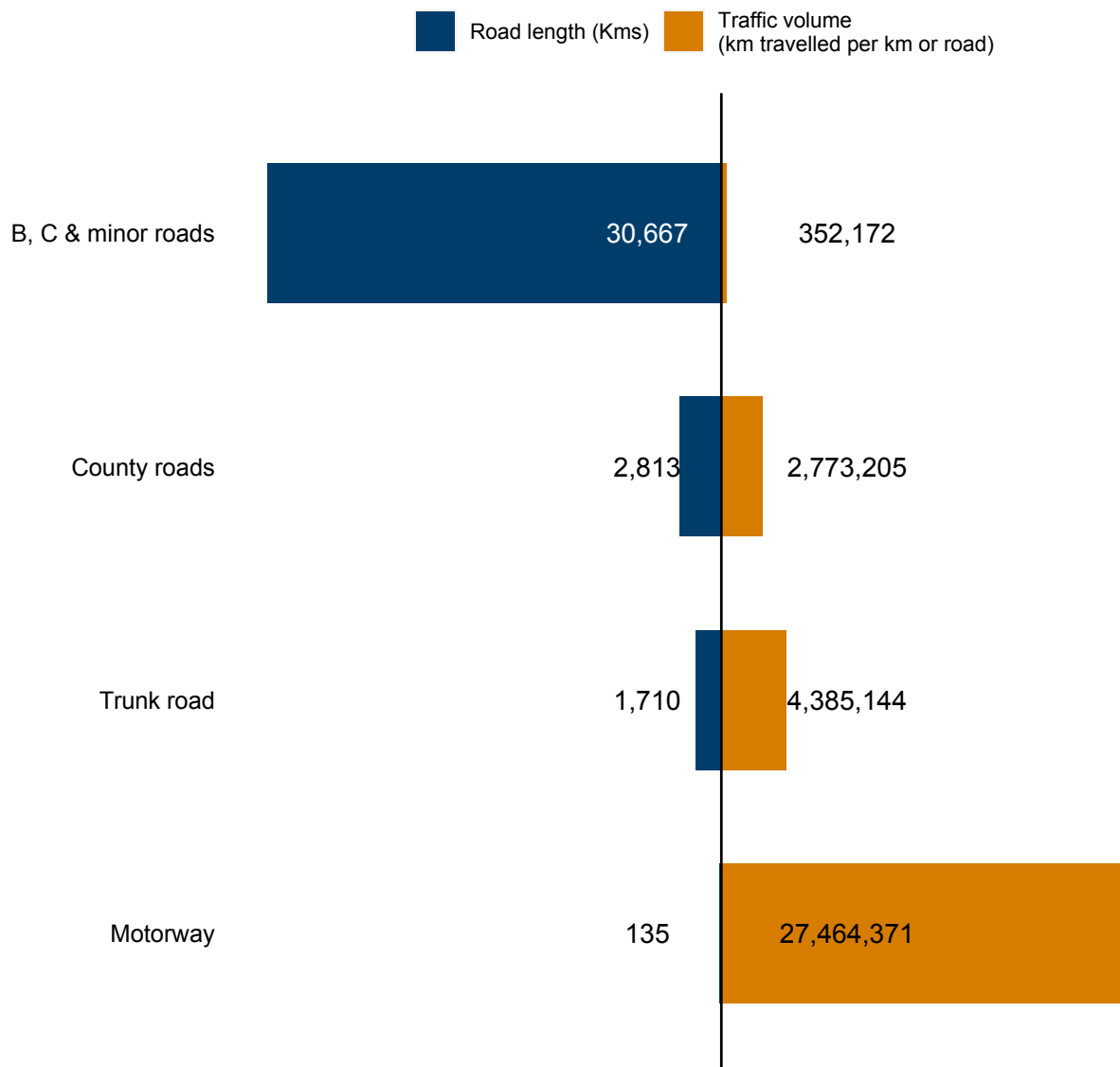
Source: Welsh Government analysis of AADF data

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

To help provide context for these figures, in 2022-23, the length of the motorway in Wales is 135km, the length of the trunk road network is 1,710km, county roads are 2,813km in length and B, C and minor roads total 30,667km.

Figure 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.

Figure 4: Road length and motorised road traffic volume by class of road, Wales, 2023



Description of Figure 4: Figure 4 shows that, in 2023, taking into account different road lengths and traffic levels, the level of traffic per kilometre of road is much higher on motorways compared to the other road classifications.

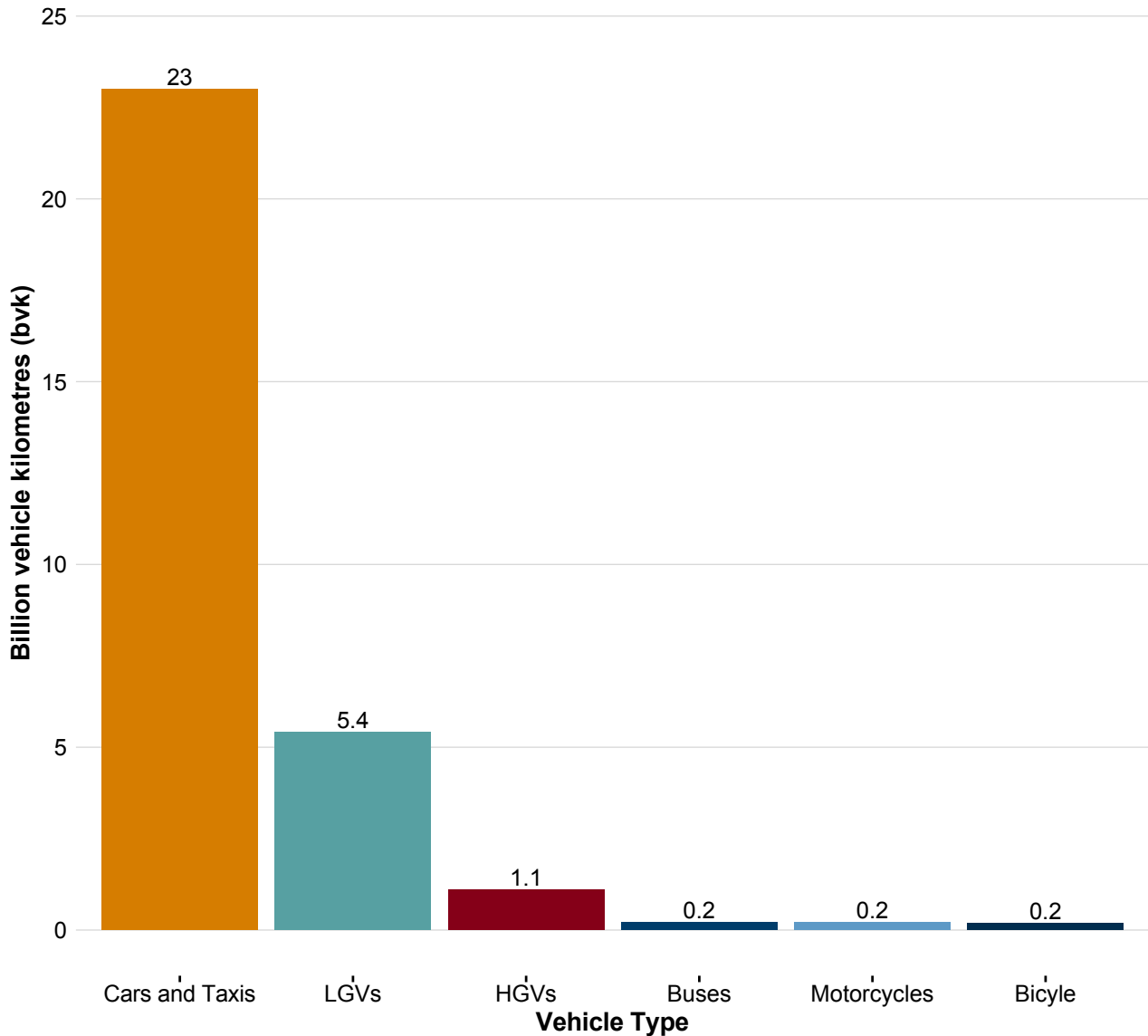
Source: Welsh Government analysis of AADF data

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 Figure 5a and Figure 5b. 77.2% of all motor vehicle traffic volume in 2023 was accounted for by cars and taxis (23.0bvk) and Light goods vehicles (LGVs) (5.4bvk).

Figure 5a: Volume of road traffic, by type of vehicle, Wales, 2023



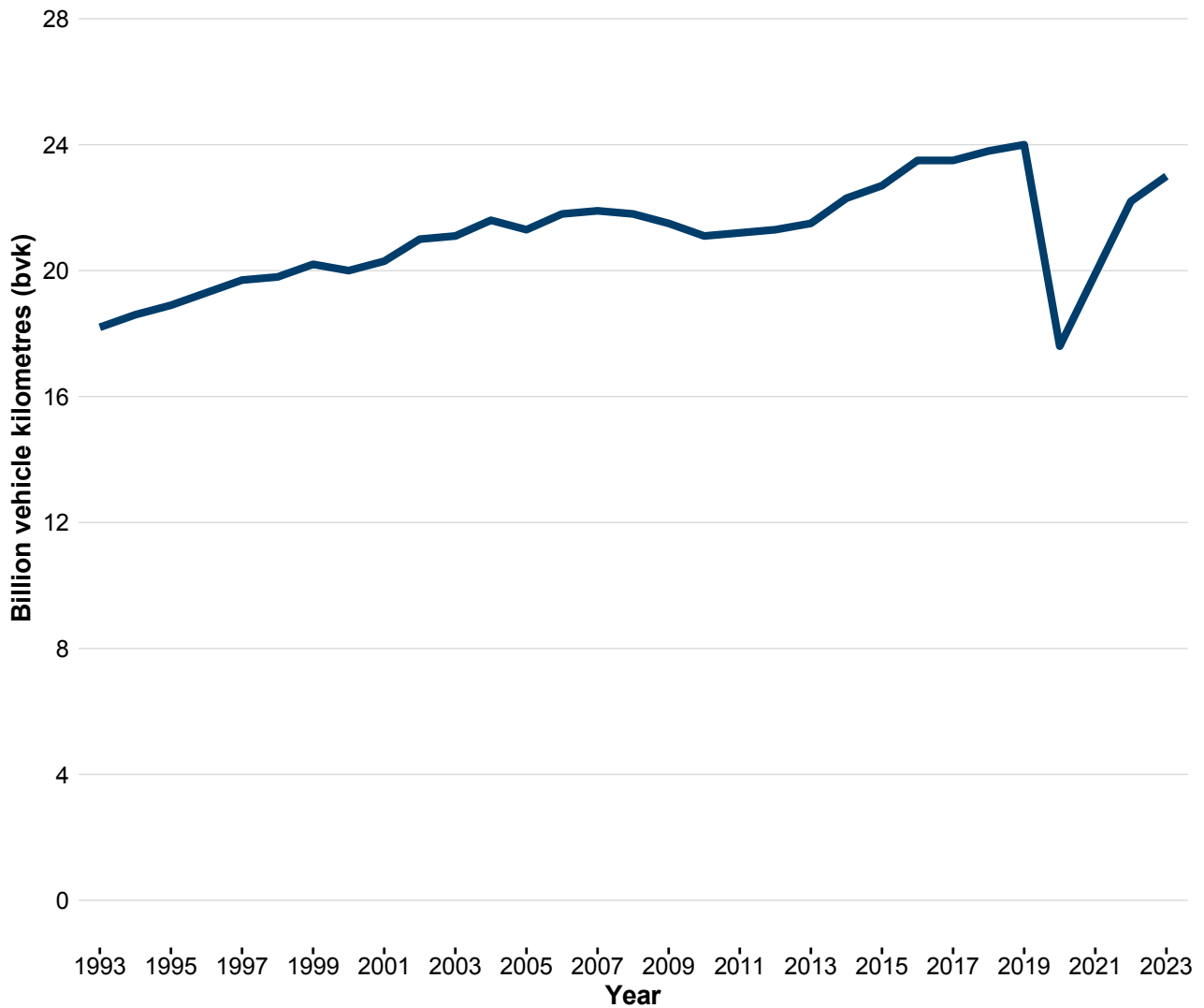
Description of Figure 5a: A column chart showing the volume of road traffic, by type of vehicle in 2023. Cars and taxis accounted for the largest share, 77.2%.

Source: Welsh Government analysis of AADF data

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

Cars and taxis were the dominant category on all classes of road traffic in 2023, accounting for 23.0bvk (77.2% of motor vehicle traffic), followed by LGVs at 5.4bvk (18.1%) and HGVs at 1.1bvk (3.7%).

Figure 5b: Traffic volume by cars and taxis, Wales, 1996 to 2023



Description of Figure 5a: A line chart showing the volume of traffic by cars and taxis in Wales from 1993 to 2023. Road traffic by cars and taxis has increased compared to the previous year but remains below the pre-pandemic levels of

2019.

Source: Welsh Government analysis of AADF data

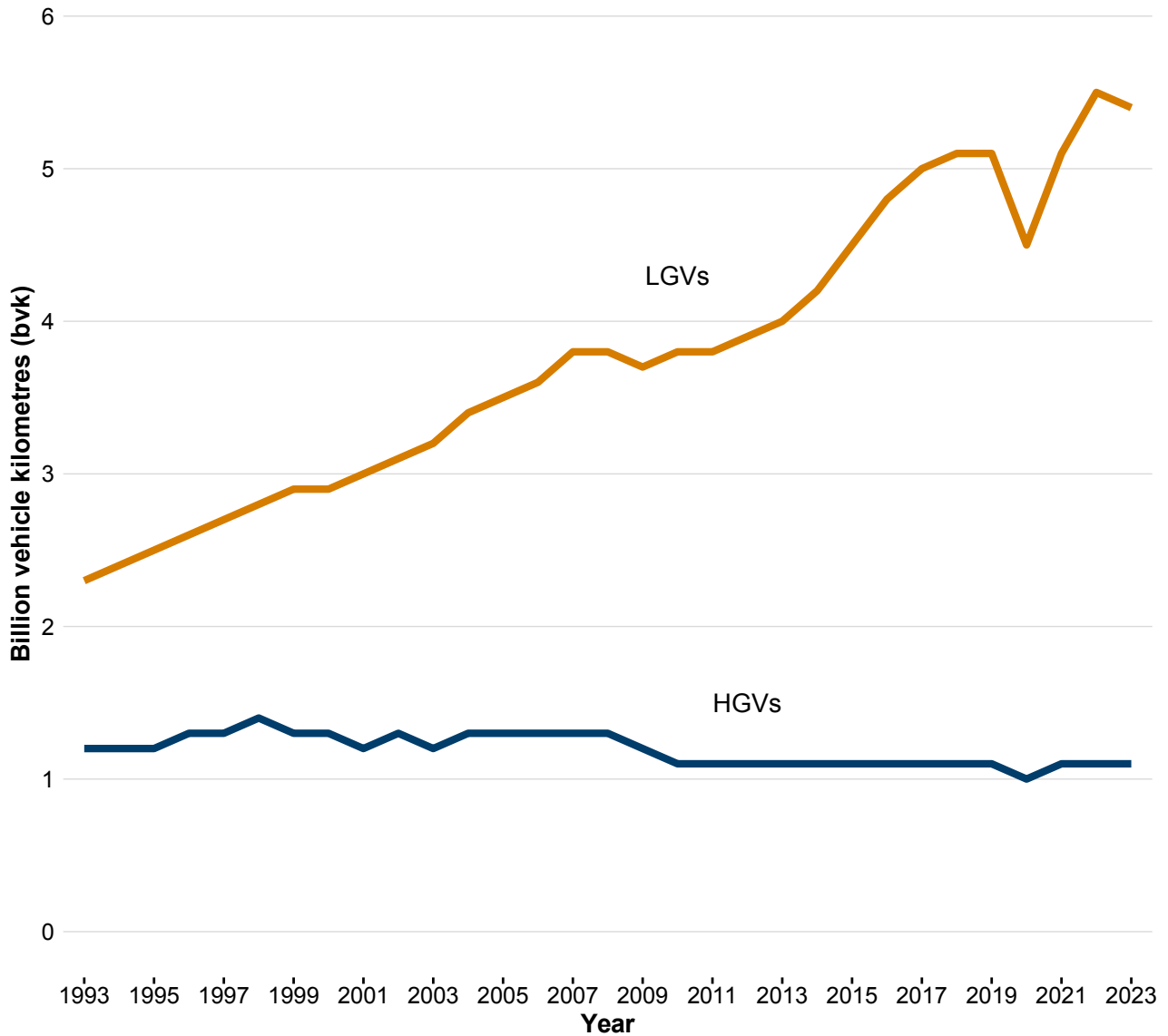
Volume of road traffic by type of vehicle and year (StatsWales)

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Figure 5c: Traffic volume by HGVs and LGVs, Wales, 1996 to 2023



Description of Figure 5c: A Line chart showing trends in road traffic by HGVs and LGVs vehicles overtime. In 2023, LGVs decreased by 1.8% whilst there was little change in HGVs compared to 2022.

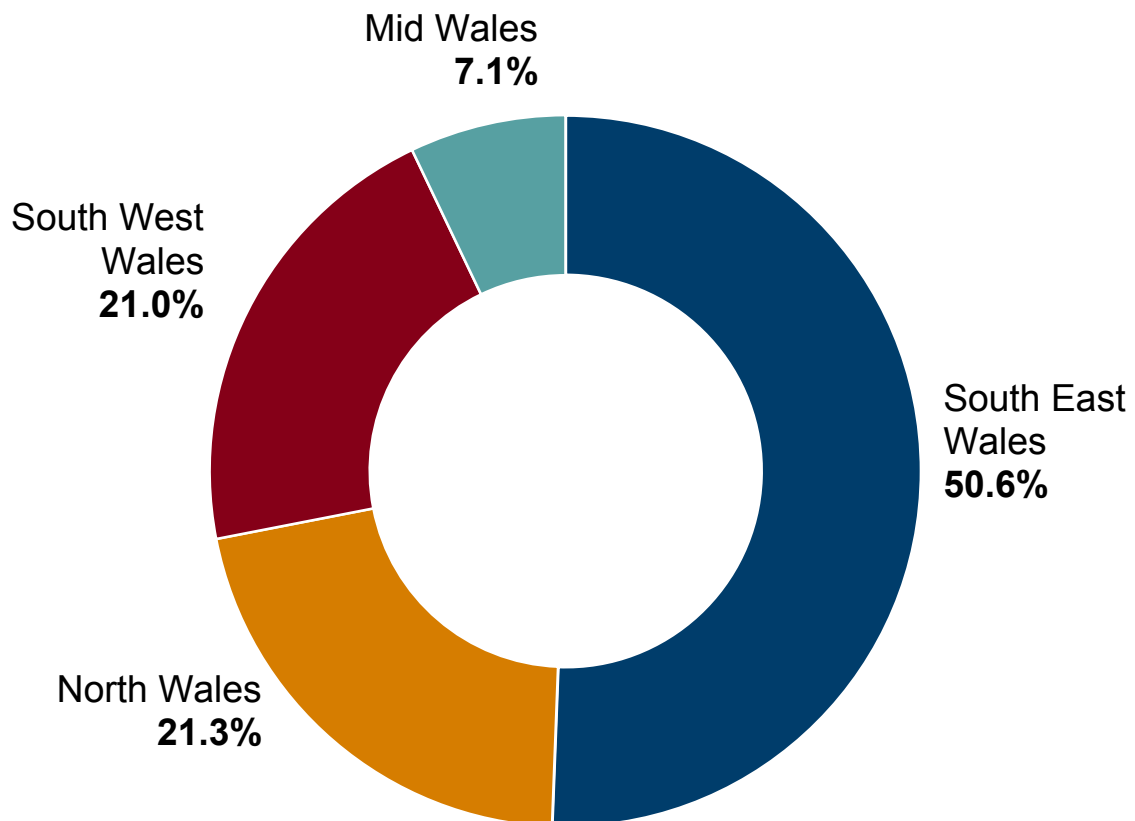
Source: Welsh Government analysis of AADF data

Volume of road traffic by type of vehicle and year (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 accounted for the highest proportion of total traffic volume in Wales (50.6%), with Mid Wales accounting for the lowest (7.1%) (Figure 6). This distribution is consistent over time and broadly reflects where the population of Wales lives and works.

Figure 6: Proportion of motor vehicle traffic by economic region, in Wales, excluding trunk roads, 2023 [Note 1]



Description of Figure 6: Doughnut chart showing share of motor vehicle traffic by economic regions, in 2023, excluding trunk roads. South East Wales accounted for the highest proportion of the total traffic volume in Wales (50.6%).

Source: Welsh Government analysis of AADF data

[Note 1]: Total may not add up to 100% due to rounding.

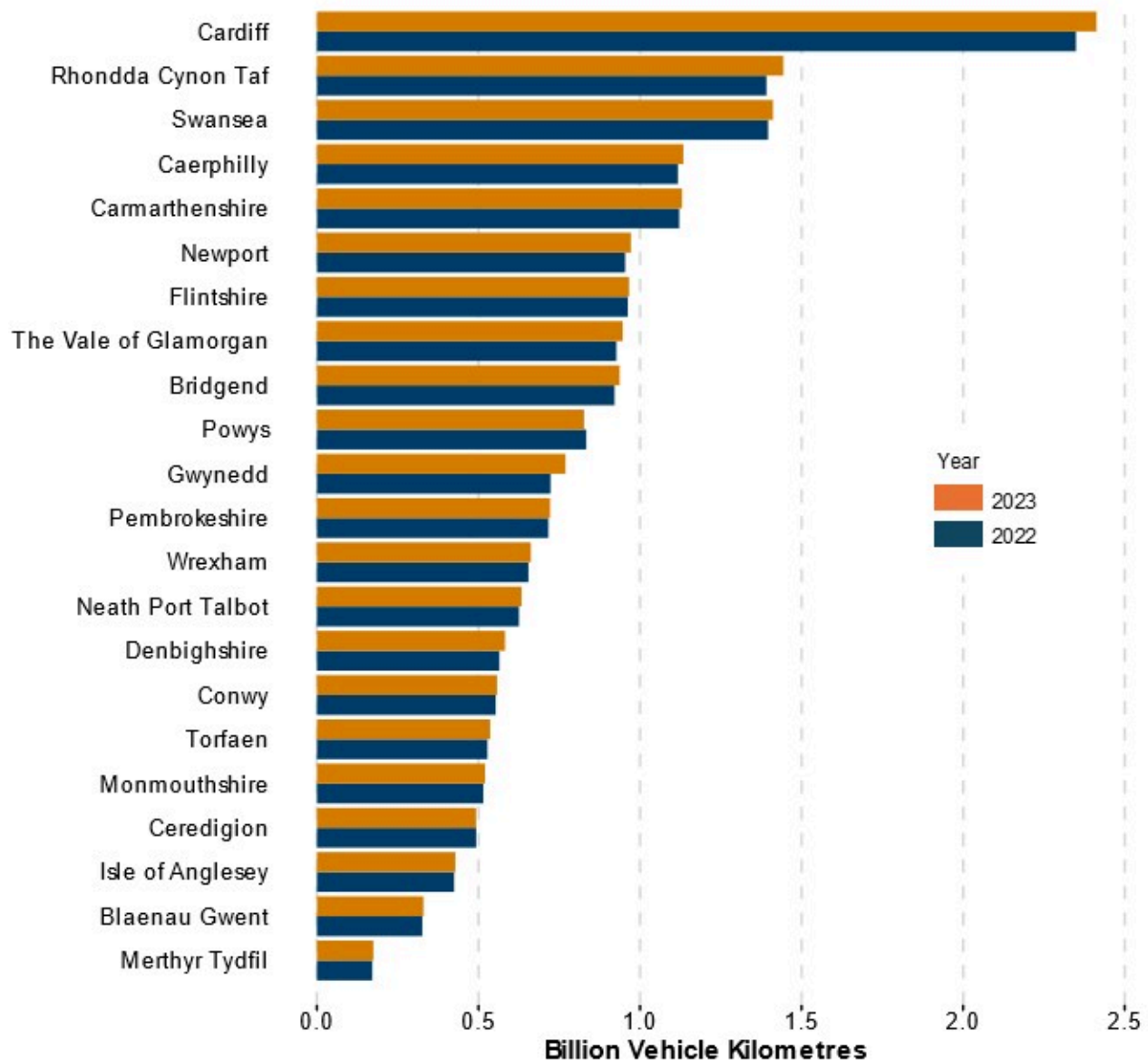
Figure 7 shows estimated traffic volume for the 22 Welsh local authorities in 2023 compared to 2022 levels excluding trunk roads.

Cardiff, Rhondda Cynon Taf, Swansea, Caerphilly and Carmarthenshire had the highest volumes of motor vehicle traffic. Their combined volume represented 40.5% 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 7.7% of total traffic in Wales.

Out of the 22 local authorities, Cardiff registered the highest volume of traffic in 2023 at 2.4bvk. In general, these figures reflect where people live and work in Wales.

Figure 7: Volume of motor vehicle traffic by local authority, in Wales, 2022 and 2023, excluding trunk roads



Description of Figure 7: A bar chart showing volume of motor vehicle traffic by local authority in 2023 covering all 22 local authorities. Cardiff was the highest local authority with 2.4 billion vehicle kilometres.

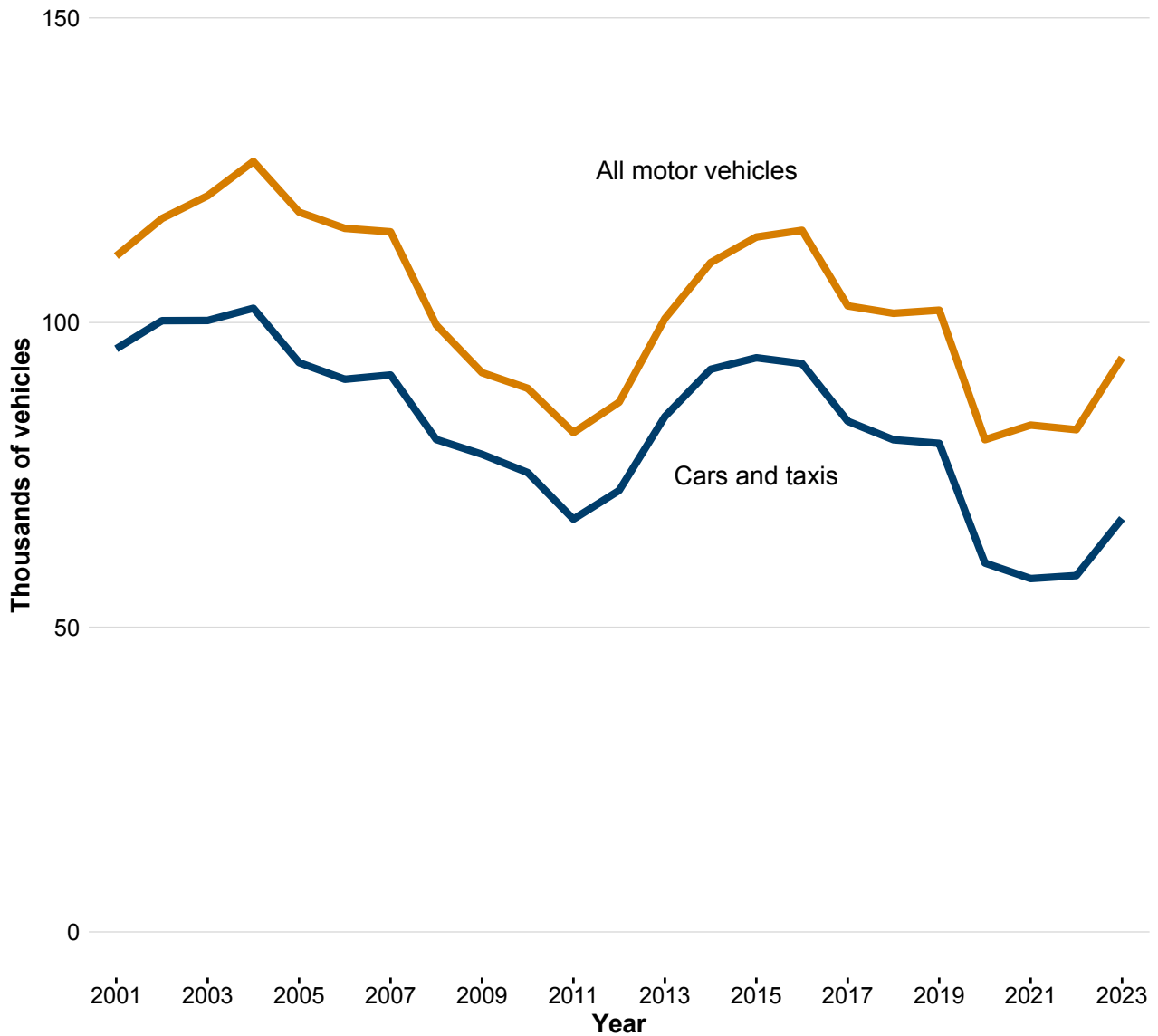
Source: Welsh Government analysis of AADF data

Volume of road traffic by local authority and year excluding trunk roads (billion vehicle kilometres) (StatsWales)

New registrations and licensed vehicles

Figure 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 2023 the number of new vehicle registrations was 94,000, an increase of 14.3% (12,000) compared to 2022.

Figure 8a: New motor vehicle registrations in Wales, 2001 to 2023 [Note 1]



Description of Figure 8a: A line chart showing the trend in new motor vehicle registrations in Wales overtime. In 2023 the number of new vehicle registrations was 94,000, an increase of 14.3%.

Source: Welsh Government analysis of vehicle licensing statistics by the DfT

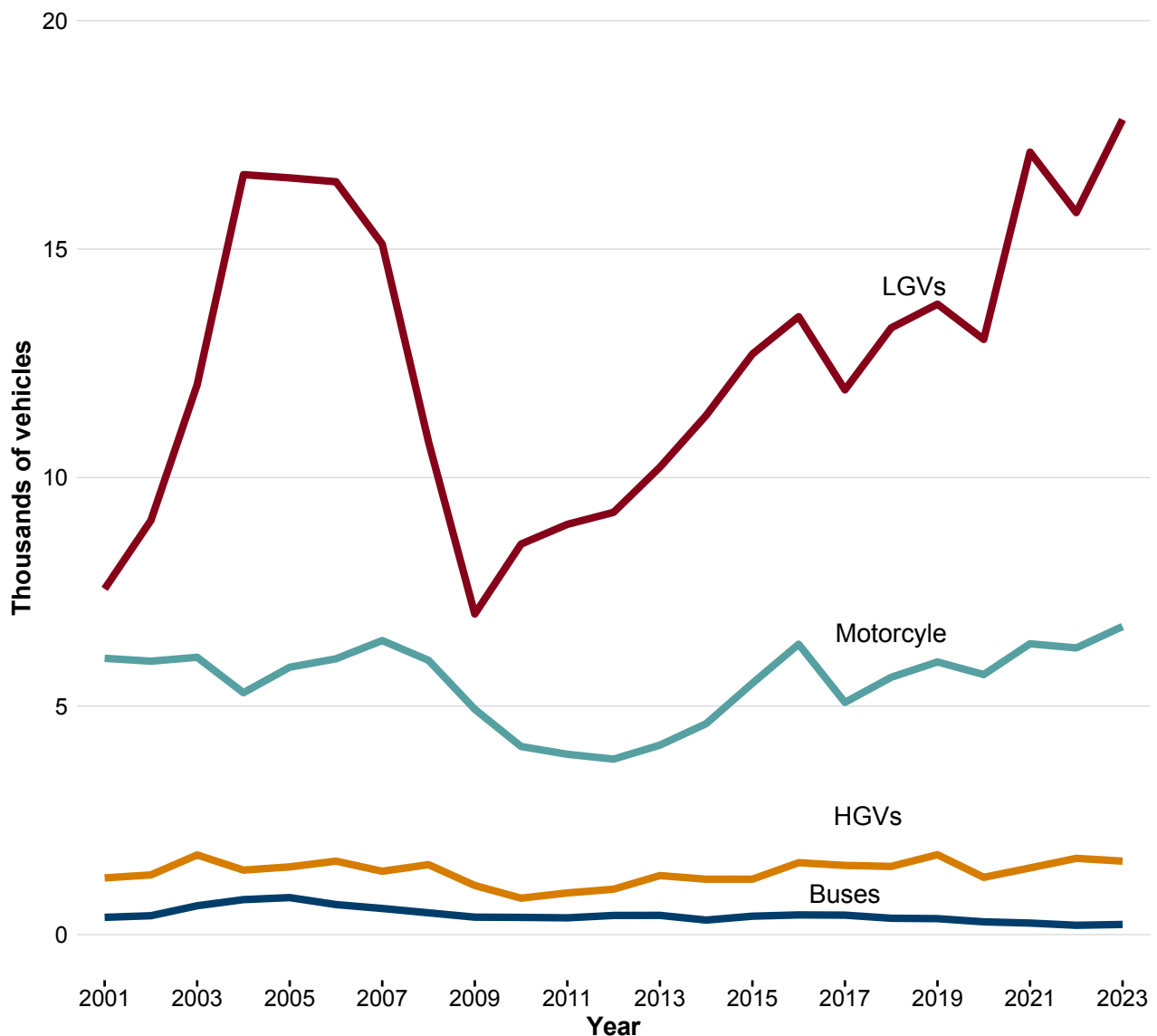
[Note 1]: This excludes 'Other vehicles' body type that includes Hackney Carriages, rear diggers, lift trucks, rollers, ambulances, three wheelers, tricycles and agricultural vehicles.

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

In 2023, the number of new registrations of cars experienced the largest increase (16.0%) of any type of vehicle, followed by light goods vehicles (12.9%), compared to the previous year. Registrations of heavy goods vehicles decreased by 3.7% over the same time period.

For vehicles excluding cars, the long-term picture is varied (Figure 8b). Between 2007 and 2009 there was a sharp fall in the number of new registrations for LGVs.

Figure 8b: New motor vehicle registrations by body type in Wales, 2001 to 2023 (excluding cars)



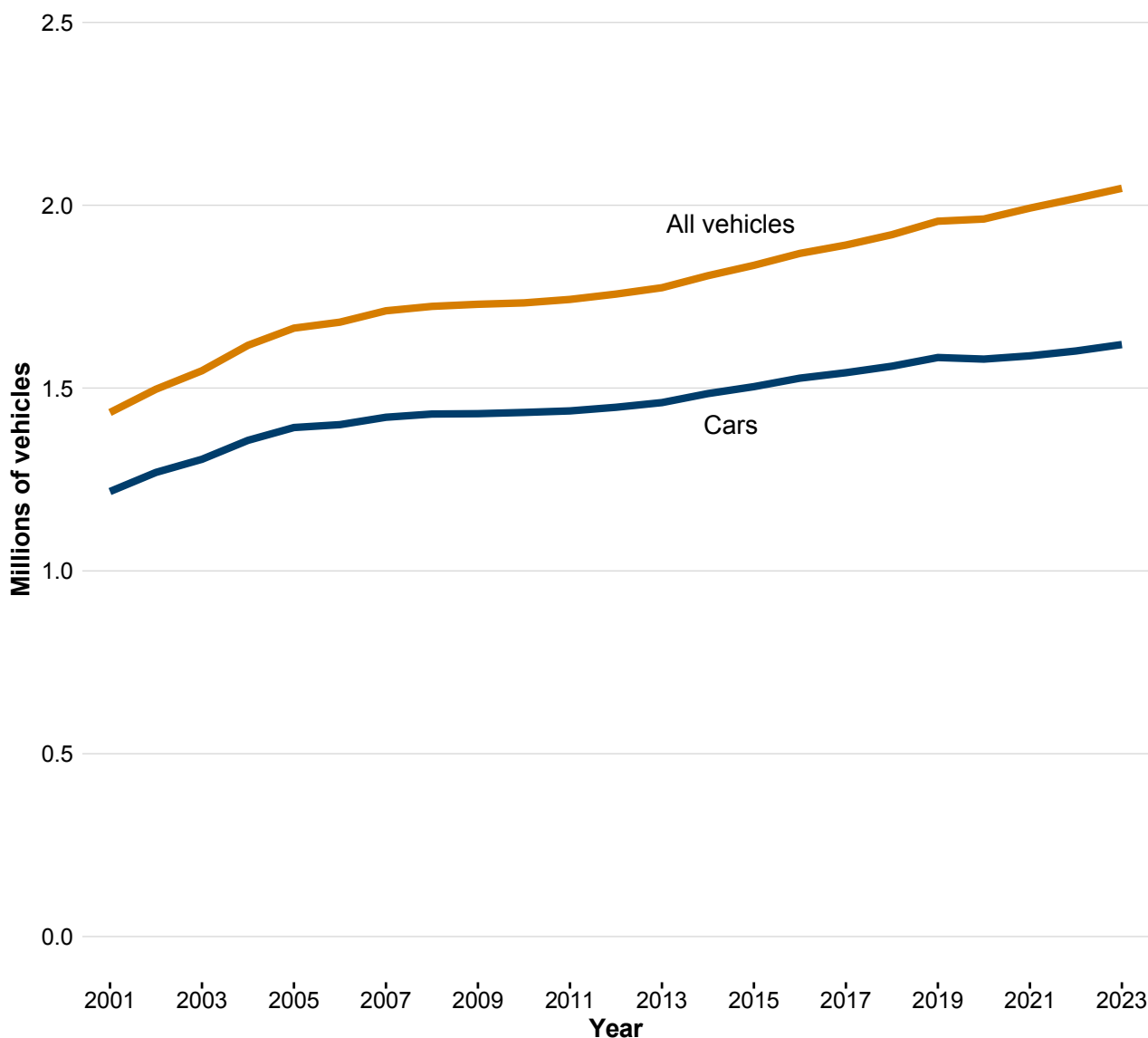
Description of Figure 8b: A line chart showing the trend in new motor vehicle registrations by body type overtime. In 2023 there was a 16.0% increase in car registrations.

Source: Welsh Government analysis of vehicle licensing statistics by the DfT

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

Figure 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 2023, the number of licenced cars increased by 1.1% to 1.6 million while the total number of licensed vehicles increased by 1.4% to 2.0 million.

Figure 8c: Cars and all vehicles licensed in Wales, 2001 to 2023



Description of Figure 8c: A line chart showing the trend in the total number of registered vehicles, in Wales, overtime. In 2023 the number of licenced cars increased to 1.6 million while the total number of licensed vehicles increased to

2.0 million.

Source: Welsh Government analysis of vehicle licensing statistics by the DfT

[New motor vehicle registration by type of vehicle and year \(StatsWales\)](#)

Quality information

Related publications

[The DfT produces traffic statistics](#) which provide estimates of the vehicle miles travelled each year in Great Britain, by vehicle type, road category and region.

Data source

Road traffic estimates for Wales are compiled by the DfT 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

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.

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Traffic volume

Traffic volume is estimated using traffic counts data collected by 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 kilometers.

Vehicle type

The vehicle types identified are as follows.

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 goods vehicles (LGVs)

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. The categories are:

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.

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 are listed below:

- These data are used as a monitoring measure in the **Welsh Transport Strategy (Transport for Wales)**. The indicator measures the change in traffic flows for Wales as a whole and for individual local authority areas.
- These data are used to calculate the casualty rate per volume of traffic.
- National and local CO2 emissions estimates, relating to transport, use these traffic flows estimates.

Accuracy

Road traffic estimates are based on the results of 12-hour manual counts taken between March and November, which are grossed up to estimates of AADFs 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. Roads are grouped into 10 strata based on the type of road, the location, and the estimated AADF.

Major roads (motorways and 'A' roads) are represented by a series of links, which are unique sections of road which make up the entirety of the major roads network. A location on each of these links is used to count vehicles. The scale of the road network means it is not possible to count traffic on every stretch of road every year, therefore, a rolling Census approach is taken for major roads. Where a manual count has not taken place in the reference year, growth factors are applied to the previous year's AADF. Growth factors are calculated from the change between the reference year and the previous year from data from automatic traffic counters on similar roads. Once an AADF for the latest year has been calculated for all of the links of the major road network, the figures are combined with road lengths to produce estimates for the amount of vehicle kilometres driven in the year.

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. The sample of minor road sites that are counted each year are used to estimate the change in traffic levels between years. These figures are then applied to the previous year's minor road traffic figures, as well as the change in minor road length, to calculate the minor road traffic estimates for the latest year.

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 DfT published [road traffic estimates for Great Britain in 2023 on 22 May 2024](#). Our release uses this road traffic data in this publication and normally follows about three months later, although we plan to shorten this gap in future.

Revision

The DfT carries 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 \(DfT\)](#).

Accessibility and clarity

This statistical bulletin is pre-announced and then published on the [Statistics and 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.

Official statistics status

All official statistics should show the standards of the [Code of Practice for Statistics \(UK Statistics Authority\)](#).

These are accredited official statistics. Their designation was confirmed in February 2011 [following a full assessment against the Code of Practice \(UK Statistics Authority\)](#). They comply with the standards of trustworthiness, quality and value in the Code of Practice for Statistics.

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

Statement of compliance with the Code of Practice for Statistics

Our statistical practice is regulated by the Office for Statistics Regulation (OSR). OSR sets the standards of trustworthiness, quality and value in the Code of Practice for Statistics that all producers of official statistics should adhere to.

All of our statistics are produced and published in accordance with a number of statements and protocols to enhance trustworthiness, quality and value. These are set out in the Welsh Government's [Statement of Compliance](#).

These accredited official statistics demonstrate the standards expected around trustworthiness, quality and public value in the following ways.

Accredited official statistics are called National Statistics in the Statistics and Registration Service Act 2007.

Trustworthiness

These statistics are compiled from a range of data published by the DfT. [The DfT publishes road traffic statistics by region as part of its Road Traffic Statistics collection](#) and vehicle licensing statistics as part of its [Vehicles Statistics collection \(DfT\)](#).

This bulletin and accompanying statistics are pre-announced on the [Statistics and Research area of the Welsh Government website](#). Access to the data during processing is restricted to those involved in the production of the statistics, quality assurance and for operational purposes. Pre-release access is restricted to eligible recipients in line with the [Code of Practice for Statistics \(UK Statistics Authority\)](#).

Quality

The published figures provided are compiled by professional analysts using the latest available data and applying methods using their professional judgement and analytical skillset. Statistics published by Welsh Government adhere to the Statistical Quality Management Strategy which supplements the Quality pillar of the [Code of Practice for Statistics \(UK Statistics Authority\)](#) and the European Statistical System principles of quality for statistical outputs.

Validation checks are performed by Welsh Government statisticians and queries referred to the Department for Transport where necessary. The statistical release is then drafted, signed off by senior statisticians and published in line with the Welsh Government's [statement on confidentiality and data access](#) which is informed by the trustworthiness pillar contained in the [Code of Practice](#)

for Statistics (UK Statistics Authority).

It is Welsh Government's responsibility to maintain compliance with the standards expected of accredited official statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with OSR promptly.

Value

The purposes of this statistical release and the **accompanying data published on StatsWales** are to provide evidence for policy development and to inform the media and wider public about the changes to the volume of traffic on the Welsh road network.

You are welcome to contact us directly with any comments about how we meet these standards. Alternatively, you can contact OSR by emailing regulation@statistics.gov.uk or via the OSR website.

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

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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. This release does not include any of the 46 national indicators.

Information on the indicators, along with narratives for each of the well-being 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 are used by public services boards in relation to their local well-being assessments and local well-being 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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Media: 0300 025 8099

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