



IRMP 21-25 Risk Review; Transport.

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1. Executive Summary

Shropshire has a significant number of trunk and principal **roads** which provide links between the major settlements. These are predominantly single carriageway roads however the County also has an extensive network of rural roads and country lanes. Many of Shropshire's roads have evolved from ancient rights of way, which were not originally designed or constructed with modern traffic volumes in mind. In many towns historic street patterns still dominate, creating traffic flow and parking problems that can have an impact on our ability to respond to 999 calls.

Road Type	Shropshire (Miles)	Telford & Wrekin (Miles)	Total (Miles)
Motorways	7.7	7.5	15.2
A Roads	349.8	54.9	404.7
B Roads	347.9	45.5	393.4
C & U Roads	2521.0	555.0	3076.0
Total	3226.4	662.9	3889.3

Fig 1 – Shropshire / Telford & Wrekin Road Length Statistics (2018)¹.

The majority of road travel falls under commuting (work), education (school runs and pupil transport), commercial and freight transportation, retail and leisure. In addition, the M54/A5 corridor provides a spine along which a high volume of through traffic passes.

Levels of commuting have increased considerably over the last couple of decades as car ownership has risen and transport infrastructure has been improved. In 2017/18 only 7 per cent of households in rural villages, hamlets or isolated dwellings did not own a car, compared with 34 per cent in urban conurbations. Furthermore, 56 per cent of households in rural villages, hamlets or isolated dwellings own two or more cars/vans compared with 25 per cent of those in urban conurbations.²

¹ [Road length statistics \(RDL\) - Dept. for Transport](#)

² <https://www.gov.uk/government/statistics/statistical-digest-of-rural-england> (March 2020)

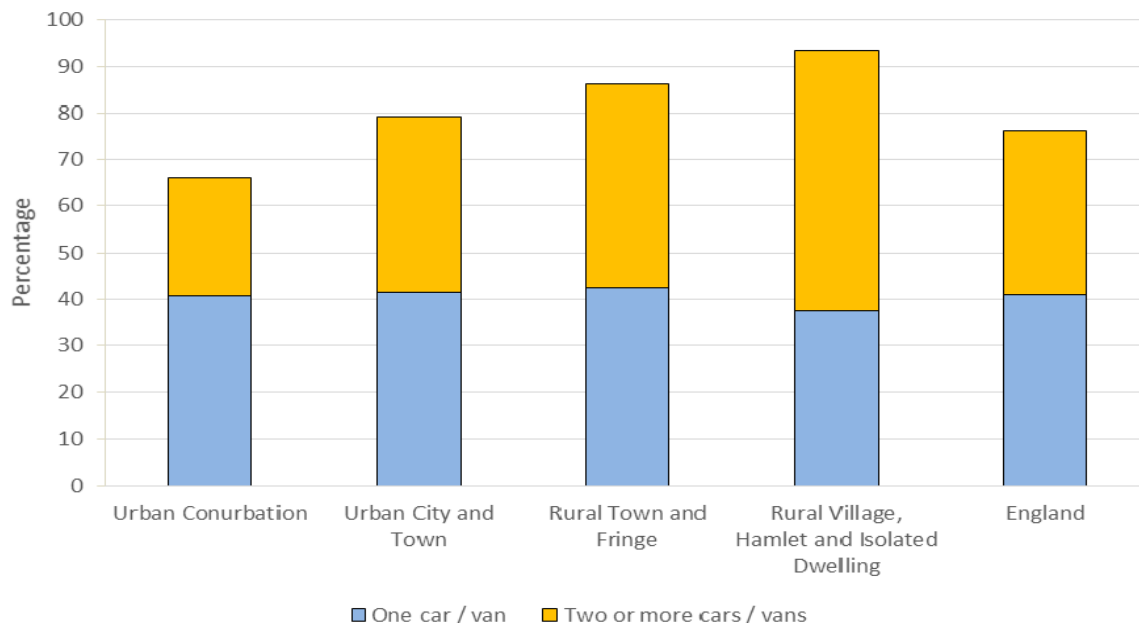


Fig 2 - Household Car Availability by Settlement Type, in England, 2017/18.

21% of Shropshire workers travel 20km or more to get to work compared to 13% and 13.7% in the West Midlands and England respectively. In 2011, the average commute for Shropshire residents was 18.7km versus an average of 14.1km in the West Midlands and 14.9km in England. This increased distance is likely due to population sparsity, with those living in rural, town and fringe areas travelling the furthest for commuting and business.

A high percentage of primary level pupils travel by car, partly influenced by school location but also due to the linking of parental commuting and the school journey. While many school related car journeys are under 1 mile, many are further and often part of another, longer trip.

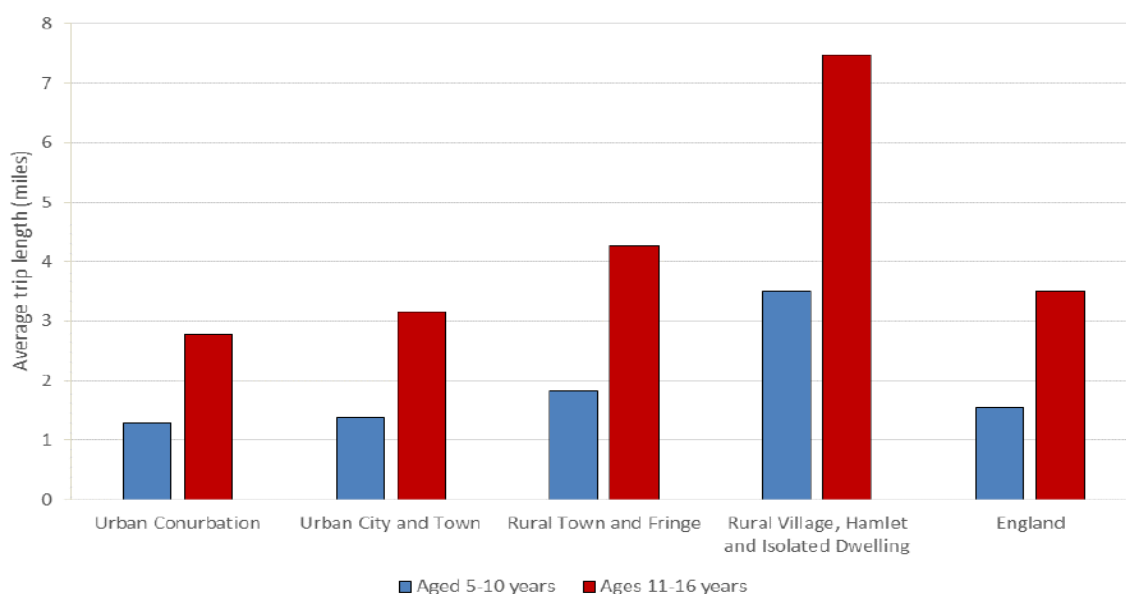


Fig 3 - Average journey length to school by settlement type and age group, in England, 2017/18.



Distances to secondary schools are generally greater but 40% of secondary pupils travel by public transport (predominately bus), 40% walk or cycle, with only 19% travelling by car. National data³ for the 25-year period 1993 – 2018 shows that commercial van traffic has seen the fastest percentage growth of any motor vehicle. Alongside the 89% increase in van miles, the number of licensed vans rose 88% over the same period, from 2.1 to 4.0 million. This rapid growth may be due to an increase in internet shopping and home deliveries, and vans being chosen as cheaper everyday transport over cars or other goods vehicles.

Over the same 25-year period, lorry freight traffic increased by 13.3% to 17.1 billion vehicle miles, with goods being transported using heavier lorries. Freight is moved more efficiently by larger lorries on major roads, rather than on narrow or busy minor and urban roads. A decline in lorry traffic on urban roads has been offset by a corresponding increase in van traffic.

The most recent statistics from 2017/18 show that the average annual travel distances in England⁴ associated with retail and leisure were approximately 3870 per licenced driver. Therefore, the annual road usage of local residents for retail and leisure purposes could equate to over 1.5bn miles, a significant proportion of which is covered using public, non-car or unpowered personal transport.

Public bus mileage figures declined between 1999/00 and 2017/18, however passenger numbers rose by nearly 25% in the same period. This reflects the concentration of bus routes around urban and more densely populated areas, with an aging population making use of subsidised provision.

There was a downward trend in the proportion of households having access to a motorbike over the period 2002 to 2017, dropping from 3% to 2.5%. The distance ridden by those who ride has changed little, but it appears that fewer people are riding motorbikes. Although use of motorbikes on rural 'A' roads has seen an 8% increase over the last five years, a decrease on motorways and no change on urban 'A' roads suggests an increase in short journey and leisure use, but a decrease in longer motorcycle commutes.

Year-to-year changes in pedal-cycle traffic can be volatile due to factors such as the weather, so long-term changes are more reliable indicators of underlying trends. In the last 25 years, cycling mileage on roads has increased by 33.7% and between 2002 and 2017, the latest NTS figures show that average cycle mileage per person, per year in England rose by 54%. This acceleration in growth may be the due to desire of users to switch to greener transport, increased awareness of healthy lifestyle benefits, a raised profile in cycling caused by professional success on the sporting stage, or a combination of these and/or other factors.

The impact of travel distance, frequency and mode of transport on the local economy, road condition and the environment are clear. Traffic congestion and deteriorating road conditions are important community concerns, and there is regular traffic congestion in most built-up areas. Road traffic collisions are a major cause of preventable deaths and injury therefore the public risk must be considered.

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/808555/road-traffic-estimates-in-great-britain-2018.pdf

⁴ <https://www.gov.uk/government/statistical-data-sets/nts04-purpose-of-trips#travel-purpose-by-region>



Of particular concern for the Service are the following:

In the five years to 2018, there were more almost 6800 casualties in reported road collisions in our Service area. Whilst the overall casualty numbers each year are on a downward trajectory, the rate of decline in the numbers killed and seriously injured has remained relatively static. Over the same 5-year period, 1155 people suffered serious or slight injury in road traffic collisions and 91 were killed.

Reported Injuries by Severity		Statistical Year					Category Totals
		2014	2015	2016	2017	2018	
Shropshire	Fatal	15	13	17	18	15	78
	Serious & Slight	197	190	178	180	143	888
	All Reported	835	796	886	784	648	3949
Telford & Wrekin	Fatal	3	1	2	2	5	13
	Serious & Slight	63	55	45	54	50	267
	All Reported	399	308	337	310	246	1600
Combined Totals		1512	1363	1465	1348	1107	6795

DfT Reported Injuries by Severity, SFRS Service Area 2014-18 Inclusive.

- In 2018, car occupants represented 44 per cent of all road users killed or seriously injured in road traffic collisions, but the most vulnerable road users are pedestrians, pedal cyclists and motorcyclists, who have a much higher casualty rate.⁵
- Between 2014 and 2018, the Service attended 1459 road traffic collisions. 496 incidents involved the Service making the incident scene safe and 1130 involved extricating or releasing persons trapped.

Reported Accidents by Road Type		Statistical Year					Category Totals
		2014	2015	2016	2017	2018	
Shropshire	Motorway	7	7	7	10	6	37
	All 'A' Roads	320	291	318	278	240	1447
	Minor Roads	284	273	307	269	211	1344
Telford & Wrekin	Motorway	8	3	4	5	3	23
	All 'A' Roads	80	51	74	65	48	318
	Minor Roads	205	173	173	180	131	862
Combined Totals		904	798	883	807	639	4031

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/834585/report-ed-road-casualties-annual-report-2018.pdf



Fig 5 – Reported Accidents by Road Type, SFRS Service Area 2014-18 Inclusive.

- Of the 1459 traffic collisions attended by the Service between 2014 and 2018, 40 incidents involved fatalities. These incidents are not only traumatic for the families of the deceased and other casualties involved, but also for the firefighters and other emergency responders who attend them.
- 46 fatalities resulted from the 40 fatal incidents attended between 2014-15 and 2018-19. Of these, 32 fatal incidents/38 fatalities) were on rural roads compared to 6 fatal incidents/6 fatalities on urban roads. The remaining fatalities occurred on roads classified as 'town & fringe'. There were no (0) fatalities in Motorway collisions attended by the Service.
- Although we do not record non-fatal injury statistics, comparing the fatality percentage of 'incidents attended' (3.15%) against DfT fatality statistics for Shropshire (1.34% fatality rate vs total recorded injuries), suggests that the equivalent number of serious/slight injuries resulting from 1459 incidents would be approximately 583 (40%). This means that 1 in 2.5 road traffic collisions attended results in a serious or slight injury to an occupant, with a fatality rate of 1 in 35.

It is important to note that Fig 4 and Fig 5 show DfT statistics. Their figures record more RTC's than we are required to attend and therefore the KSI statistics include casualties that we don't encounter or record.

Working with the lead agencies for road accident prevention, the Police and the local authorities, the Service will continue to take an active part in local and national initiatives to reduce the numbers of people killed and injured on our roads.

Waterways such as the River Severn and the 75Km of canals in north Shropshire, can carry commercial traffic, but they are primarily used for leisure activities. Our water risks lie in the extent and frequency of flooding, public access associated with navigable waterways, fishing, increased interest in outdoor pursuits and through the effects of anti-social behaviour.

About 400 people accidentally drown every year in the UK, with a further 200 people committing suicide in UK waters. This equates to one person dying from drowning every 15 hours.

Across our Service area over the 5-year period to 2018, a total of 199 water incidents involving people were recorded, including 10 fatalities. The majority of these were river related, but deaths also occurred in canals and on flooded land. Whilst motive is often difficult to attribute, the number of incidents where person 'threatening to jump' was recorded but no injury occurred suggests that some deaths are due to deliberate act, for example self-harm.

During October 2019 and February 2020 Shropshire suffered significantly from the effects of flooding. This resulted in two separate period of spate conditions, with raised response activity across a range of activities, e.g. assisted evacuations, boat rescues, flooding involving vehicles (stranded in or rescues from) and animal rescues.



Shropshire Fire and Rescue Service has robust response arrangements in place to address water related emergencies, including Swiftwater Rescue (SRT) teams, Water First Responder (WFR) trained crews and inshore power-boat capabilities.

Agreements with other water-trained responders, 'over-the-border' FRS' and partnership working with the NFCC Water Safety Practitioners group, local councils and others enable us to address water risks dynamically in addition to prevention work undertaken throughout the year.

Incident Type	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Totals 2019/20
FLOODING EXTERNAL	0	0	0	0	0	0	18	1	0	0	25	0	44
FLOODING INTERNAL ELECTRICS	1	3	10	2	1	8	41	5	3	3	48	5	130
RESCUE FROM WATER	1	1	4	1	4	3	3	3	0	1	13	2	36
RESCUE LARGE ANIMAL FROM WATER	3	1	1	0	2	0	0	1	0	0	2	0	10
RESCUE SMALL ANIMAL FROM WATER	0	1	1	1	1	2	2	0	0	1	1	1	11
VEHICLE IN WATER SHALLOW	1	1	1	0	1	0	9	4	1	1	11	1	31
VEHICLE IN WATER SWIFT/DEEP	1	0	0	0	0	0	0	1	0	0	3	0	5
Monthly Totals	7	7	17	4	9	13	73	15	4	6	103	9	267

Fig 7 – Flooding incident data 2019/20, including anomalous (bold) and 'spate' (highlighted).

The County's **rail** links offer various mainline routes to locations in England and Wales, including to stations that offer further connections, such as Manchester, Birmingham, Crewe and Cardiff.

As passenger and freight traffic increases and passenger numbers rise, the potential for safety events resulting in injury and/or death is also raised. However, rail travel remains one of the safest forms of transport and Britain's network is the safest of the top ten biggest rail systems in the EU.

Nationally in 2018-19 there were 329 public fatalities on the railways, an increase of 3.07% compared to 2017-18. Of these, 302 were suicide or suspected suicide fatalities (271 mainline / 31 London Underground) and 27 were non-suicide related. The total number has varied between 235 and 307 for the 10 years between 2008/9 and 2018/19, averaging 277.



Rail related risks are generally associated with, station infrastructure (escalators, platform gaps), 'permanent way' infrastructure (overhead line equipment, level crossings), rolling stock (derailments, collisions, fires), passengers (heart attacks, assaults, negligence accidents), human/technological (human error, signalling errors) and objects on the line. The safety events arising from these risks may affect the workforce, passengers or public, and often require a Fire Service response.

In Shropshire our rail related incident numbers are low, but the risk is ever present. During the last IRMP period we have attended 1 deliberate fire on junction box (2017), 2 accidental fires on train carriages (2017 & 2018) and 1 good intent false alarm caused by steam from a steam locomotive (2018). There have however been a number of known fatalities through suicide where no Fire Service presence has been required.

Our main opportunities to positively impact on rail related risk are through our Prevention Dept outreach activity and key partnerships aimed at suicide reduction.

Frequent **air** traffic is prevalent locally, associated with RAF Shawbury and the Nesscliffe Training Area. The Defence Helicopter Flying School, The Defence College of Air and Space Operations (DCASO) and the School of Air Operations Control (SAOC) operates here.

Low Flying Area (LFA) 9, covering all of Shropshire and the borders of adjacent counties, is a dedicated helicopter training area for military helicopters. Intensive low-level helicopter activity takes place, with night flying occurring at periodic intervals.

Although more concentrated training activity occurs at RAF Shawbury and the Relief Landing Grounds of Tern Hill and Chetwynd, the Nesscliffe Training Area is also used for training and exercises. Because of the narrow shape of the NTA, helicopters often leave its confines when flying a circuit pattern. Military helicopters from other Service bases also operate from the NTA for unspecified periods throughout the year.

Although lying outside of our Service area, air traffic from RAF Cosford overflies Shropshire County throughout the year. The renowned and well attended Cosford Air Show takes place during June each year, with a corresponding temporary increase in air traffic, including specialist military hardware not usually found in local skies.

Aside from the RAF sites already mentioned, a handful of grass landing fields are still used by microlight and small fixed wing aircraft, a popular gliding club is located at Long Mynd, and some private rotary wing pads exist. The more notable hard surface runways include Sleaf (Shropshire Aero Club) and Tilstock (Skydive Tilstock Freefall Club).

Thankfully, there have been no recorded aircraft incidents over the last 5 years, with the exception of a 'good intent' report of a field fire observed from a fixed wing light aircraft in 2017. Shropshire Fire and Rescue Service engages with other blue light responders and the armed forces, attending simulated aircraft incidents to test our response and joint capabilities.



2. Risk Summary

Telford & Wrekin and Shropshire counties are large, land-locked and predominantly rural areas situated in the West Midlands, bordering Wales and the North West. They have a combined population of approximately 493,300, or the equivalent of 141 persons per km². As such, they are considered one of the most sparsely populated areas in England.

Whilst parts of our area are considered remote, they are generally accessible by road quickly and easily. A 15-mile section of the M54 motorway runs from the west side of Telford East to the border with Staffordshire. Other parts of Shropshire have arterial roads, e.g. the A5, A49, A53, A41 and A442, but the size and landscape of the local area naturally lends itself to a large network of 'B' roads and unclassified lanes.

Road Type	Shropshire (Miles)	Telford & Wrekin (Miles)	Total (Miles)
Motorways	7.7	7.5	15.2
A Roads	349.8	54.9	404.7
B Roads	347.9	45.5	393.4
C & U Roads	2521.0	555.0	3076.0
Total	3226.4	662.9	3889.3

Fig 1 – Shropshire / Telford & Wrekin Road Length Statistics (2018)⁶.

Local transportation infrastructure relies predominantly on road and rail networks; London can be reached within 3 hours by road, with Birmingham, Manchester and Liverpool airports all accessible within 2 hours. Shrewsbury also acts as a rail hub with easy access to Wales, Cheshire, the Midlands, London and beyond. There are 19 mainline rail stations within the Shropshire Fire and Rescue Service area, plus an extensive bus network that aims to provide accessible public transport to residents and visitors.

The provision of a comprehensive bus service in rural areas is challenging. Long travel distances make services expensive to operate, and a small, sparse population with current relatively high levels of car ownership lead to low levels of use. Most local bus services rely on financial support from the Council with only a small number of services run on a commercial basis. The network currently consists of town services in the larger towns, inter-urban services linking market towns to Shrewsbury, Telford and other major centres outside of the two counties, and a variety of local private provision run under contract.

⁶ [Road length statistics \(RDL\) - Dept. for Transport](#)



The local population is expected to grow, putting additional pressure on transport systems and services. As a result of population growth and with the trend towards smaller household size, the total number of households within the two counties is likely to increase.

Combined with an ageing population, caused by longer life expectancies, the net in-migration of people of retirement age and the higher than average out-migration of young people, additional pressure on public services is probable.

This will impact significantly on transport networks as people become less able to drive, and more reliant upon public transport services.

Investment over recent years has achieved infrastructure improvements for walking and cycling, resulting in an extensive rights of way network. However, facilities for these modes of transport are still poor in comparison to exemplar areas in the UK and Europe. With increased car ownership, improved public transport links and commuting distances higher than the national average⁷, our local walking and cycling networks are used predominantly for leisure rather than for business or other transport purposes.

Our Service area has over 3800 miles of watercourse, which includes a section of the UK's longest river, the River Severn. In addition, sections of the Llangollen, Montgomery and Shropshire Union Canals are present, with historic, closed sections of canal still in existence and under repair (e.g. Shrewsbury and Newport Canal). Many publicly accessible lakes and private bodies of water are found locally, including the scientifically important Meres and Mosses, flooded quarries, fisheries, balancing ponds and other man-made water features. Navigable waters are mainly used for leisure purposes, with an associated year-round life risk subject to seasonal variations.

Two UK airspace corridors used for civil aviation pass over our service area (designated White 39 and Amber 25). Although there are no commercial, cargo or other public use airports locally, there are 2 active RAF bases operating fixed and rotary winged aircraft (RAF Cosford & RAF Shawbury), the Nesscliffe Training Area (used by the Defence Helicopter Flying School operating out of RAF Shawbury) and various private airfields catering for powered and unpowered flying. The latter also includes a skydiving centre at Tilstock Airfield, Whitchurch.

3. Findings

Road Risks

Shropshire has numerous key trunk and principal roads which provide links between the major settlements, predominantly in the form of single carriageway roads. The county also has a vast network of country lanes. The great majority of Shropshire roads have evolved from ancient rights of way and have not been designed or constructed to modern design standards, whilst in towns historic street patterns still predominate.

The majority of road travel takes place under the headings of commuting (work), education (school runs and pupil transport), commercial and freight transportation, retail and leisure. In addition, the M54/A5 corridor provides a spine along which freight, business and private vehicles pass without necessarily stopping in our Service area, providing a high volume of through traffic.

⁷ <https://www.shropshire.gov.uk/media/4132/provisional-ltp-strategy.pdf>



Levels of commuting have increased considerably over the last couple of decades as car ownership has risen and transport infrastructure has been improved. The economic cost of time spent commuting and on business trips is substantial, since this time normally comes at the expense of more productive activities. Journey time unreliability is related to congestion levels and incident management.

A reliable network is one where a similar journey takes about the same time on different days, and where disruptions from incidents are rapidly dealt with.

In an unreliable network, travellers need to allow extra time to ensure that they do not arrive too late, and therefore more productive time is lost even if on a given day there are no delays.

The most recent Census (2011) showed that in Shropshire a significant proportion (70.5%) of people both live and are employed within the County boundary (82,151 people). There is also a high level of job containment in Shropshire, with 73.8% of jobs filled by people who also live there. High levels of out-commuting plus the large and rural nature of the county impacts how far residents travel to work. High numbers work mainly from home, but proportionally higher numbers also travel considerable distances to get to their workplace. 21% of Shropshire workers travel 20km or more to get to work compared to 13% and 13.7% in the West Midlands and England respectively. The average commute for Shropshire residents was 18.7km in 2011 against an average of 14.1km in the West Midlands and 14.9km in England. See Fig 2.

Telford & Wrekin supplies a higher number of in-commuters to Shropshire than any other local authority, and also absorbs the highest number of out-commuters. 44.9% of all those travelling into Shropshire to work have employment in Shrewsbury, with Albrighton, Shifnal, Bridgnorth, Market Drayton and Church Stretton also significant destinations for Telford in-commuters. Shrewsbury also supplies the highest proportion of out-commuters, with Broseley/Much Wenlock, Shifnal, Bridgnorth, Market Drayton and Wem also significant origins of labour working in Telford. Commuting between Telford & Wrekin and the most westerly and southern parts of Shropshire is much less commonplace.⁸

A high percentage of primary level pupils travel by car, partly influenced by school location but also due to the linking of parental commuting and the school journey. While many households are within a short travel distance of a primary school, almost a third of primary pupils do not attend their local catchment school. Thus, while many school related car journeys are under 1 mile, many are far further and often part of another, longer trip.

Distances to secondary schools are generally greater still and a significant percentage of pupils do not attend their catchment school. Approximately 40% of secondary pupils travel by public transport (predominately bus) and 40% walk or cycle, with 19% travelling by car. Only a small percentage travel by car and also live within a mile of their school; a result of greater independence with age.

Travel mode is often related to school choice. Pupils who choose out of catchments schools, for which they are not entitled to free transport, can often be reliant on the car. The planned national review of statutory home to school transport provision could have significant implications for travel to school, particularly at secondary level. Students have to travel further distances to reach post-16 education; and there is considerable cross border travel at this age. See Fig 3.

⁸ <https://shropshire.gov.uk/media/10209/commuting-patterns-and-travel-to-work.pdf>



National data⁹ for the 25-year period 1993 – 2018 shows that commercial van traffic has seen the fastest growth (in percentage terms) of any motor vehicle, almost doubling to reach a record high of 51.0 billion vehicle miles per annum. In the last few years there has been a slowdown in growth, with the latest year-on-year change increasing by 0.9%. Alongside the 89% increase in van miles between 1993 and 2018, the number of licensed vans rose 88% over the same period, from 2.1 to 4.0 million.

The average annual mileage per van in Great Britain (estimated from van vehicle miles divided by van stock) has remained stable, at around 13,000 miles per year.

Over the last twenty years, trends in van traffic have followed changes in the economy closely. This is perhaps to be expected given the mainly commercial use of vans, and the variety of uses to which they are put. Gross domestic product (GDP) resumed growth after the 2008 recession, but van traffic grew even faster than GDP between 2012 and 2018. This additional growth may be linked to a shift in the way consumers and businesses operate.

Drivers of this rapid growth may include an increase in internet shopping and home deliveries, changes to company car taxation rules and vehicle excise duty in the early-to-mid 2000s making vans a cheaper alternative to cars, and/or less regulation on driver training, driver hours and roadworthiness testing for vans than for lorries, making it easier to find drivers for vans.

Over the same 25-year period, lorry freight traffic increased by 13.3% to 17.1 billion vehicle miles, remaining below the peak seen in the mid 2000's.

A key factor in understanding trends in lorry traffic over the longer term is that lorries comprise a wide range of differently sized vehicles, able to carry differing quantities of goods. Between 1993 and 2018 trends in lorry traffic differed markedly across different vehicle sizes. Lorry traffic with four or more axles was 87% higher in 2018 than 25 years prior, whereas for lorries with less than four axles it had fallen by 27.5%.

The statistics from DfT's annual freight survey¹⁰ show a similar trend, presenting freight transport by gross vehicle weight. Between 1993 and 2018, heavier lorries (weighing >33 tonnes) moved an increasing proportion of goods by road (77% in 2018 compared to 58% in 1993). As a result, road freight in lorries is now more concentrated in heavier lorries than in the past, and fewer vehicle miles are being driven to transport the same weight of goods. It could also partly explain the different trends in lorry traffic by road types.

Freight is likely moved more efficiently by larger lorries on major roads, than on narrow or busy minor and urban roads. It is also possible that vans are being used to perform work previously carried out by smaller lorries. The decline in lorry traffic on urban roads (a reduction of 0.9 billion vehicle miles between 2000 and 2018) has been offset by the corresponding increase in van traffic on these roads (an increase of 4.6 billion vehicle miles over the same period).

The most recent statistics from 2017/18 show that the average travel distances in England¹¹ associated with retail and leisure (shopping, personal business, visiting friends, sport, holidays) were approximately 3870 per licenced driver. At the time of writing there are 395,160

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/808555/road-traffic-estimates-in-great-britain-2018.pdf

¹⁰ <https://www.gov.uk/government/collections/road-freight-domestic-and-international-statistics>

¹¹ <https://www.gov.uk/government/statistical-data-sets/nts04-purpose-of-trips#travel-purpose-by-region>



driving licences issued to addresses in our Service area. Therefore, the annual road usage of local residents for retail and leisure purposes could equate to over 1.5bn miles (versus a total for all vehicles/all purposes in England of 280.1bn miles). The impact of travel for these purposes on the local economy, road condition or the environment should be acknowledged, and the public risk considered.

Changes in local bus services have a strong influence on the overall trend in bus and coach traffic, because local bus service mileage makes up a large proportion of the total (approximately 60%).

DfT bus statistics show that between 1999/00 and 2017/18, mileage of local bus services in Great Britain fell by around 12%. However, over the same period bus passenger miles rose by nearly one-quarter, from 13.9 billion in 1999/00 to 16.9 billion in 2017/18. The difference in trend between vehicle mileage and passenger mileage reflects an increase in the average number of passengers travelling on each bus, from 8.4 passengers per bus in 1999/00 to 11.5 passengers per bus in 2017/18.

The majority (59%) of bus and coach miles in Great Britain are driven on urban roads, near to densely populated areas. This road type has, however, seen large decreases in bus traffic over the last decade. Since 2008, bus traffic has fallen 45% and 35% on rural and urban minor roads respectively. Bus traffic on rural and urban 'A' roads has also fallen over the same period but by a lesser amount (13% and 16% respectively). The fall observed in bus and coach mileage over the last decade may partly be explained by the trends in local bus service mileage.

Local bus mileage in Great Britain fell 11% in the ten years since 2007/08. This was due to a decrease of 46% in local authority supported bus mileage in Great Britain outside London over the same period. Increases in commercial bus mileage since 2010 have partially offset the decline in supported mileage, but these services may be more likely to use 'A' roads, causing a shift in mileage from minor to 'A' roads.

Motorcycle and scooter traffic trends have fluctuated across the different road types in recent years. Rural 'A' roads have seen an 8% increase over the last five years, in contrast to a decrease on motorways and stability on urban 'A' roads. Results from the National Travel Survey (NTS) indicate that the average distance ridden per motorcyclist in England has been fairly stable over the last decade, although it has had year-to-year variability.

However, there was a downward trend in the proportion of households having access to a motorbike over the period, dropping from 3% in 2002 to 2.5% in 2017. In other words, the distance ridden by those who ride has changed little, but it appears that fewer people are riding motorbikes.

DfT road traffic statistics report activity of cyclists on public highways, and on cycle paths and footpaths adjacent to them. Cycle activity elsewhere (for example on canal towpaths, byways or bridleways) is not included in road traffic statistics. Year-to-year changes in cycle traffic can be volatile due to factors such as the weather, so long-term changes are more reliable indicators of underlying trends.

In the last 25 years, cycling mileage on roads has increased by 33.7%. Cycle mileage on roads in 2018 was only around one quarter of the 14.7 billion miles ridden in 1949. Cycle traffic fell most quickly during the 1950s and 1960s, coinciding with a large rise in car ownership.



Between 2002 and 2017, the latest NTS figures show that average cycle mileage per person, per year in England rose by 54%.

Both road traffic estimates and NTS statistics show that cycle traffic has been growing since the 1990s, but the NTS figures suggest higher levels of growth than the road traffic estimates. Some of this difference could be due to off-road cycling, which is not covered in the traffic statistics data collection. In 2017, nearly one-quarter of NTS respondents reported mainly cycling off-road.

Road infrastructure changes that increase reliability, reduce travel times or avoid delay have the potential to positively influence road use, particularly for freight operators. Local authority aspirations are to use local transport assets in a way that minimises time loss, so making the most of existing assets is vital, with the addition of new road capacity where appropriate. Making best use of existing infrastructure will squeeze the maximum capacity from the network and increasing network reliability is important even where travel time reductions are not possible.

For example, Telford was developed around the concept of a low density, multi-centred environment linked by high capacity free-flow roundabouts, rather than a dense, linear or grid-pattern of development found in more traditional urban centres. Whilst the application of traffic signals has a role to play in managing a safe, reliable road network, roundabouts remain the preferred form of junction control in Telford & Wrekin.

National statistics taken from the DfT¹² (2018) indicate that 44% of traffic travels on rural roads, with the majority of fatal road traffic collisions (RTC's) occurring on this road type (58%). Across all road types, overall casualty rates from RTC's in our Service area decreased by approximately 27.5% over the 5-year period 2014-18, but not in a linear or predictable fashion. Over the same period, fatality numbers have remained steady at between 1.27% and 2.24% of the total annual casualty rate (between 14 and 20 deaths p/a).

Reported Accidents by Road Type		Statistical Year					Category Totals
		2014	2015	2016	2017	2018	
Shropshire	Motorway	7	7	7	10	6	37
	All 'A' Roads	320	291	318	278	240	1447
	Minor Roads	284	273	307	269	211	1344
Telford & Wrekin	Motorway	8	3	4	5	3	23
	All 'A' Roads	80	51	74	65	48	318
	Minor Roads	205	173	173	180	131	862
Combined Totals		904	798	883	807	639	4031

Fig 4 – Reported Injuries by Severity, SFRS Service Area 2014-18 Inclusive.

¹²

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/834585/report-ed-road-casualties-annual-report-2018.pdf



Reported Injuries by Severity		Statistical Year					Category Totals
		2014	2015	2016	2017	2018	
Shropshire	Fatal	15	13	17	18	15	78
	Serious & Slight	197	190	178	180	143	888
	All Reported	835	796	886	784	648	3949
Telford & Wrekin	Fatal	3	1	2	2	5	13
	Serious & Slight	63	55	45	54	50	267
	All Reported	399	308	337	310	246	1600
Combined Totals		1512	1363	1465	1348	1107	6795

Fig 5 – Reported Accidents by Road Type, SFRS Service Area 2014-18 Inclusive.

While very few fatalities are not reported to the police it has long been known that a considerable proportion of non-fatal casualties are not known to the police, as hospital, survey and compensation claims data all indicate a higher number of casualties than police accident data would suggest.

Since 2016, changes in severity reporting systems for a large number of police forces mean that serious injury figures, and to a lesser extent, slight injuries, as reported by the police are not comparable with earlier years.

Working with the lead agencies for road accident prevention, the Police and the local authorities, the Service will continue to take an active part in local and national initiatives to reduce the numbers of people killed and injured on our roads. SFRS has worked with the West Mercia Safer Roads Partnership to promote and publicise road traffic collision (RTC) reduction strategies, aimed at reducing the number of people killed or seriously injured on Shropshire's roads.

Rail Risks

The County's rail links offer various mainline routes to locations in England and Wales, including to stations that offer further connections, such as Manchester, Birmingham, Crewe and Cardiff. The Rail Executive has an ambition to maximise the rail network's contribution to commuting, business and leisure travel, and both support and encourage sustainable growth and development. Although not passing through our Service area, the planned HS2 line is likely to result in spare local rail capacity leading to increased use.

As passenger and freight traffic increases, and passenger numbers rise, the potential for safety events resulting in injury and/or death is also raised.



Station	Location	2015/16 usage	2016/17 usage	2017/18 usage ¹³	Managed by
Albrighton	Albrighton	95,322	99,380	98,972	West Midlands Trains
Broome	Broome / Aston on Clun	1,564	782	1,150	Transport for Wales
Bucknell	Bucknell	5,696	5,516	4,324	Transport for Wales
Church Stretton	Church Stretton	127,748	132,352	130,380	Transport for Wales
Cosford	Cosford	81,530	84,384	87,626	West Midlands Trains
Craven Arms	Craven Arms	109,478	100,914	96,996	Transport for Wales
Gobowen	Gobowen	213,900	221,138	218,684	Transport for Wales
Hopton Heath¹	Hopton Heath	1,754	1,332	1,006	Transport for Wales
Knighton	Knighton²	21,626	20,714	21,440	Transport for Wales
Ludlow	Ludlow	299,776	299,802	300,742	Transport for Wales
Oakengates	Oakengates	55,830	59,006	67,408	West Midlands Trains
Prees	nr Prees	6,674	6,838	7,374	Transport for Wales
Shifnal	Shifnal	144,532	166,046	181,702	West Midlands Trains
Shrewsbury	Shrewsbury	1,979,248	2,087,820	2,211,520	Transport for Wales
Telford Central	Telford Town Centre	1,139,070	1,207,406	1,211,078	West Midlands Trains
Wellington	Wellington	631,176	665,778	693,438	West Midlands Trains
Wem	Wem	100,678	105,044	110,636	Transport for Wales
Whitchurch	Whitchurch	125,430	138,246	140,746	Transport for Wales
Yorton	Yorton / Clive	9,304	8,788	7,686	Transport for Wales

Rail remains one of the safest forms of transport, in fact Britain's network is the safest of the top ten biggest rail systems in the EU. As of November 2019, there had not been a train accident involving *on-board* fatalities to passengers or the workforce for over 12 years¹⁴. There were however 13 passenger and 2 workforce fatalities on the mainline in 2018-19, and over 6500 major injuries during the same period. Set against a total of 1.8bn passenger journeys per annum, this suggests a relatively low risk, but it is not necessarily representative of the wider hazards to the public associated with railways.

The latest Estimates of Station Usage for 2018-19 were published by the Office of Rail and Road (ORR) on 14 January 2020, consisting of the total number of people travelling from, to or interchanging at the station. Our local picture is shown below.

Nationally in 2018-19 there were 329 public fatalities on the railways, an increase of 3.07% compared to 2017-18. Of these, 302 were suicide or suspected suicide fatalities (271 mainline / 31 London Underground) and 27 were non-suicide related. The total number has varied between 235 and 307 for the 10 years between 2008/9 and 2018/19, averaging 277. For the

¹³ <https://dataportal.orr.gov.uk/statistics/usage/estimates-of-station-usage/>

¹⁴ <https://www.rspb.co.uk/Standards-and-Safety/Improving-Safety-Health--Wellbeing/Monitoring-safety/Safety-Performance-Reports>



purposes of rail safety, members of the public are defined as neither passengers nor workforce, including people who trespass or who commit, or attempt to commit, suicide¹⁵.

Fig 6 – Estimates of Station Usage for 2018-19, Shropshire. (¹ Sometimes written as "Hopton heath".
² Although the town of Knighton is in Wales, the railway station is in Shropshire, England)

In Shropshire our rail related incident numbers are low, but the risk is ever present. During the last IRMP period we have attended 1 deliberate fire on junction box (2017), 2 accidental fires on train carriages (2017 & 2018) and 1 good intent false alarm caused by steam from a steam locomotive (2018). There have however been a number of known fatalities through suicide where no Fire Service presence has been required.

Other commonly accepted risks relate to, for example, station infrastructure (escalators, platform gaps), 'permanent way' infrastructure (overhead line equipment, level crossings), rolling stock (derailments, collisions, fires), passengers (heart attacks, assaults, negligence accidents) and human/technological (human error, signalling errors) and objects on the line. The safety events arising from these risks may affect the workforce, passengers or public, and often require a Fire Service response.

Water Risks

Waterways such as the River Severn and the 75Km of canals in north Shropshire, can carry commercial traffic, but they are primarily used for leisure activities. It is vitally important for public health that local residents and visitors to our countryside continue to enjoy the benefits that come from water-based activities.

Our water risks lie in the extent and frequency of flooding, public access associated with navigable waterways, fishing, increased interest in outdoor pursuits and through the effects of anti-social behaviour.

Every year, and in particular during the warmer summer months, there is an increase in reports of people jumping into rivers, canals, lakes, reservoirs and quarries, sometimes with tragic consequences. It is recognised that even the strongest of swimmers and the fittest of people can be affected by the shock of sudden cold-water immersion and its effects.

However, the largest proportion of drownings in the UK involve people walking or running next to open water. Evidence shows that approximately 44% of drowning fatalities happen to people who had no intention of entering the water, which demonstrates that frequently it is not the 'traditional' water user who gets into difficulty.

About 400 people accidentally drown every year in the UK, with a further 200 people committing suicide on our waters. This equates to one person dying from drowning every 15 hours.

Across our Service area over the 5-year period to 2018, a total of 199 water incidents involving people were recorded, including 10 fatalities. The majority of these were river related, but deaths also occurred in canals and on flooded land. Whilst motive is often difficult to attribute, the number of incidents where person 'threatening to jump' was recorded but no injury occurred suggests that some deaths are due to deliberate act, for example self-harm.

¹⁵ <https://dataportal.orr.gov.uk/media/1452/rail-safety-statistics-2018-19.pdf>



During October 2019 and February 2020 Shropshire suffered significantly from the effects of flooding. This resulted in two separate period of spate conditions, with raised response activity across a range of activities, e.g. assisted evacuations, boat rescues, flooding involving vehicles (stranded in or rescues from) and animal rescues.

Incident Type	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Totals 2019/20
FLOODING EXTERNAL	0	0	0	0	0	0	18	1	0	0	25	0	44
FLOODING INTERNAL ELECTRICS	1	3	10	2	1	8	41	5	3	3	48	5	130
RESCUE FROM WATER	1	1	4	1	4	3	3	3	0	1	13	2	36
RESCUE LARGE ANIMAL FROM WATER	3	1	1	0	2	0	0	1	0	0	2	0	10
RESCUE SMALL ANIMAL FROM WATER	0	1	1	1	1	2	2	0	0	1	1	1	11
VEHICLE IN WATER SHALLOW	1	1	1	0	1	0	9	4	1	1	11	1	31
VEHICLE IN WATER SWIFT/DEEP	1	0	0	0	0	0	0	1	0	0	3	0	5
Monthly Totals	7	7	17	4	9	13	73	15	4	6	103	9	267

Fig 7 – Flooding incident data 2019/20, including anomalous (bold) and ‘spate’ (highlighted).

Shropshire Fire and Rescue Service has robust response arrangements in place to address water related emergencies, including Swiftwater Rescue (SRT) teams, Water First Responder (WFR) trained crews and inshore power-boat capabilities.

Agreements with other water-trained responders, ‘over-the-border’ FRS’ and partnership working with the NFCC Water Safety Practitioners group, local councils and others enable us to address water risks dynamically in addition to prevention work undertaken throughout the year. Proactive prevention activity includes the provision of Water Safety Throwline boards at high risk sites, river safety audits and involvement in/promotion of the themes included in the annual National water safety campaign calendar.

Air Risks

Frequent air traffic is prevalent locally, associated with RAF Shawbury and the Nesscliffe Training Area. Comprising approx. 500 Service personnel supported by MOD civilian and



contractor colleagues, RAF Shawbury trains around 1,000 students a year from across the UK Armed Services and international partners.

The Defence Helicopter Flying School trains aircrew for the Royal Navy, British Army and the Royal Air Force. The Central Flying School (Helicopter division) delivers the next generation of helicopter instructors. The Defence College of Air and Space Operations (DCASO) and the School of Air Operations Control (SAOC) trains the next generation of air traffic controllers and flight operations personnel.

Low Flying Area (LFA) 9, covering all of Shropshire and the borders of adjacent counties, is a dedicated helicopter training area for military helicopters.

Intensive low-level helicopter activity, often down to ground level, takes place within the area between Monday to Friday, 8:30am and 5pm with night flying occurring at periodic intervals. Training does not normally take place at weekends or during Bank Holidays.

More concentrated training activity occurs at RAF Shawbury and the Relief Landing Grounds of Tern Hill and Chetwynd. Nesscliffe Training Area is also used for training and exercises.

Within the available hours of darkness, night flying begins at dusk and is usually completed by 0200hrs local. Night training is kept to the minimum required to train aircrew effectively but flying times are subject to short-notice changes owing to weather conditions, aircraft serviceability and other unforeseen factors. Helicopters from No. 1 Flying Training School (1 FTS) may use the Nesscliffe Training Area, Chetwynd or Tern Hill to conduct exercises including under-slung load training.

Nesscliffe Training Area (NTA) is a military facility which is used extensively throughout the year by helicopters from RAF Shawbury for training pilots and rear crew. Most of the training activity will be undertaken by No. 1 Flying Training School (1 FTS).

Because of the narrow shape of the NTA, helicopters will generally not be able to remain within its confines when conducting exercises involving flying a circuit pattern especially in a prevailing westerly wind. Military helicopters from other Service bases may also operate by day or night from the NTA for unspecified periods throughout the year.

Although lying outside of our Service area, air traffic from RAF Cosford overflies Shropshire County throughout the year. The renowned and well attended Cosford Air Show takes place during June each year, with a corresponding temporary increase in air traffic, including specialist military hardware not usually found in local skies.

Historically there were over 60 airstrips within Shropshire, however only a few remain operational. Aside from the RAF sites already mentioned, a handful of grass landing fields are still used by microlight and small fixed wing aircraft, a popular gliding club is located at Long Mynd, and some private rotary wing pads exist. The more notable hard surface runways include Sleaf (Shropshire Aero Club) and Tilstock (Skydive Tilstock Freefall Club).

Thankfully, there have been no recorded aircraft incidents over the last 5 years, with the exception of a 'good intent' report of a field fire observed from a fixed wing light aircraft in



2017. Shropshire Fire and Rescue Service engages with other blue light responders and the armed forces, attending simulated aircraft incidents to test our response and joint capabilities.

4. Data Graphs & Diagrams

Road

Road Type	Shropshire (Miles)	Telford & Wrekin (Miles)	Total (Miles)
Motorways	7.7	7.5	15.2
A Roads	349.8	54.9	404.7
B Roads	347.9	45.5	393.4
C & U Roads	2521.0	555.0	3076.0
Total	3226.4	662.9	3889.3

Fig 1 – Shropshire / Telford & Wrekin Road Length Statistics (2018)¹⁶.

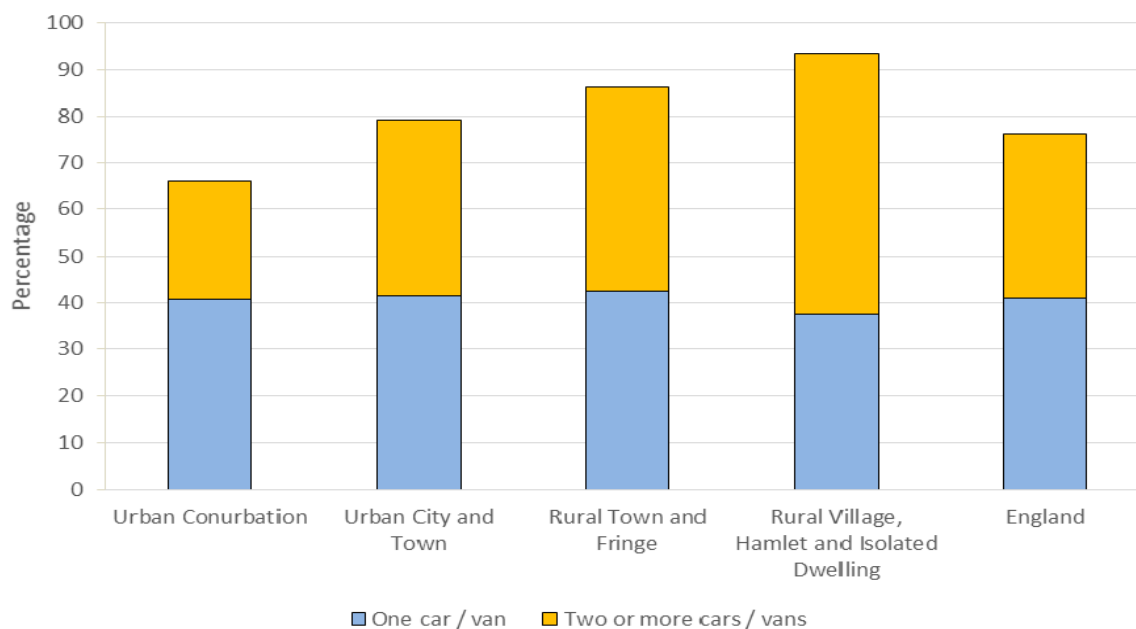


Fig 2 - Household Car Availability by Settlement Type, in England, 2017/18.

¹⁶ [Road length statistics \(RDL\) - Dept. for Transport](#)

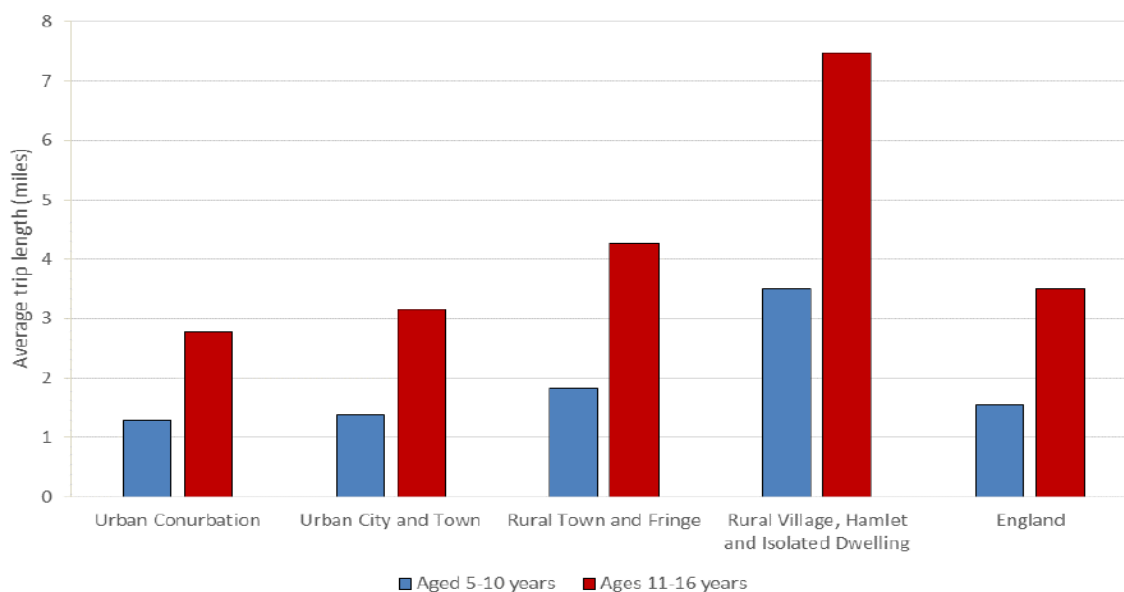


Fig 3 - Average journey length to school by settlement type and age group, in England, 2017/18.

Reported Injuries by Severity		Statistical Year					Category Totals
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Shropshire	Fatal	15	13	17	18	15	78
	Serious & Slight	197	190	178	180	143	888
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Fig 5 – Reported Accidents by Road Type, SFRS Service Area 2014-18 Inclusive.



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Wem	Wem	100,678	105,044	110,636	Transport for Wales
Whitchurch	Whitchurch	125,430	138,246	140,746	Transport for Wales
Yorton	Yorton / Clive	9,304	8,788	7,686	Transport for Wales

Rail

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² Although the town of Knighton is in [Wales](#), the railway station is in Shropshire, England)

¹⁷ <https://dataportal.orr.gov.uk/statistics/usage/estimates-of-station-usage/>



Water

Incident Type	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Totals 2019/20
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FLOODING INTERNAL ELECTRICS	1	3	10	2	1	8	41	5	3	3	48	5	130
RESCUE FROM WATER	1	1	4	1	4	3	3	3	0	1	13	2	36
RESCUE LARGE ANIMAL FROM WATER	3	1	1	0	2	0	0	1	0	0	2	0	10
RESCUE SMALL ANIMAL FROM WATER	0	1	1	1	1	2	2	0	0	1	1	1	11
VEHICLE IN WATER SHALLOW	1	1	1	0	1	0	9	4	1	1	11	1	31
VEHICLE IN WATER SWIFT/DEEP	1	0	0	0	0	0	0	1	0	0	3	0	5
Monthly Totals	7	7	17	4	9	13	73	15	4	6	103	9	267

Fig 7 – Flooding incident data 2019/20, including anomalous (bold) and 'spate' (highlighted).

6. Incident Data

Data relating to this report can be found via the IRMP 2021-25 Team Site, within the 'Data Maps' folder; <https://sfrs.sharepoint.com/teams/Service%20Development/IRMP202125>