Analysis of Road Traffic Collisions in Walsall & Wolverhampton

Black Country North April 2015

Prevention Protection Response

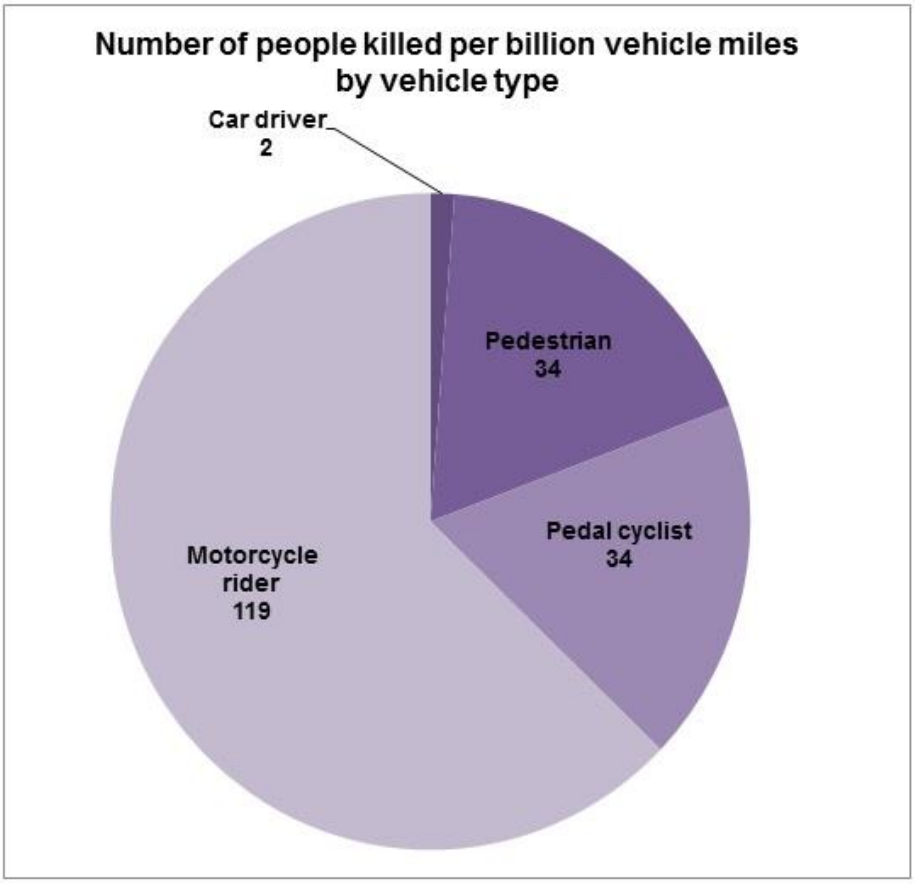
Making West Midlands Safer

WEST MIDLANDS FIRE SERVICE

www.wmfs.net

Introduction

Despite heavier traffic in recent years, roads are safer nowadays for most users - the exceptions being bikes and pedestrians.



Source: Department for Transport Road Statistics Report, 2013

Motorbikes, cyclists and pedestrians are the most vulnerable road users, but the fire service doesn't attend every road traffic collision (RTC) involving these casualties.

Deaths on roads are rare and there are few patterns to help predict where and when they might happen. In Walsall and Wolverhampton, most accidents (with or without casualties) happen at junctions and victims are more likely to be young male adults.

Driver distraction, particularly mobile phone use, and lack of due care and attention are the most likely causes of accidents when they occur.

Bad weather conditions do not necessarily lead to a rise in accidents, as pedestrians and cyclists tend to avoid roads and drivers usually drive more carefully.

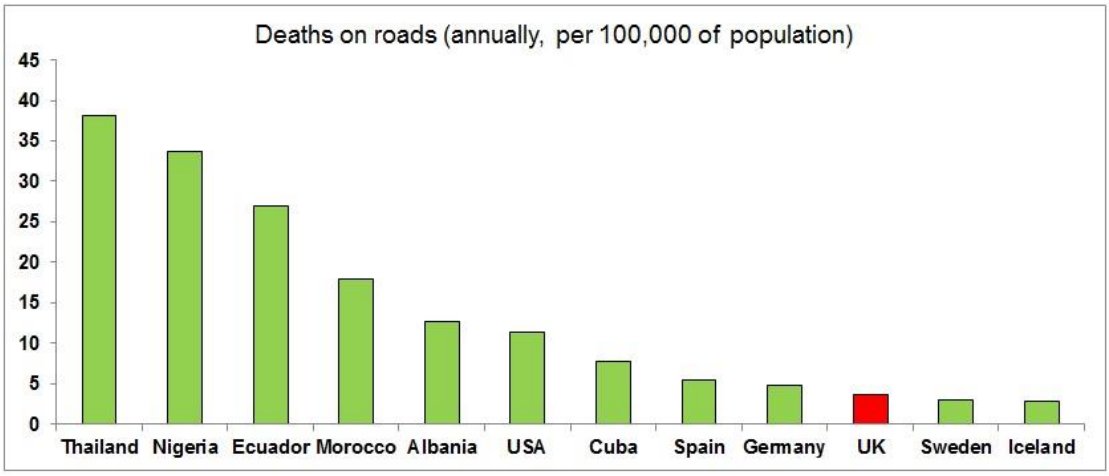
West Midlands Fire Service is usually called out to incidents by partner blue light agencies - the police and ambulance services - for expertise in extrications and making the roads safe for other users.

Fast attendance, setting up a safe system of work and acting swiftly in securing rescues are vital to preserving lives and minimising impact.

Context

This report focuses on RTCs in Walsall and Wolverhampton, but it's worth putting into context: UK roads are among the safest in the world[1].

The following chart shows the number of deaths on roads annually, per 100,000 of the population, by a sample of different countries around the world.



The UK is the third safest after Iceland and Sweden.

Within the UK itself, the West Midlands region is the safest, according to a 2014 report[2] by the Road Safety Foundation. The West Midlands has also shown the most significant recent improvement, with risk dropping by 23% from 2011 to 2014.

By contrast, the risks that road users face in the East Midlands are two thirds higher, mainly due to dangerous stretches on A-roads in rural locations.

In fact, the majority of British road deaths occur on just 10% of the British road network - motorways and A-roads outside major urban areas.

The West Midlands, despite a concentration of people in urban areas and some of the busiest motorway sections in the UK, has the best in-built safety of any region.

Despite this, there are still hundreds of serious road accidents every year in Walsall and Wolverhampton. They make up 10% of all callouts for West Midlands Fire Service and nearly one in five of all emergencies that we attend.

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[1] ***"Global Status Report on Road Safety 2013"*** *by the World Health Organisation (WHO)*

[2] ***"How Safe are you on Britain's Roads?"*** *by the Road Safety Foundation*

Chart showing **the number of RTCs** attended by WMFS by month, 2012 to 2014

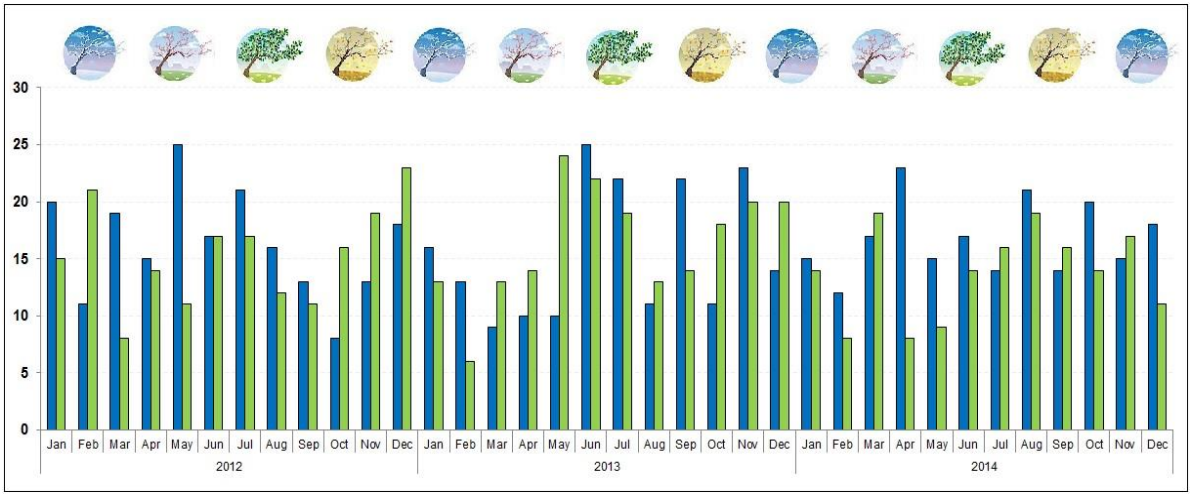
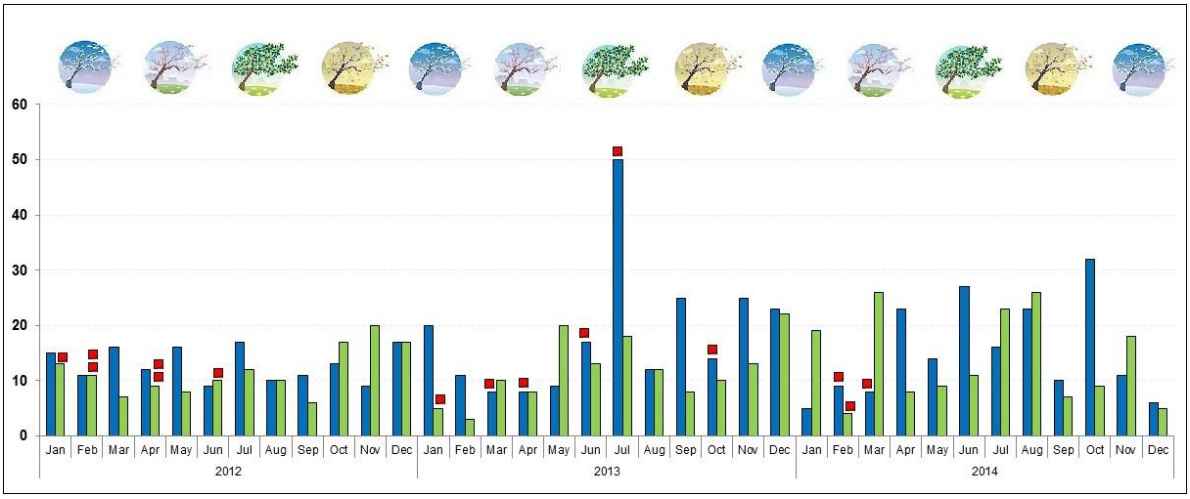


Chart showing **the number of casualties** in RTCs by month, 2012 to 2014



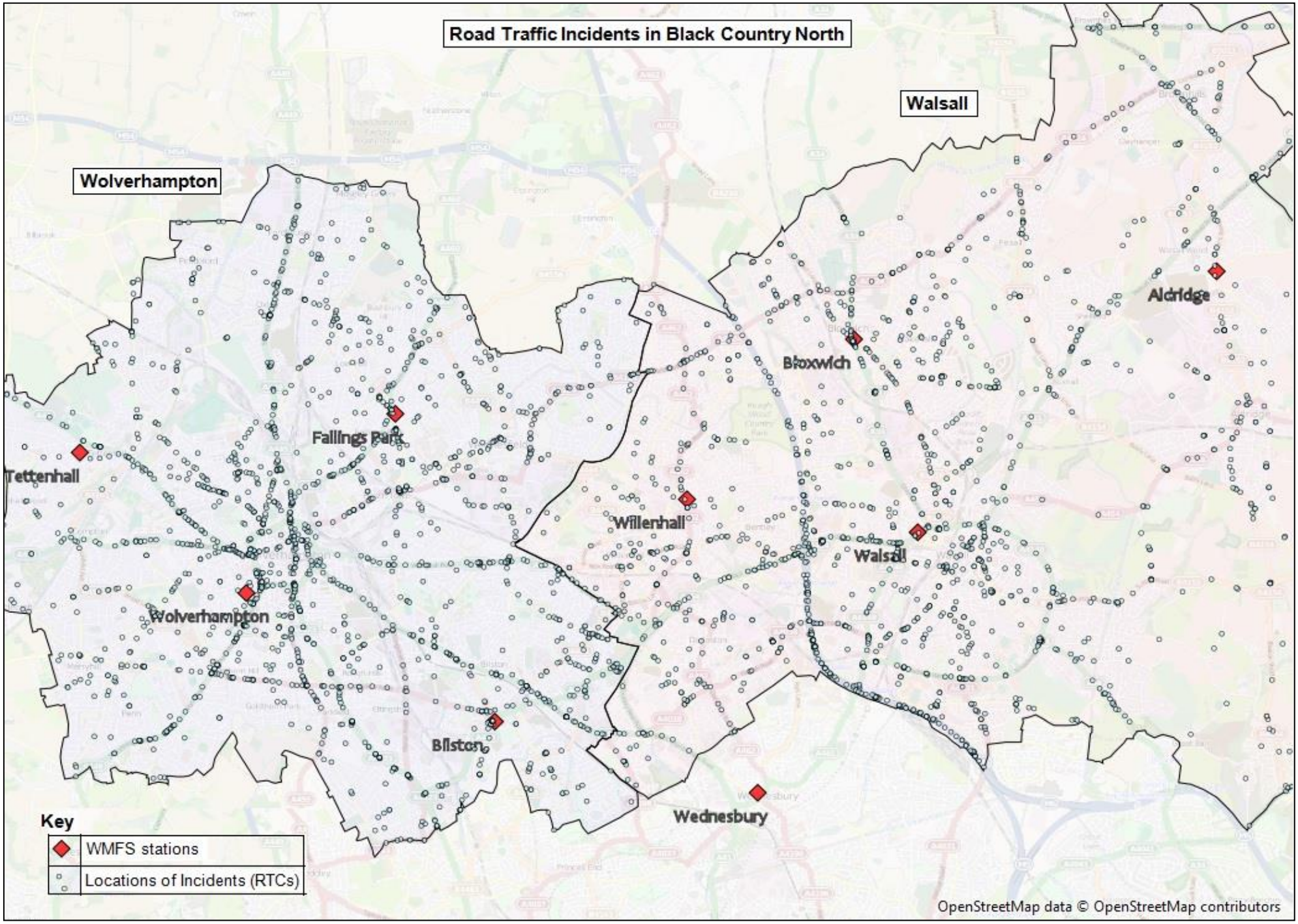
The spike in casualties in Walsall in July 2013 was mainly due to a single incident in which a car hit a bus and 25 casualties were reported.

There was a spate of deaths in RTCs in Wolverhampton at the beginning of 2012, but there was only one death recorded in Wolverhampton since early 2013.

Walsall saw five deaths from March to October 2013, but 2014 was the lowest year for deaths on the roads in Black Country North.

Tables

	Walsall			Wolverhampton		
year	incidents	casualties	deaths	incidents	casualties	deaths
2012	196	156		184	140	6
2013	186	222	4	196	142	3
2014	201	184	2	165	165	1
total	583	562	6	545	447	10

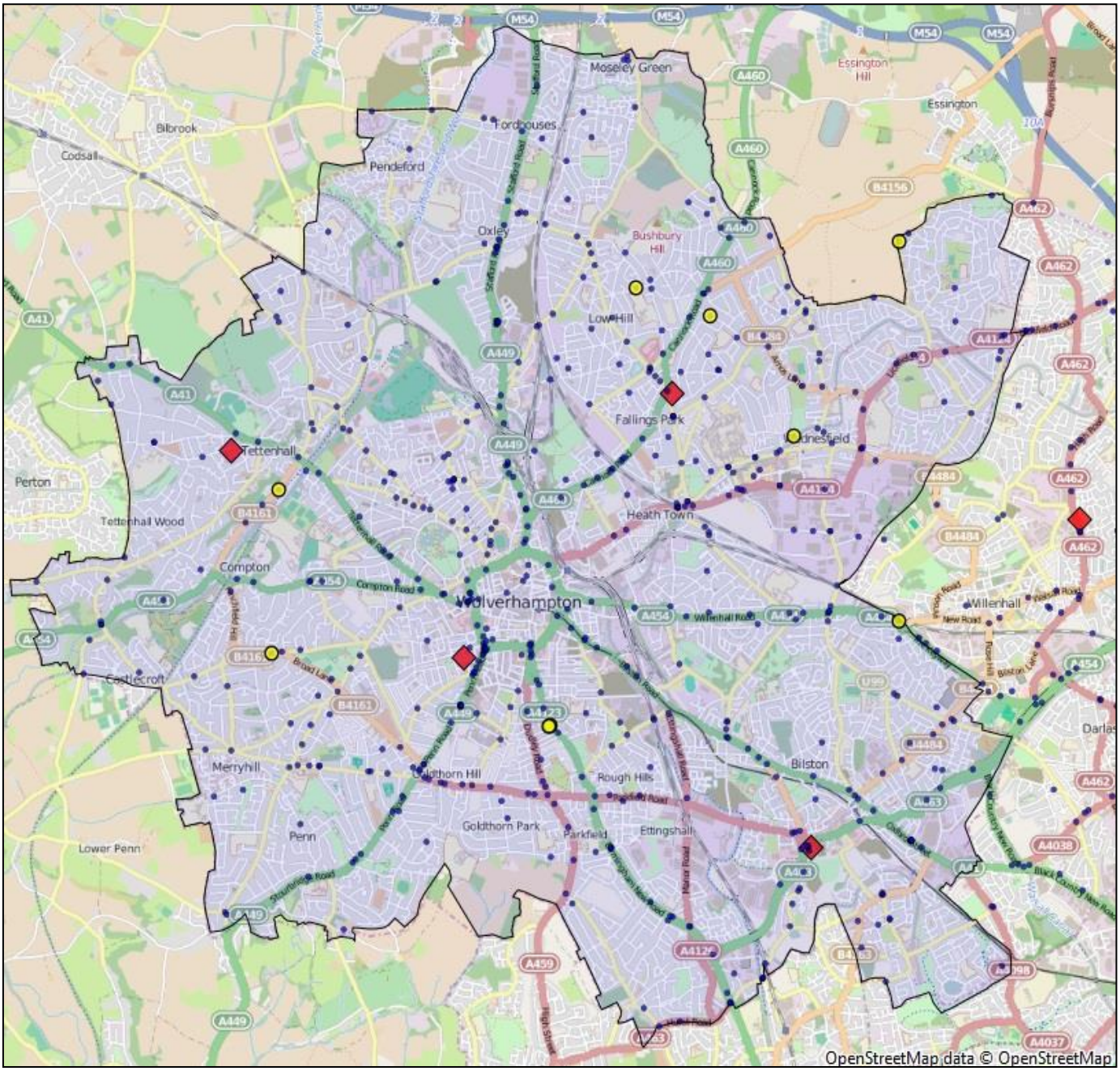

Road Traffic Incidents in Black Country North
Walsall
Wolverhampton
Aldridge
Bloxwich
Fallings Park
Tettenhall
Willenhall
Walsall
Wolverhampton
Bilston
Wednesbury
Key
WMFS stations
Locations of Incidents (RTCs)
OpenStreetMap data © OpenStreetMap contributors

This map of RTCs includes incidents recorded on police databases which weren't attended by WMFS. The police data lists "serious" incidents in which one or more person is killed or injured and involving one or more vehicle.

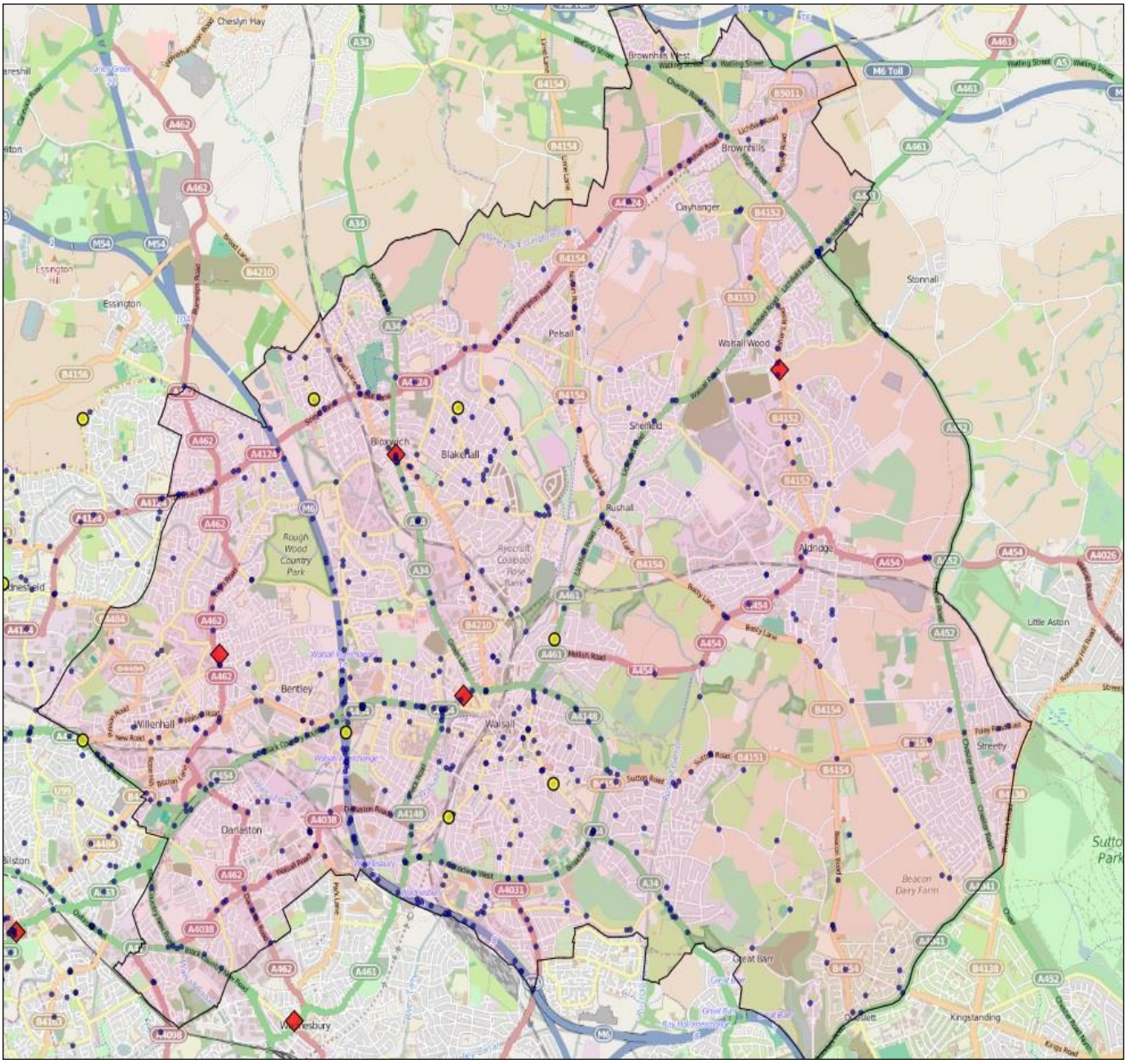
The reliability of this data was questioned in 2006 and the Department for Transport concluded that the number of total injuries was likely to be under-reported, as trends in hospital admissions relating to RTCs for the same period did not correlate.

The following maps show incidents attended by WMFS in Wolverhampton and Walsall, with the large yellow dots indicating where a death occurred.

Wolverhampton local authority area, with locations of RTCs (2012 to 2014)



Walsall local authority area, with locations of RTCs (2012 to 2014)



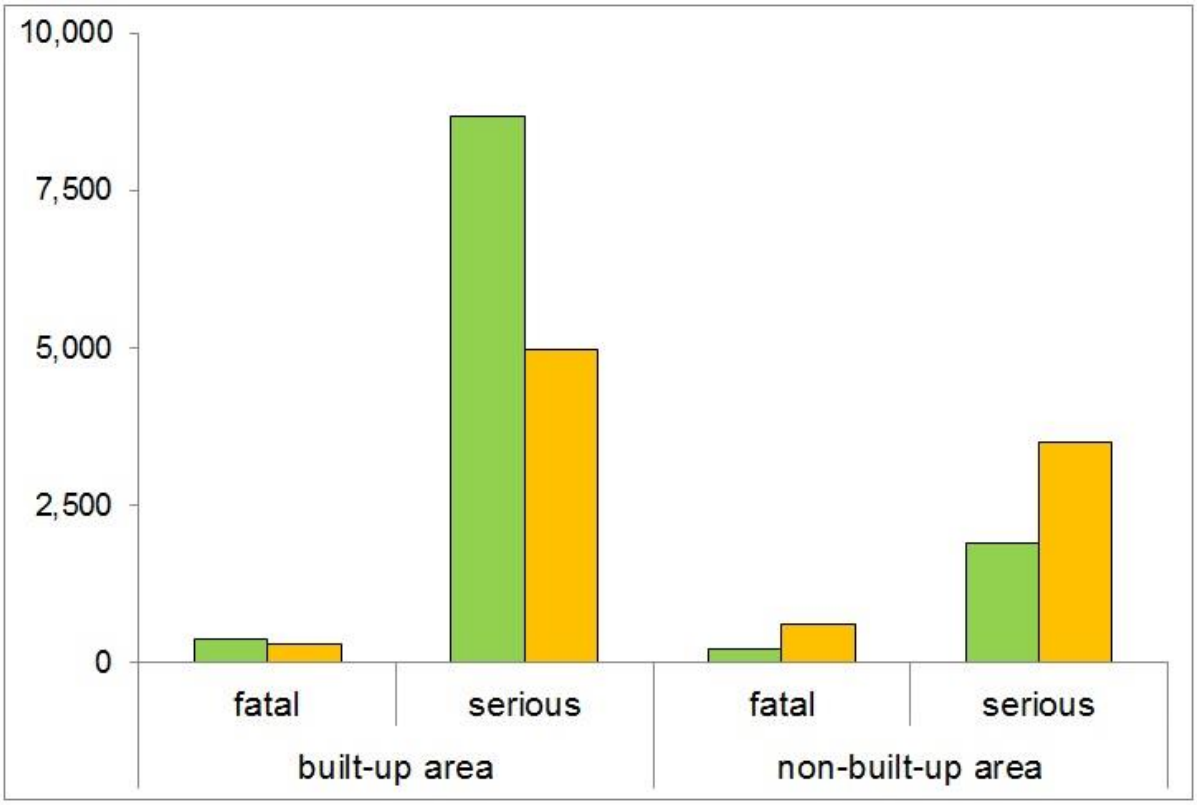
Although there is no clear pattern to where or when a death may occur, there are some common factors in determining where and why accidents may happen, and who is more likely to be involved as a casualty.

These include clusters of accidents at junctions, increased vulnerability of certain road user groups (particularly cyclists, pedestrians and motorbikes), the age and gender of the driver and driver error and distraction.

Junctions

In Walsall and Wolverhampton, most accidents happen on major trunk roads, at (or very near) a junction. This is typical in built-up, urban areas and the opposite of what happens in rural areas, where accidents tend to happen on open stretches of road.

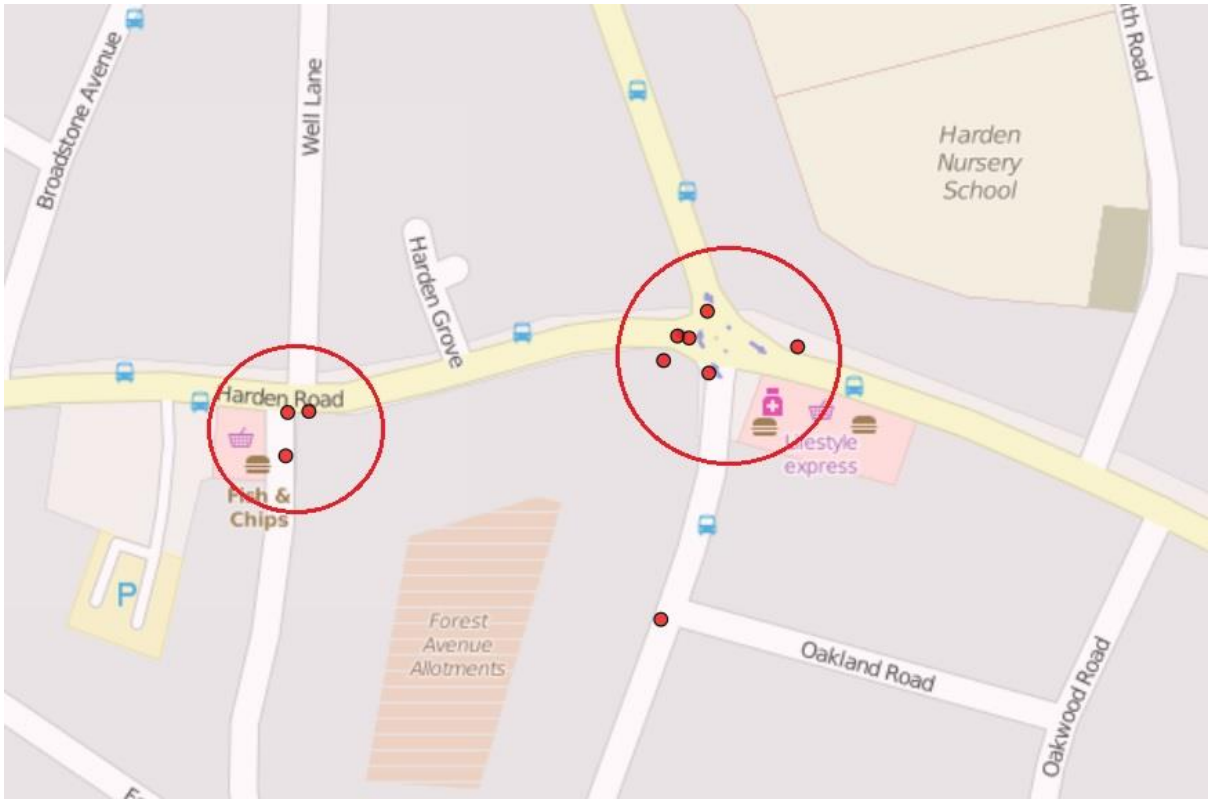
More serious RTCs in built-up areas often happen near junctions



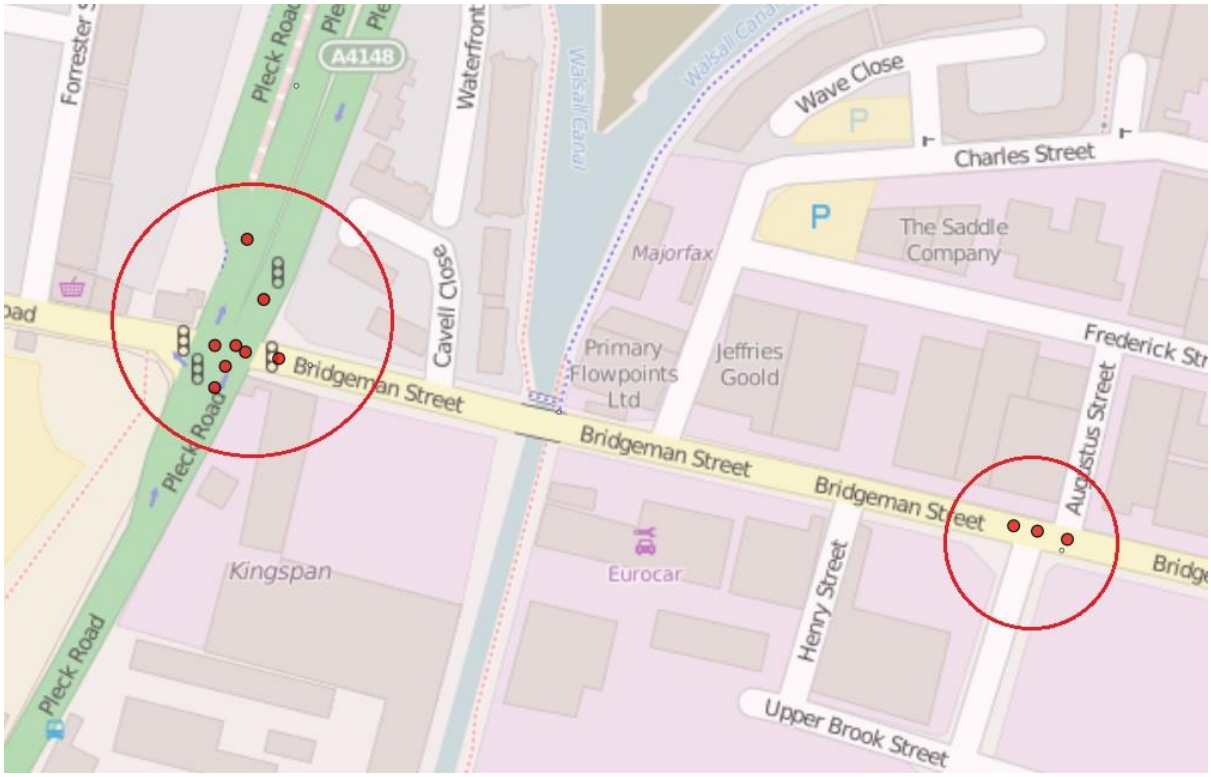
The green bars show accidents at junctions. The orange bars show accidents on open stretches or road (not within 50 metres of a junction). There is a clear difference between built-up and non-built-up areas.

The World Health Organisation report supports this. It reiterates that crashes at (or near) junctions are the most common type of collision leading to serious injury.

WMFS evidence also backs this up. For example, the following clusters of RTCs along **Harden Road** in **Walsall** all happened within 50 metres of main junctions.

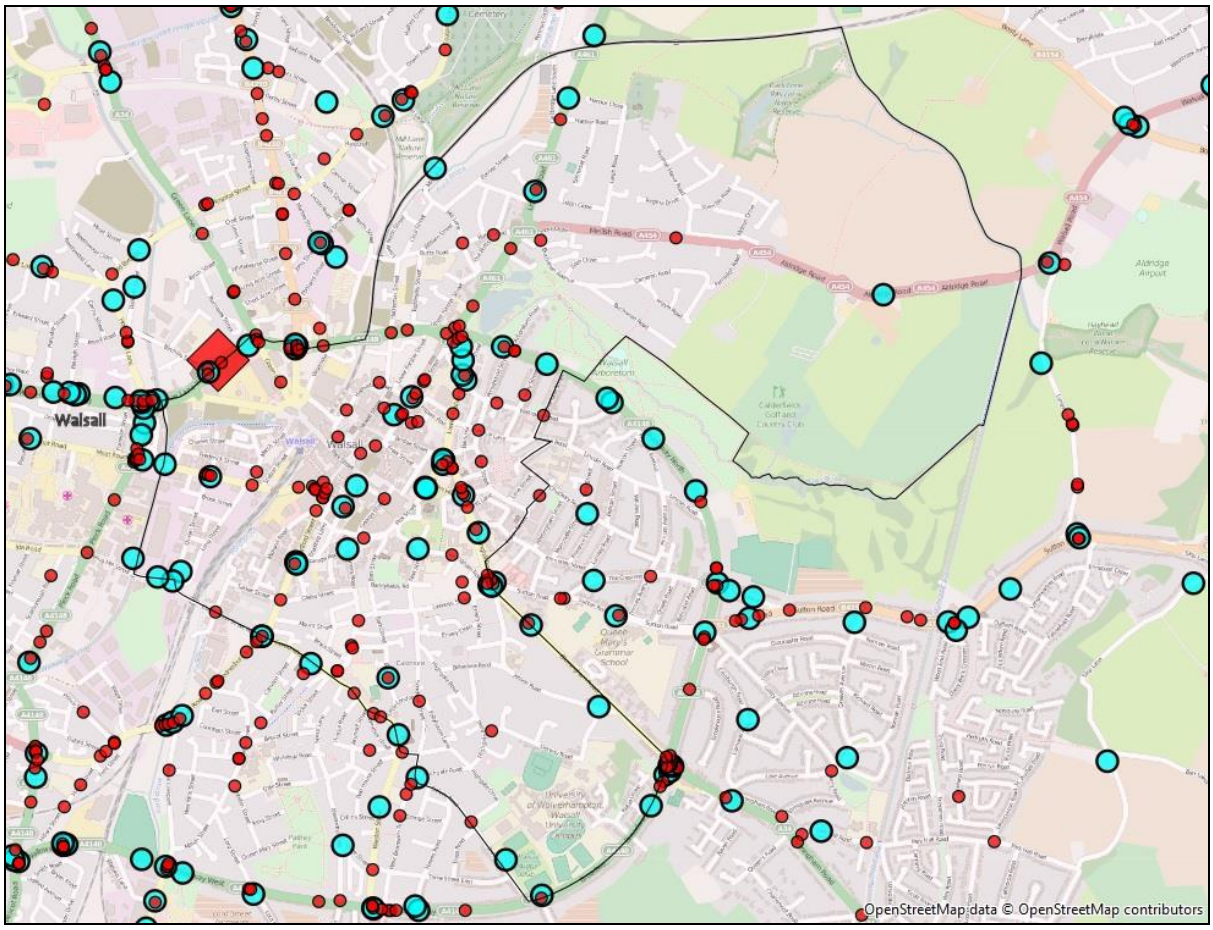


Bridgeman Street, also in **Walsall**, shows the same trend for accidents at or near junctions.

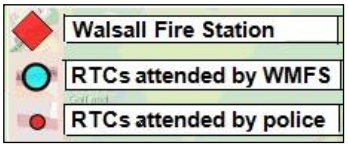


Not far from Harden Road, the following map shows the locations of accidents within the boundary of St Martins ward (outlined in black).

Road Traffic Collisions in St Martins Ward, Walsall, 2011 to 2014



Key



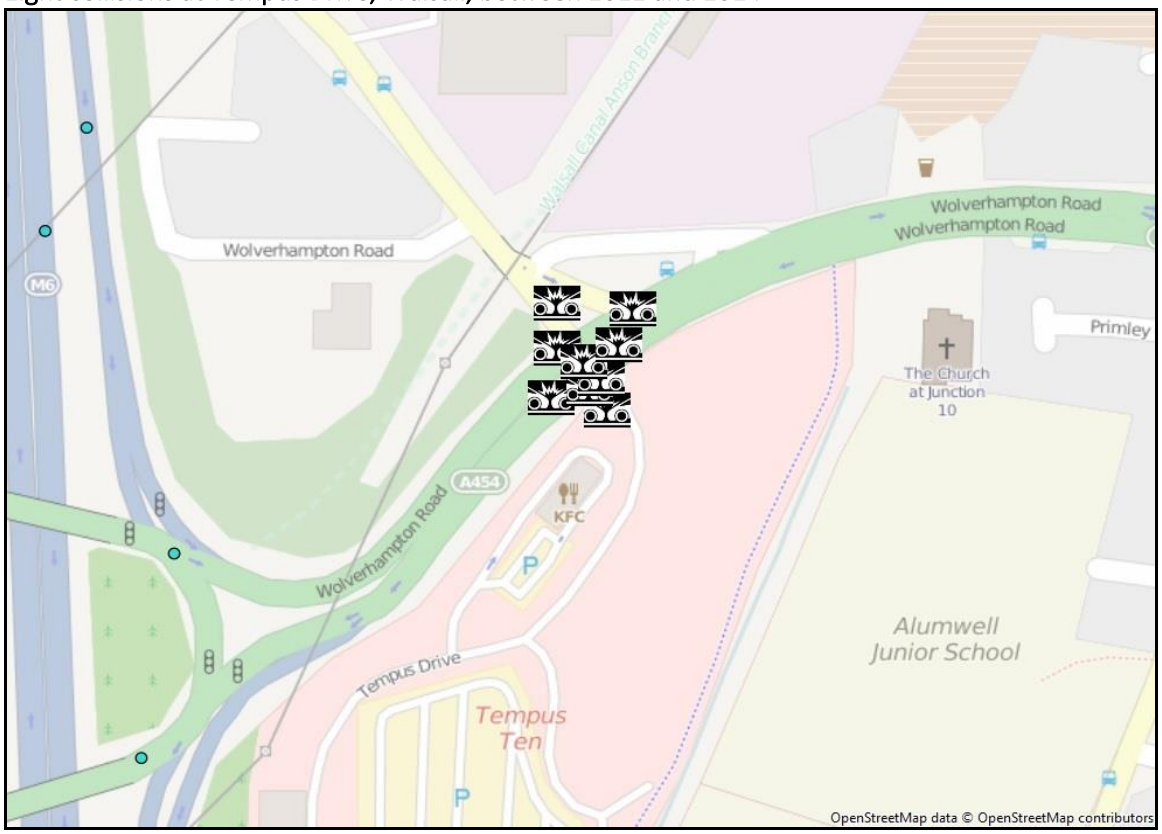
The blue dots are RTCs attended by West Midlands Fire Service. The pink dots are all accidents recorded on the police data. There are lots of incidents clustered in a relatively small area to the southeast of Walsall Fire Station.

Again most accidents are at or near junctions and there are no clear patterns in terms of time of day or weather.

Just outside the ward boundary to the northwest, there has been a spate of accidents and further west, by junction 10 of the M6 at Tempus Drive, there have been nine RTCs on or near the junction in the last three years

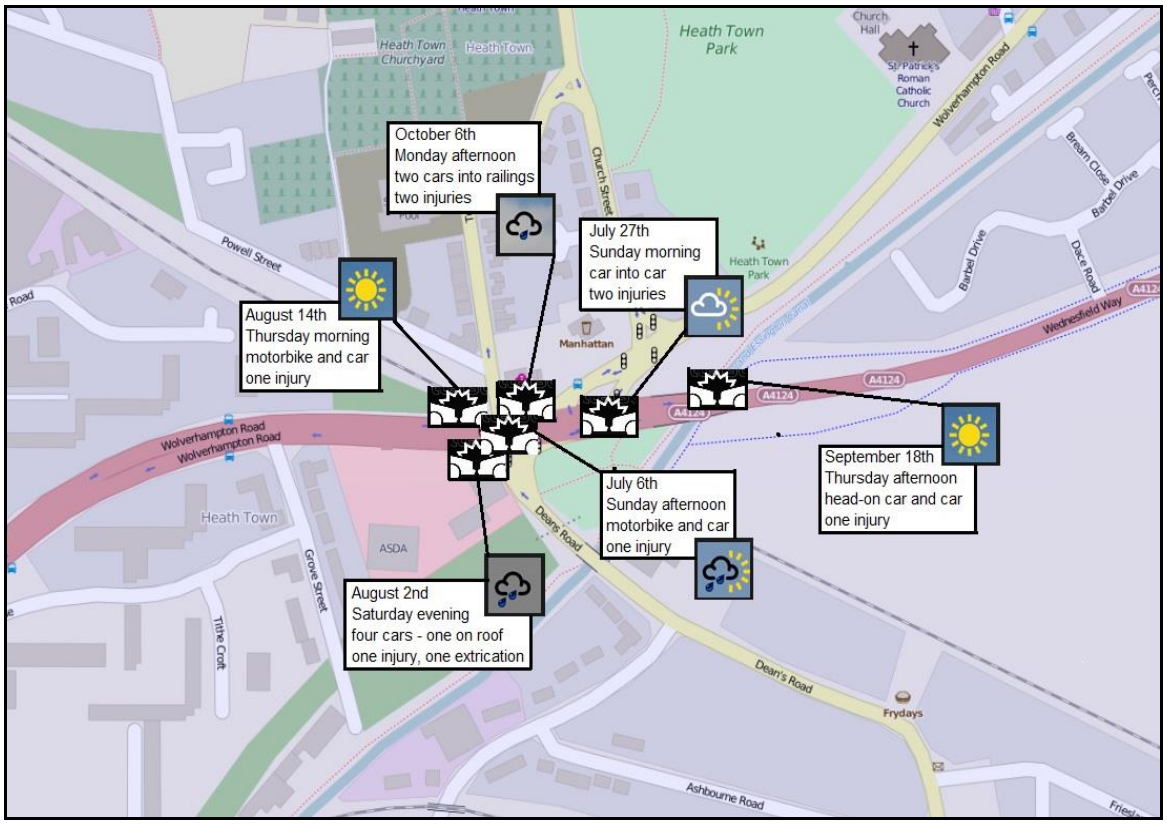
Three were on weekdays at rush hour, but several were at weekends, both during the day and at night.

Eight collisions at Tempus Drive, Walsall, between 2012 and 2014



View approaching junction from Bloxwich Rd

One particular junction in Wolverhampton, where Deans Rd joins the Wolverhampton Rd, had six serious collisions with casualties in four months between July and October 2014.



Traffic lights, a blind summit and a fast straight dual carriageway along a busy trunk road may all contribute to the risk. Weather doesn't appear to be a major issue.

Weather

It would be intuitive to think that severe weather conditions might lead to more accidents, but that's not what typically happens.

Research by the Department for Transport[3] links periods of extreme weather (snow, ice, very wet etc) with a reduction in the number of casualties in road accidents.

This is because the number of road users comes down and particularly the number of the most vulnerable road users (cyclists, motorbikes). Those that do use the roads tend to reduce their speed, leading to less serious accidents when they do occur.

21 out of the 25 deaths recorded in Black Country North between 2011 and 2014 in the police data happened in "fine weather".

2012 was the second wettest since records began in 1910[3] and there were falls in casualties across all groups between 2011 and 2012.

There was only a 2% reduction in car user casualties, whereas the number of cyclist and motorcyclist users fell by 8% and 14% respectively.

Vehicle type

The Department for Transport also reports that motorcyclists, who account for just 1% of the total traffic on roads, make up 21% of fatal crashes.

The police data for Black Country North (2011 to 2014) supports these ratios, with five motorbike deaths out of a total of 25.

West Midlands Fire Service data shows 16 deaths in Walsall and Wolverhampton between 2012 and 2014, all of which involved cars apart from one moped.

It's quite likely the fire service is not called to motorbike, cyclist or pedestrian casualties as much as for cars, where it is more likely to be employed to extricate or help remove people from cars and make the carriageway safe.

Thus our data may not highlight the risks to these road user groups.

Age and Gender

Age and gender play an important role in road traffic incidents. Younger men are much more likely to be involved in serious road accidents than other groups.

The charts below show the distribution of the population in Wolverhampton and Walsall by age band. The green bars show the number of RTC casualties by age band. The orange bars show the general population by age band. More than 60% of those involved as casualties in RTCs in both Wolverhampton and Walsall are aged between 15 and 44.

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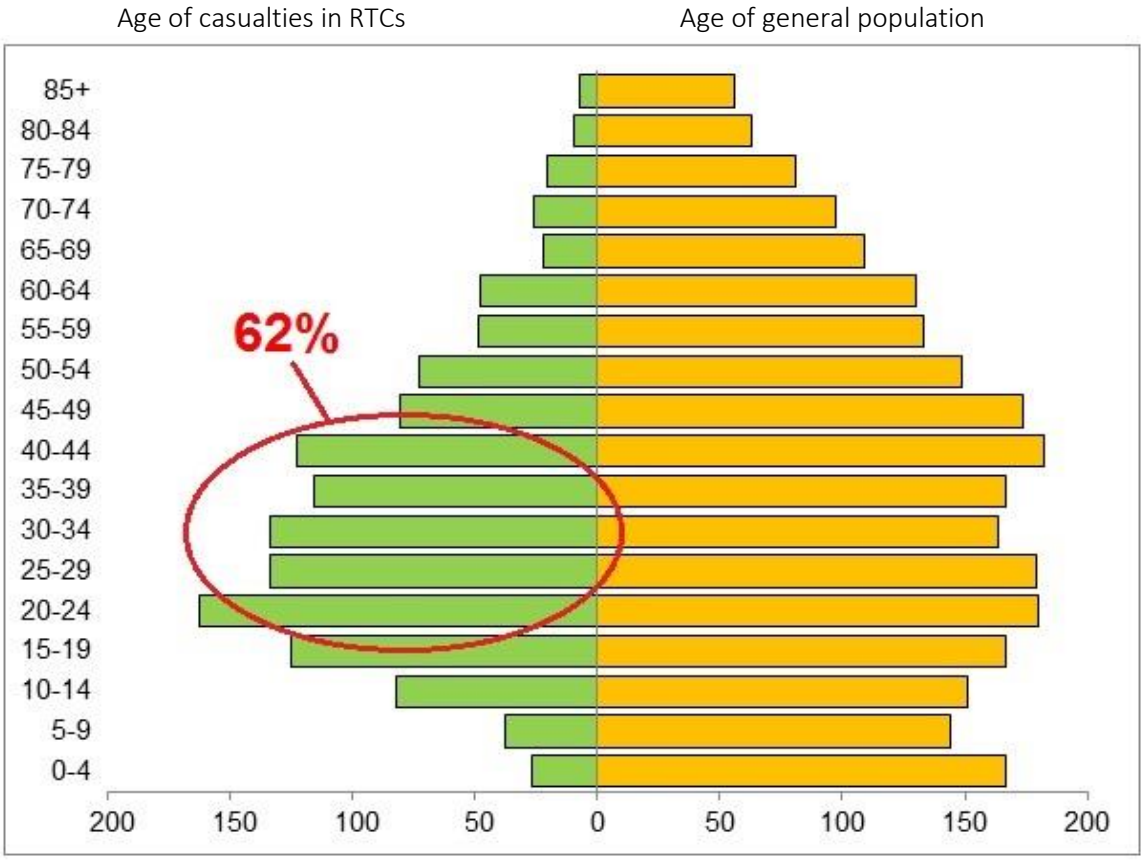
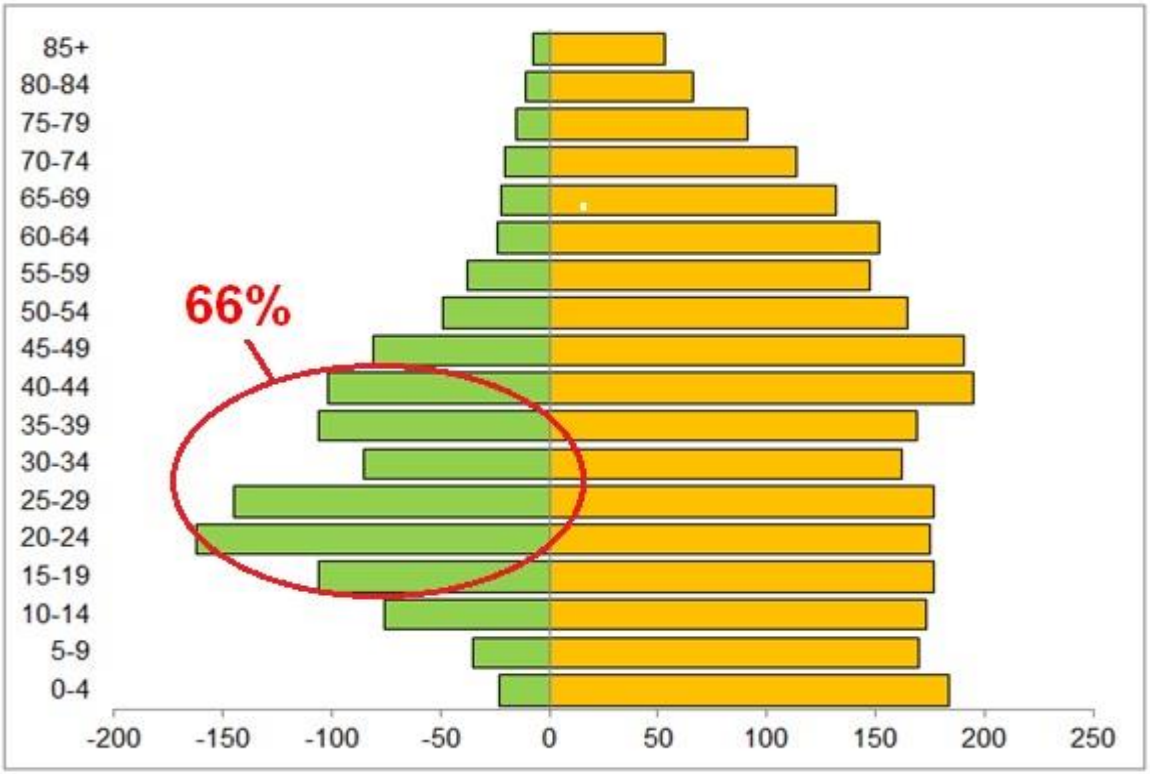
[3] *"Reported Road Casualties Great Britain: 2013 Annual Report* - Understanding short term casualty trends; the impact of the weather" *by the Department for Transport*

What is the most likely age range to be involved in RTCs?

Wolverhampton



Walsall



Driver distraction and error

A substantial body of research shows that using a mobile phone while driving is a significant distraction and substantially increases the risk of the driver crashing.

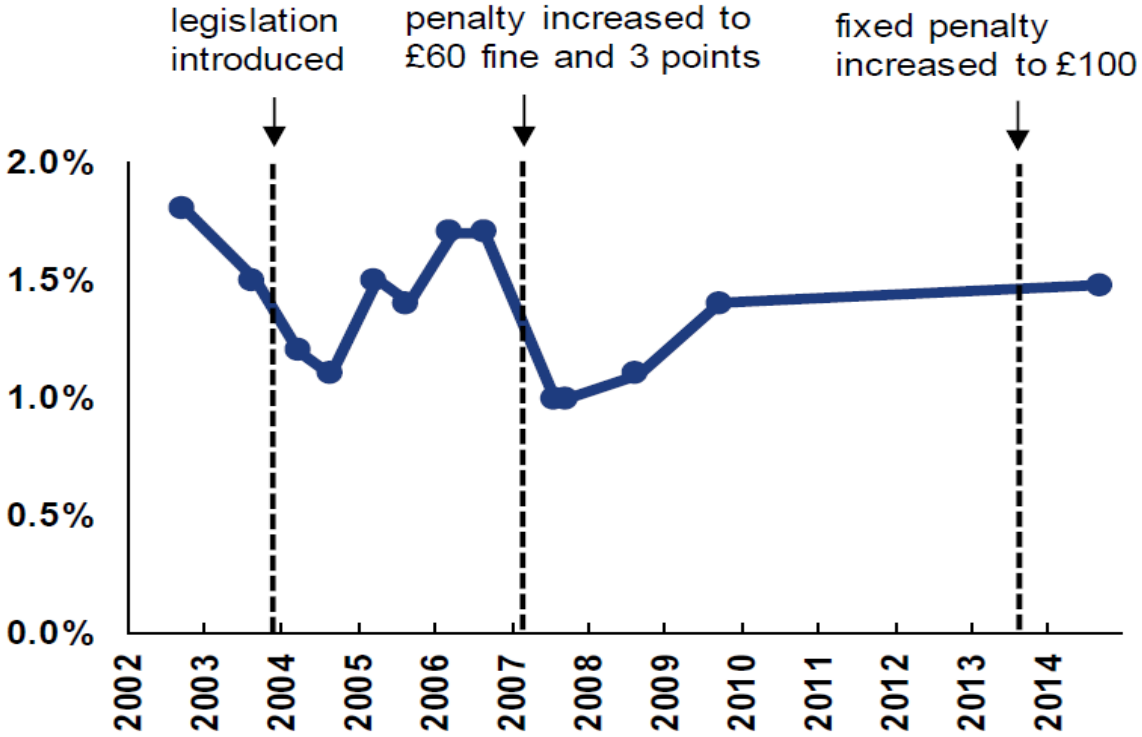
Drivers who use a mobile phone, ***whether hand-held or hands-free***:

- are much less aware of what's happening on the road around them
- fail to see road signs
- fail to maintain proper lane position and steady speed
- are more likely to "tailgate" the vehicle in front
- react more slowly, take longer to brake and longer to stop
- are more likely to enter unsafe gaps in traffic
- feel more stressed and frustrated.

They are four times more likely to crash, injuring or killing themselves and others.

Introducing legislation has had a positive effect in reducing the numbers of casualties in respect of wearing seat belts and there is evidence that tougher sanctions for using a mobile phone while driving results in fewer people doing it.

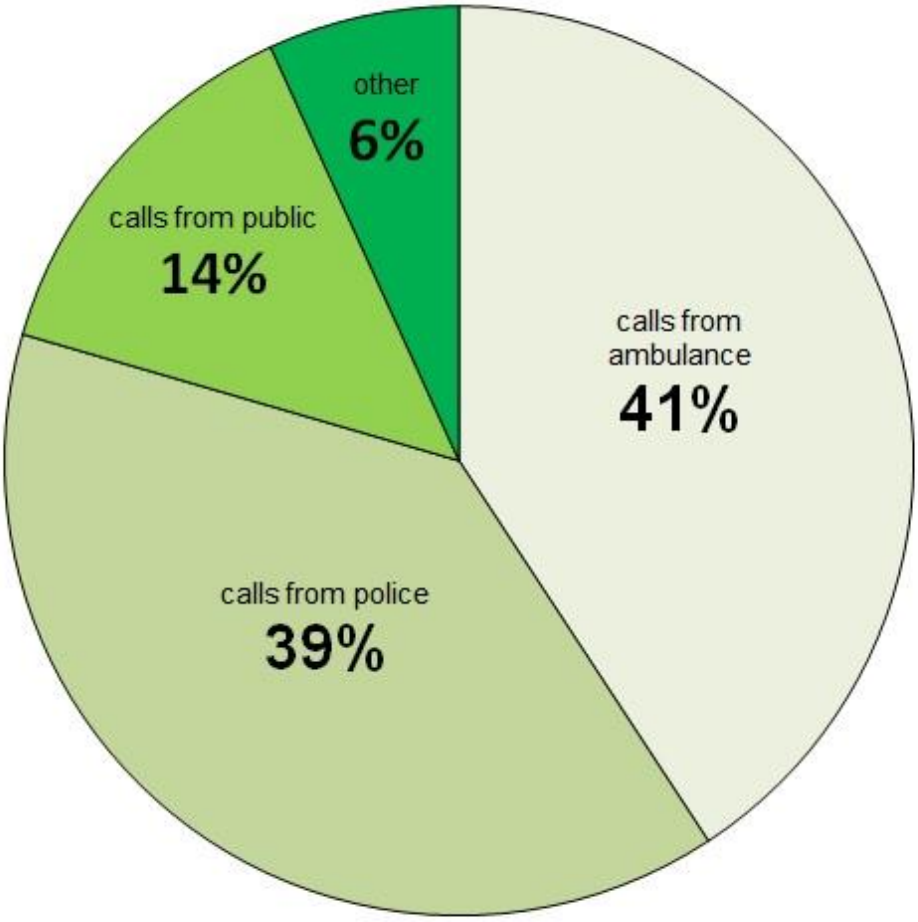
Hand-held mobile phone use by car drivers in England



Source: "Seatbelt and mobile phone use surveys: England and Scotland, 2014"
By the Department for Transport Statistical Release (Feb 2015)

Response

The WHO report stresses that good “pre-hospital care” - quick evacuation and transportation to hospital - saves lives. The fire service is essential in this, as shown by the number of times we are requested to assist by the other emergency services.

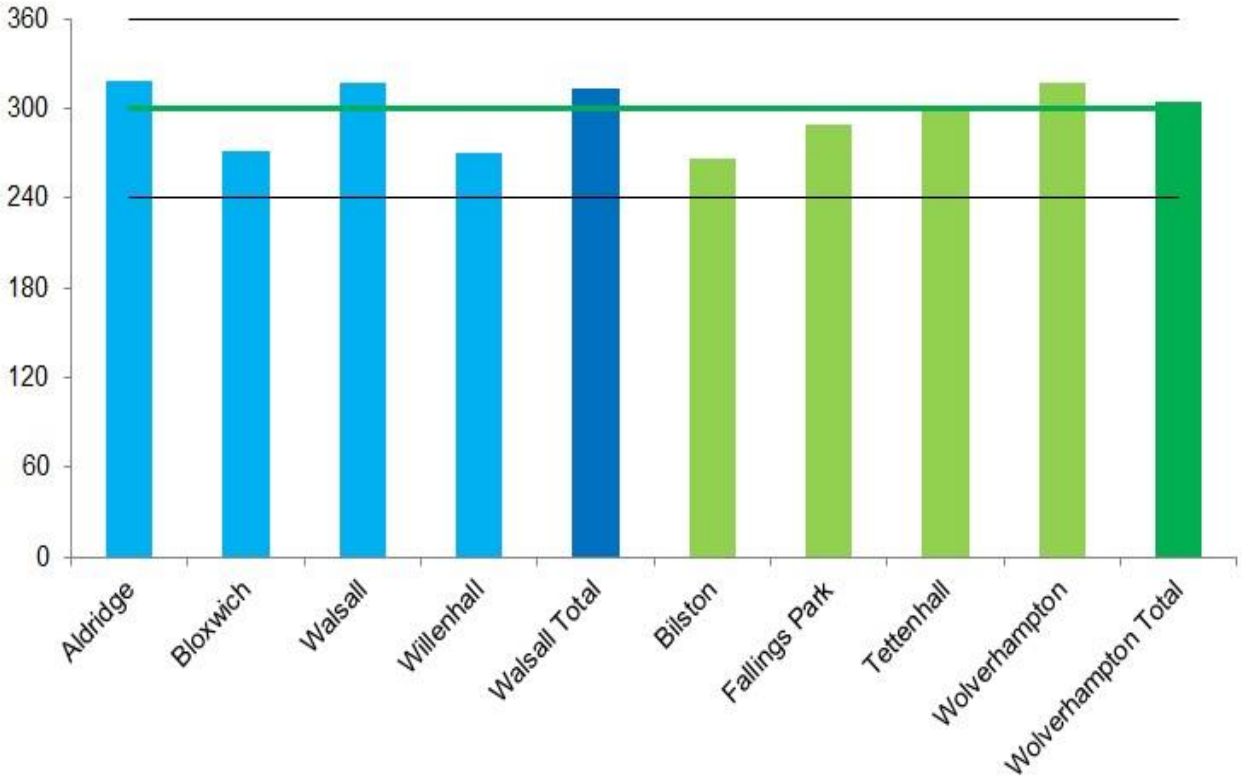


Four out of every five callouts come from the other emergency services.

How long does it take to get there?

From the moment the call comes in, the average call handling time is one minute 33 seconds. The first appliance will usually be dispatched before the end of the call.

The average reaction time for the crews is one minute 24 seconds and the average travel time is three minutes 45 seconds. That amounts to five minutes 9 seconds average attendance time. Breakdown by station and command area is shown here.

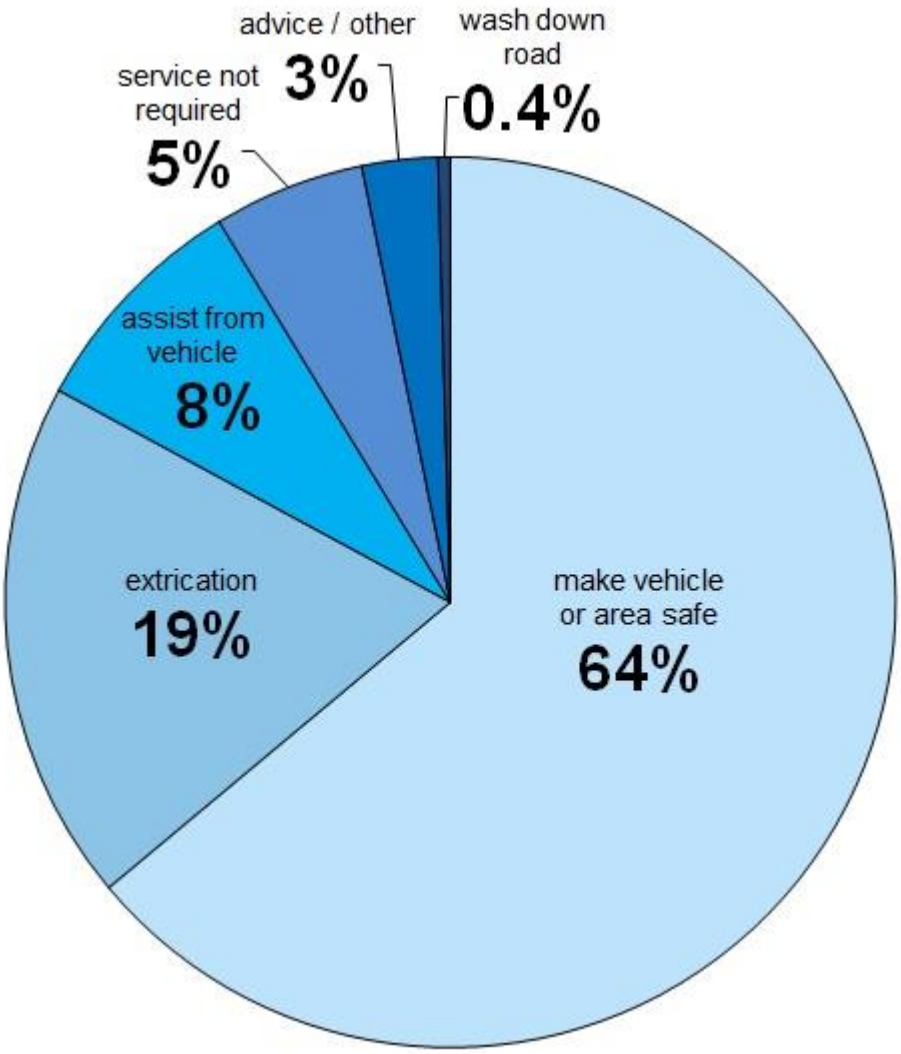


Getting to the scene quickly is vital, as it can take time to get a safe system of work in place and make an effective rescue or evacuation.

At one in four incidents we attend, we are required to get people out of vehicles. At one in five, someone requires extrication from the vehicle using tools.

The fire service is predominantly needed to make the area and vehicles safe. It is very rare to attend simply to wash down the road.

What does WMFS do at the scene?



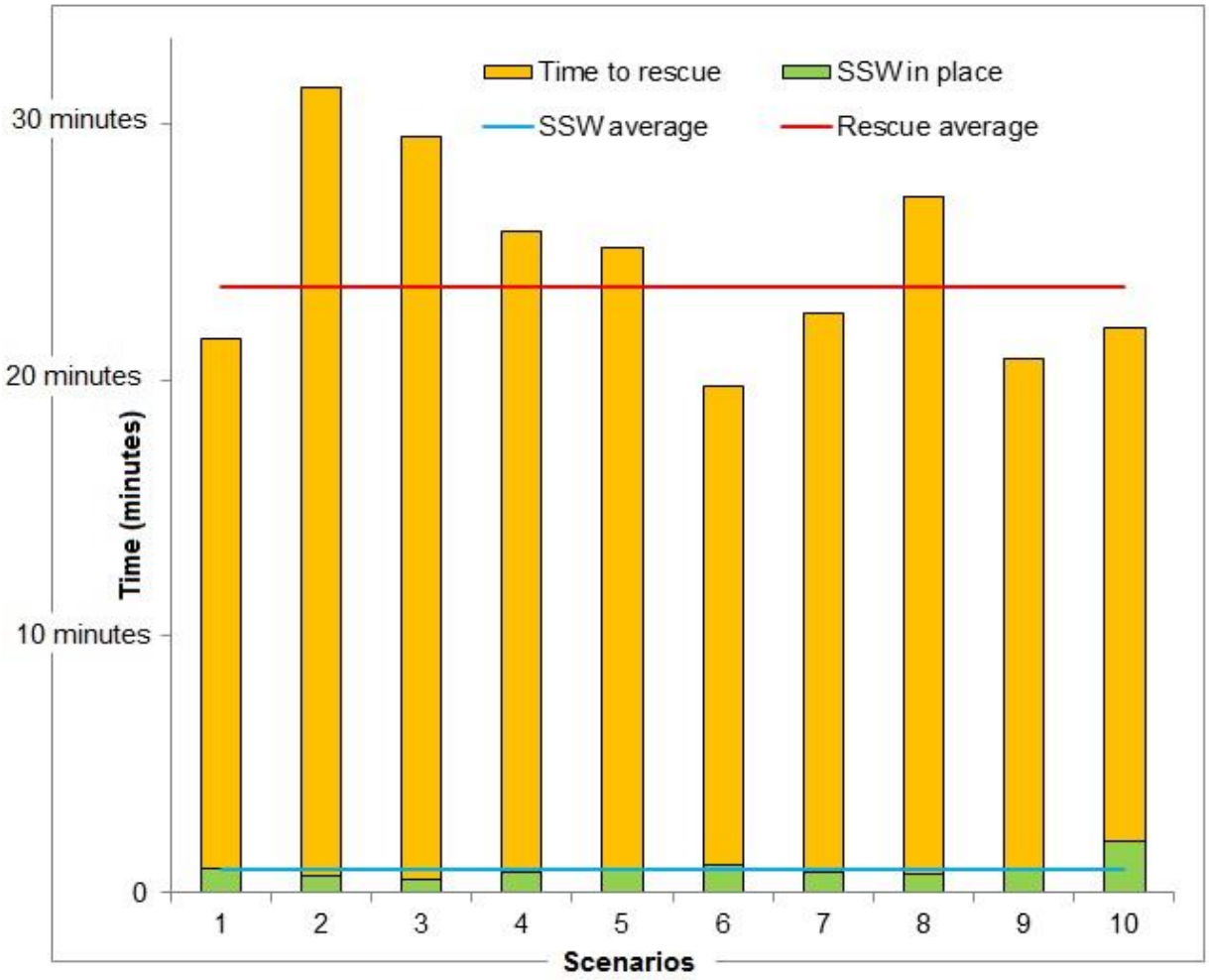
It is clearly important to act quickly in order to reduce likelihood of death and serious injury on the roads. The fire service is often a vital part of this process - helping with the “pre-hospital care” referred to in the WHO report.

A series of RTC scenarios and a report by Nicholas Lacey of West Midlands Fire Service looked at ten different situations to understand how long it takes to implement a safe system of work (SSW) and extricate people from vehicles.

The RTC scenarios were carried out at Pensnett Trading estate in Kingswinford.

A road junction layout with markings was used.

The average time to put a safe system of work (SSW) in place was 56.4 seconds. This took longer in scenario ten, where the car was on its side. The average time taken to effect a rescue was 23 and a half minutes.



Conclusion

In 2010, governments around the world declared 2010 to 2020 the “decade of action for road safety”. Five main risk factors were identified as speeding, drink-driving, not using helmets, no seat belts and no child restraints.

Legislation has been shown to have had an impact in reducing casualties in Britain, but these remain key risk factors.

We know bad weather actually leads to a reduction in serious accidents, but age, gender and road layout (junctions) all increase the risk.

There has been an increase in pedestrian and cyclist casualties, which is not immediately apparent in West Midlands Fire Service data, but these groups nevertheless continue to be neglected groups in transport policy and planning.

It is important to arrive and act quickly in the most serious incidents.

We know that legislation and tougher sanctions have had a positive effect on reducing the numbers of casualties, particularly in Europe where this has been most prevalent.

WMFS cannot directly influence the introduction of new laws, but there are things that we can do to make the roads safer for all users.

Recommendations

Prevention

- Concentrate locally on particular hotspot junctions and channel education and road safety messages to the most affected groups (eg young males).

- Several hotspots have been identified in this report, but there are others and they change over time. Data Intelligence can provide more examples and information.

Response

- Focus on maintaining and improving attendance times.

- Effective training and resilience in the key tasks for the fire service, in particular freeing people who are seriously injured and trapped in vehicles expediently.