2023 STRATEGIC ASSESSMENT

vision zero SOUTH WEST

CONTENTS

1.0 EXECUTIVE SUMMARY

The Covid19 pandemic and associated lockdown periods resulted in a reduction in casualties in 2020 and 2021. In 2022 there was a reduction in overall casualties, largely as a result of a decrease in collisions resulting in slight injury.

In 2021 Agilysis and the Towards Zero Foundation forecast that Devon and Cornwall (D&C) would experience annual increases in KSI casualties up to 2030 totalling 1,104 annual KSI casualties by 2030. The forecast infers that D&C based on past performance is not starting with a static annual position but rather with an upward trajectory. To date these projected increases have not been realised, though the projections do provide relevant context.

In 2022, fatalities remained static compared to previous years, though a significant decrease from the 2016-2018 baseline period. Although there has been a decrease in serious casualties in 2022 compared to 2019 (pre-covid), when compared to the 2030 target tracker, we are off track.

Pedestrians, and motorcyclists accounted for 43% of KSI casualties between 2018-2022. Car occupants accounted for a further 41% of KSIs. Across all casualty severities, 76% of casualties were within 9 miles of their home, and a further 12% were within 10-29 miles of their home.

Both the hours of enforcement and the enforcement outcomes for safety cameras increased in 2022. The increase in enforcement outcomes, however, was disproportionate compared to the increase in enforcement hours. In part, this will reflect the fact that the increased enforcement was at new and old defunct sites, it may also indicate that there was an increase in offending not attributable to increased enforcement activity.

Each VZSW road user theme has a dedicated section outlining key collision and casualty data, including contributory factors, time of day, high harm routes, and driver/casualty residence postcode districts.

An addendum to this report will consider the national collision and casualty context[1], and will provide a summary of our annual safety performance indicators and associated measures.

[1] Due to data quality issues with the national Stats19 dataset, it has not been possible to provide a review of the national collision and casualty context. This will form part of the 2024 Strategic Assessment once the data quality issue has been addressed.

2.0 BACKGROUND

To set some context, the following outlines the national picture in relation to Government strategy, targets and Killed and Seriously Injured (KSI) historical trends.

2.1 The decade between 2000 – 2010 - The Government's "Britain's Roads – Safer for Everyone" strategy set challenging national targets with a clear expectation that local highway authorities and their partners would contribute towards the achievement of the national target through local action. Across D&C targets for overall KSI reduction by 2010 were 40% and for children 15 years and under 50%, both were met and exceeded.[2] Success was driven by a balanced use of the 'safety triangle' of education, engineering and enforcement, national investment and initiatives, local safety scheme delivery, targeted cluster collision site treatment, safer vehicle design and widespread retraining of driving offenders.

2.2 The decade between 2010 – 2020 - Since 2009, there was a significant and sustained reduction in investment in road safety and the availability of experienced personnel changed this landscape. In May 2011, the "The Strategic Framework for Road Safety" strategy set out a long-term vision for Britain to remain a world leader on road safety, however no national targets were set. Instead, a Road Safety Outcomes Framework was established to help local authorities to assess and prioritise their actions. The absence of formal targets and reductions in funding and other resource since 2010 are significant factors in performance.

2.3 Current decade 2020 – 2030 - The Government's current road safety "Road safety statement 2019: a lifetime of road safety" highlights the need for road safety to begin the moment a new born leaves hospital and into old age. It should cover every step walked, every bicycle or horse ride, and every mile travelled by vehicle. Again, no national targets were set, but the report recognised the importance of an integrated approach to road safety. It set out that it is not a matter of specific targets, dates or timelines, it is a commitment to the idea that road deaths and casualties are not merely the result of poor driving and a whole system approach (through Safe Systems) should raise standards so avoidable road deaths and injuries are reduced to an absolute minimum.

[2] Against a 1994-98 baseline average.

3.0 STRATEGIC ASSESSMENT INTRODUCTION

In 2019, following concerns that fatal casualties were plateauing and that serious casualties were increasing after several years of significant reductions between 2000-2010, Vision Zero South West adopted two ambitious casualty reduction targets.

1. Reduce killed and serious injury casualties by 50% by 2030 (interim milestone)
2. Reduce killed and serious injury casualties to zero by 2040

Figure 1 illustrates the fatal and serious casualty figures between 2010 and 2019, as well as the adjusted serious figures to account for the introduction of the CRASH injury reporting system in December 2015 which changed the way collision and casualty severity was reported in Devon and Cornwall. In response to this change the Department for Transport (DfT) introduced an adjusted dataset that indicates how many serious and slight casualties and collisions there would have been pre implementation of CRASH if the same severity reporting had been used. As per the below graph, the adjusted data projects that there would have been more serious casualties recorded between 2010 and 2015. This is in keeping with the national adjustments.

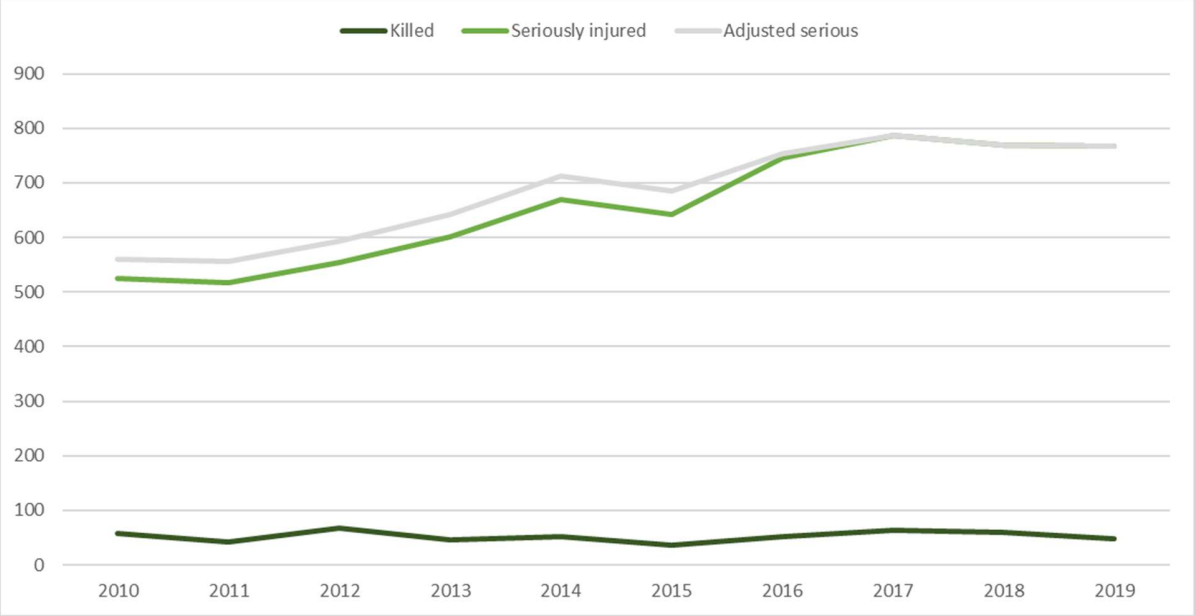

Figure 1 D&C actual and adjusted KSIs between 2010-2019

3.1 2030 Baseline and Target

To quantify a fifty percent reduction target there needs to be a baseline. VZSW determined that the annual average casualties between 2016 and 2018 would be used as it limited the

impact of the so called "CRASH effect"[3]. Figure 2 illustrates what can be achieved if we meet our interim targets.

Figure 2 2030 Interim KSI Targets

To monitor progress towards the 2030 casualty reduction target of reducing fatalities to 30 and serious casualties to 386, we have developed a tracker which uses an equal year on year reduction to visualise progression, see figure 3 and 4.

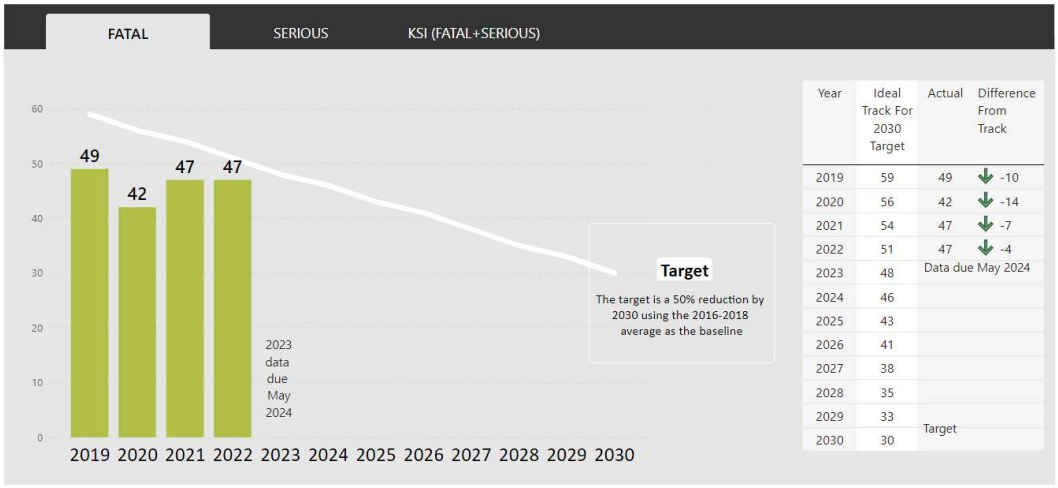

Figure 3 Fatal Casualties – Progress Towards 2030 Target

[3] The Collision Reporting and Sharing System (CRASH), was introduced as the collision reporting system for D&C police in December 2015. This system implementation included a move to injury-based reporting which was a change in the methodology used to determine a casualty's severity. This means that the pre and post implementation casualty severities are not comparable. To limit the effect of the 2015 implementation the period 2016-2018 was used as a baseline for the 2030 reduction target.

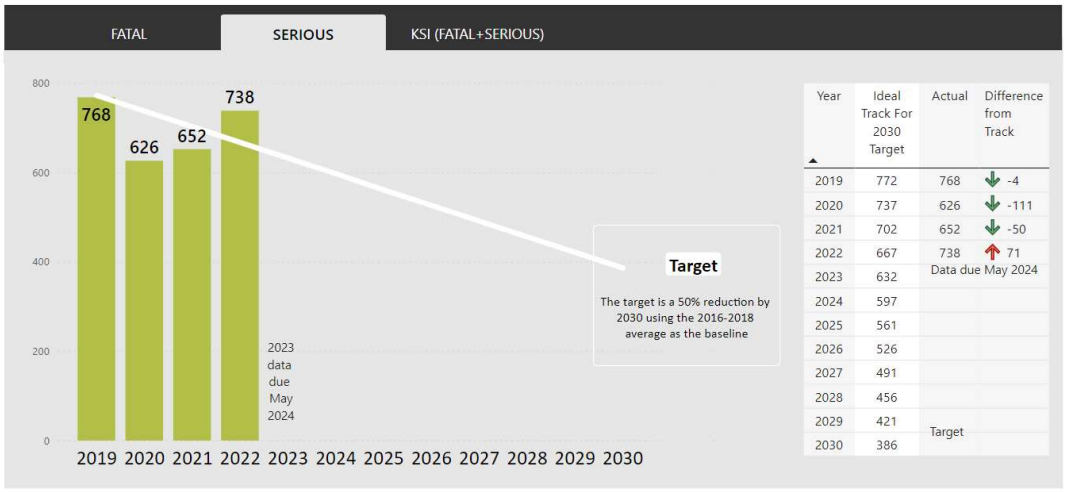

Figure 4 Serious Casualties – Progress Towards 2030 Target

This assumes a reduction of between 2-3 fatal casualties and 35 serious casualties per year. These annual figures are not "targets" but are used to track progress towards the 2030 target. Figures 3 and 4 illustrate reductions from our baseline.

The large serious injury reductions seen in 2020 and 2021 will be discussed later in an analysis of the impact of Covid19 on collisions and casualties. The provisional 2022 data published by the DfT shows a similar increase nationally in 2022 compared to 2020-2021 period. The national data will be explored in more detail in an addendum to this report, once the national validated data has been released.

Although serious casualties in 2022 are 71 casualties above the 2022 tracker figure this is still a reduction compared to the baseline of 772.

The 2022 fatal casualties represent a 20% reduction and the serious casualties represents a 4% reduction from the 2016-18 baseline.

3.2 Projections

In 2021, Agilysis developed a Strategic Needs Assessment report for VZSW which projected KSI casualty figures to 2030. The report forecasted a 46% increase in KSI casualties to 1,104 in 2030 compared to a baseline period of 2017-2019. This was broken down by road users as follows:

- 11% increase in pedestrian KSIs from 140 to 156
- 132% increase in pedal cyclist KSIs from 87 to 203
- 49% increase in motorcyclist KSIs from 202 to 302[4]

[4] This figure is typed in the Agilysis report as 202, however the graph shows a figure of approximately 300 – this would be more accurate given the assertion of a 49% increase from the 2017-2019 baseline.

- 22% increase in car KSIs from 297 to 360

In 2022 there were the following KSI casualties on local roads (excl. National Highways roads):

- 109 pedestrians
- 79 pedal cycles
- 183 motorcycles
- 294 car occupants

This means that in 2022 the KSI casualties for all four road user groups had decreased from the 2017-2019 baseline period used in the Agilysis report.

Also in 2021, the Towards Zero Foundation (TVZ) launched the GB Road Safety Performance Index. This outlined a projection for KSI casualties across police force and local authority areas in Great Britain.[5] Once again, the forecast if performance is maintained in Devon and Cornwall based upon 2017-2019 data shows KSIs in 2030 as 1,104. The below graph visualises the TVZ projection and the actual annual KSIs to date.

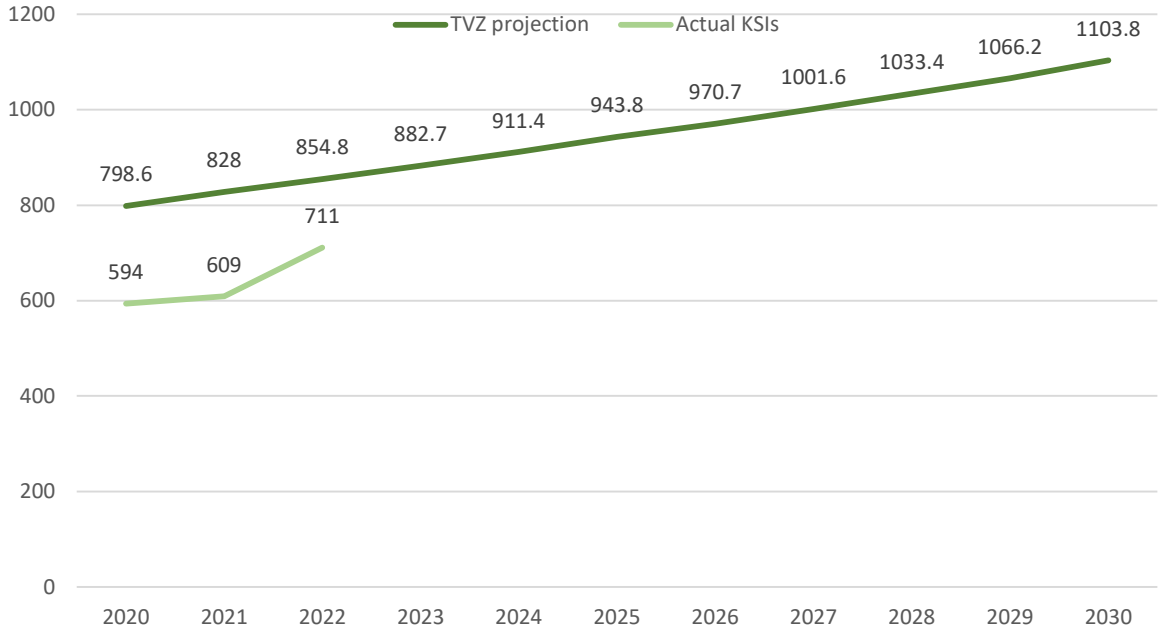

Figure 5 Projected and Actual Change in KSIs 2020 – 2022 – excl. strategic road network

[5] GB Road Safety Performance Index, GB Road Safety Performance Index (arcgis.com). The forecasts exclude KSIs on the strategic road network, instead focusing on local roads where "local authorities can have the most influence." The actual KSIs data also excludes KSIs on strategic/National Highways roads in order to be comparable to the projection.

The predicted KSI casualties for 2022 excluding strategic roads (National Highways roads) is 855, the actual KSIs in 2022 excluding strategic roads was 711. The 2022 KSI figure is 17% or 144 KSI casualties less than forecast based on the historic performance trajectory. It should be noted that the data used by Agilysis/The Towards Zero Foundation to develop the projections used a different definition to determine severity.[6] However, even accounting for this difference in severity definition the trend remains the same.

The TVZ report outlined the Local Authorities it projected would be the worst performing areas in relation to meeting a 50% reduction target by 2030. For England, Torbay is ranked 1st, Plymouth 2nd, Cornwall 5th and Devon 9th for worst projected performance to 2030. Torbay is predicted to have a KSI casualty rate of 3.45 times the target rate for 2030, Devon has the best rate in D&C with a projection of 2.71 times the target rate.

Rank	In England	Vs 50by30
1.	Torbay	3.45x
2.	Plymouth	3.32x
3.	City of London	3.03x
4.	Gloucestershire	3.01x
5.	Cornwall	2.87x
6.	Luton	2.85x
7.	West Sussex	2.83x
8.	Barking and Dagenham	2.74x
9.	Devon	2.71x
10.	East Sussex	2.64x

Figure 6 Towards Zero Foundation table of projected worst performing areas in England[7]

Based on Agilysis' and the Towards Zero Foundation's projections based on 2017-2019 performance D&C will increase year on year to 2030, we are therefore not starting with a static annual position but rather an upward trajectory. Devon and Cornwall is not following the projected trend in fact, we have had reductions in both fatal and serious casualties compared to our 2016-2018 baseline. This is a very positive position.

[6] The projections were calculated before the Department for Transport removed a validation rule that changed a slight casualty to serious where that casualty had attended hospital. Agilysis advise that using this new definition the 2017-19 baseline would be 744 KSI casualties instead of the 764 used in the projections. Even accounting for slight casualties in 2020-2022 which would previously have been classed as serious this would only be an additional 18 casualties in 2020, 10 in 2021 and 24 in 2022. This would not affect the above summary of a decrease in KSI casualties contrary to a projected increase.

[7] More Information | GB Road Safety Performance Index (arcgis.com)

3.3 Performance

Collisions

This section provides an overview of collision data for the period 2018-2022. This 5-year period was used as a 3-year period would be heavily influenced by the unusual circumstances of the Covid19 travel restrictions (2020-21).

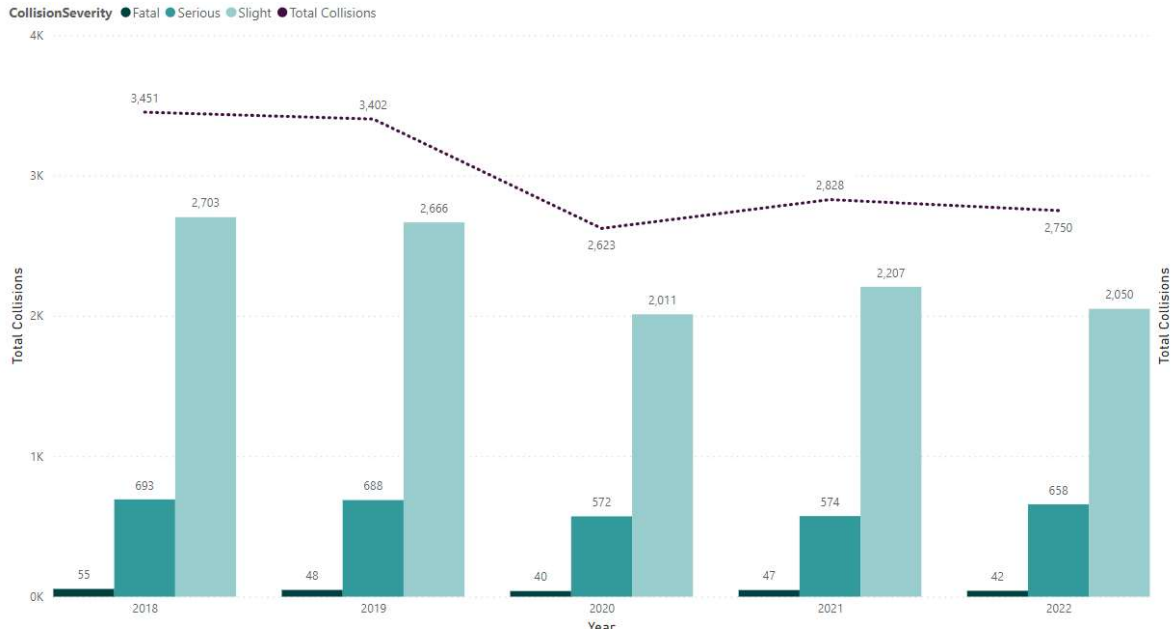

Figure 7 Collision Severity 2018 – 2022

Figure 7 shows the annual collision numbers by severity between 2018-2022. In 2018 and 2019 there were a total of 3,451 and 3,402 collisions respectively, which has decreased in 2022 to 2,750 collisions. This is a 20% reduction compared to the average of the 2 pre covid years of 2018-2019. Compared to 2018-2019, there was a 24% reduction in slight, a 5% reduction in serious and an 18% reduction in fatal collisions in 2022.

In 2022 there was a reduction in overall casualties, largely as a result of a decrease in collisions resulting in slight injury[8]. This overall reduction in total collisions is present in each of the four Local Authority areas of Cornwall (-12%), Devon (-23%), Plymouth (-22%) and Torbay (-31%) when comparing to the 2018-2019 average.

[8] This reduction may in part be due to a reduction in self-reporting by members of the public. In 2018 695 collisions were self-reported this decreased in 2019 to 656 collisions. In contrast in 2022 there were 523 self-reported collisions, this number is similar to the number of self-reported collisions in 2020 (508) and 2021 (529) despite both of those years being impacted by travel restrictions. In 2022 there was a change in how members of the public self-reported collisions with reporting being done online via a portal where previously self-reports had been made in person at police stations. Of the total 2,911 self-reported injury collisions between 2018-2022 88% were slight collisions.

Traffic volumes and percentage of vehicles speeding

Using 8 sites in the Devon County Council geographic area, which record volume and speed 24 hours of the day, 365 days of the year; it has been possible to review vehicle flow for the period 2018-2022.[9] The data for these 8 sites is visualised in figures 8 through to 11.The 2018-2019 period was used as a baseline to calculate the percentage change for traffic flow in the years 2020-2022. This data is visualised in Figure 8 and Figure 9 below.

Month	Baseline 2018-19	Month/Year	2020	Month/Year	2021	Month/Year	2022
January	3596525	January 2020	**+1%**	January 2021	-35%	January 2022	-4%
February	3433106	February 2020	**+1%**	February 2021	-33%	February 2022	-2%
March	3760311	March 2020	-21%	March 2021	-21%	March 2022	**+2%**
April	3952960	April 2020	-69%	April 2021	-13%	April 2022	-3%
May	4132901	May 2020	-52%	May 2021	-7%	May 2022	-2%
June	4088495	June 2020	-32%	June 2021	**+2%**	June 2022	-3%
July	4356966	July 2020	-14%	July 2021	-1%	July 2022	-5%
August	4441019	August 2020	-8%	August 2021	-1%	August 2022	-3%
September	4066167	September 2020	-3%	September 2021	0%	September 2022	-4%
October	4092076	October 2020	-9%	October 2021	-4%	October 2022	-5%
November	3806429	November 2020	-26%	November 2021	-2%	November 2022	-4%
December	3619522	December 2020	-14%	December 2021	-1%	December 2022	-6%

Figure 8 Monthly Traffic Volumes 2020 – 2022, compared to monthly traffic volume in 2018-2019 baseline period

The monthly percentage change from the 2018-2019 baseline period is shown. Any increases in traffic volume are highlighted in bold text, the dark blue cells indicate Covid19 lockdown periods, with lighter blue indicating where some restrictions still applied. This illustrates a reduction in traffic volumes during the period of Covid19 restrictions between March 2020 and July 2021. Following this period traffic volumes had largely returned to similar volumes as the 2018-2019 baseline period. However, since June 2022 traffic volumes have decreased with traffic flow being between 6% and 3% less than 2018-19 levels. This reduction in traffic volume may also account for some of the reduction in collisions seen in 2022 compared to the 2018 - 2019 average.

[9] The 8 sites are the B3149 Braunton Road, B3181 Broadclyst, A385 Dartington, A380 Telegraph Hill, A3052 Cat and Fiddle, A39 Westleigh, A361 Beaples Moor and A386 Roborough. These sites were selected due to the extensive data collection over the 5 year period 2018-2022.

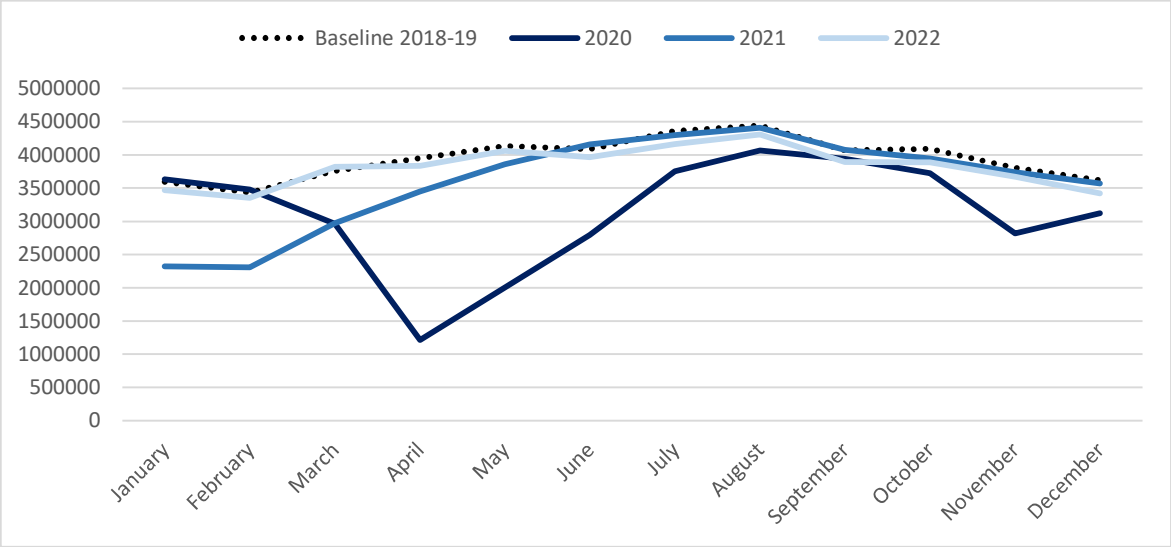

Figure 9 Monthly Traffic Volumes 2020 – 2022, compared to monthly traffic volume in 2018-2019 baseline period

Figure 9 shows the significant reduction in vehicle flow during the 2020 and 2021 travel restrictions imposed during the Covid19 pandemic, in contrast to the dotted line of the 2018-19 baseline period. The 2022 traffic flow is closer to the baseline period but still shows a slight reduction compared to 2018-19.

Month	Baseline 2018-19	Month/Year	2020	Month/Year	2021	Month/Year	2022
January	27%	January 2020	26%	January 2021	**30%**	January 2022	25%
February	27%	February 2020	27%	February 2021	**32%**	February 2022	25%
March	28%	March 2020	**32%**	March 2021	**31%**	March 2022	26%
April	29%	April 2020	**49%**	April 2021	29%	April 2022	27%
May	28%	May 2020	**40%**	May 2021	27%	May 2022	25%
June	29%	June 2020	**37%**	June 2021	23%	June 2022	25%
July	28%	July 2020	**31%**	July 2021	24%	July 2022	24%
August	26%	August 2020	**27%**	August 2021	24%	August 2022	22%
September	27%	September 2020	27%	September 2021	23%	September 2022	23%
October	26%	October 2020	**27%**	October 2021	23%	October 2022	22%
November	26%	November 2020	**28%**	November 2021	22%	November 2022	21%
December	27%	December 2020	27%	December 2021	23%	December 2022	20%

Figure 10 Monthly Percentage of Vehicles Exceeding Speed Limit 2020 – 2022, compared to the percentage exceeding in 2018-2019 baseline period

As with the traffic volume, the bold text indicates that there is an increase compared to the 2018-19 baseline in the percentage of vehicles exceeding the speed limit in 2020-2022. During

the periods of Covid19 restrictions, the percentage of vehicles exceeding the speed limit increased compared to the 2018-19 baseline. With the exception of September and December 2020, April and May 2021 where the percentage exceeding the limit was the same as the baseline period. As lockdown restrictions eased in June 2021 onwards, traffic volumes increased and the percentage of vehicles exceeding the speed limit decreased below the 2018-19 baseline.

The reduction in traffic volumes in 2022 are much smaller than the reductions seen during Covid19 restrictions. In contrast to the Covid19 trend of traffic reduction correlating with an increase in the percentage of vehicles exceeding the speed limit, the reduction in traffic in 2022 has coincided with a reduction in the percentage of vehicles exceeding the speed limit. It is difficult to explain this reduction in traffic volume, but it may have been caused by a combination of factors including, a move to more active modes of travel, or due to the cost of fuel etc.

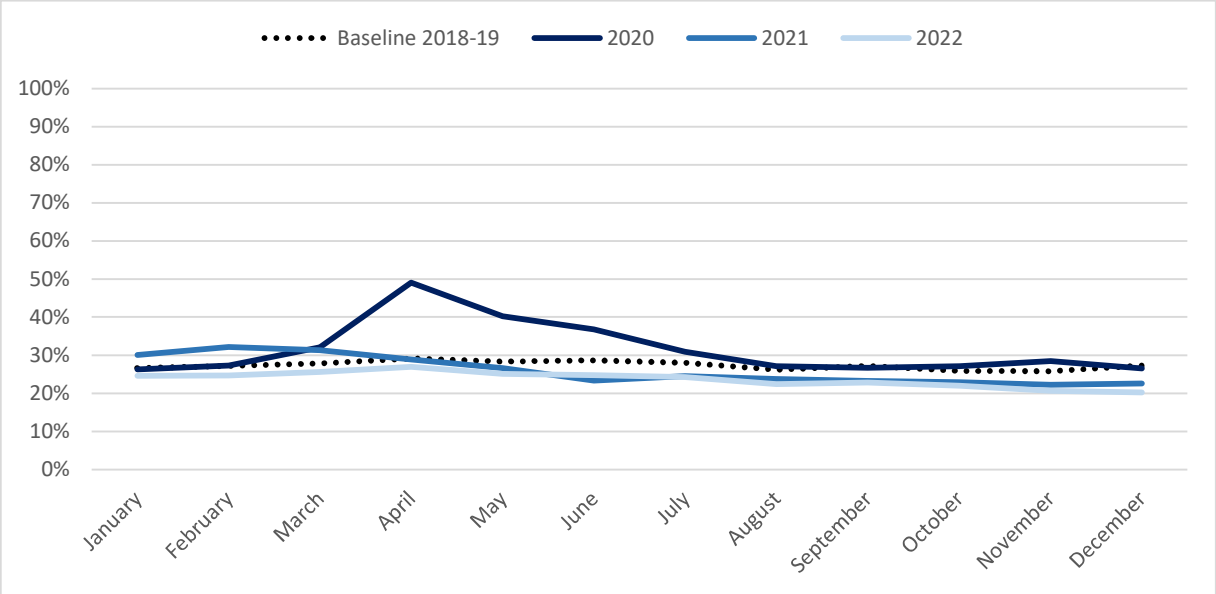

Figure 11 Monthly Percentage of Vehicles Exceeding Speed Limit 2020 – 2022, compared to the percentage exceeding in 2018-2019 baseline period

There was a significant increase in 2020 in the percentage of vehicles exceeding the speed limit during the initial Covid19 travel restrictions (March-May 2020). During the second half of 2021 and the whole of 2022, the percentage of traffic exceeding the speed limit was less than the 2018-19 baseline period.

Casualties

This section provides an overview of casualty data for the period 2018-2022.

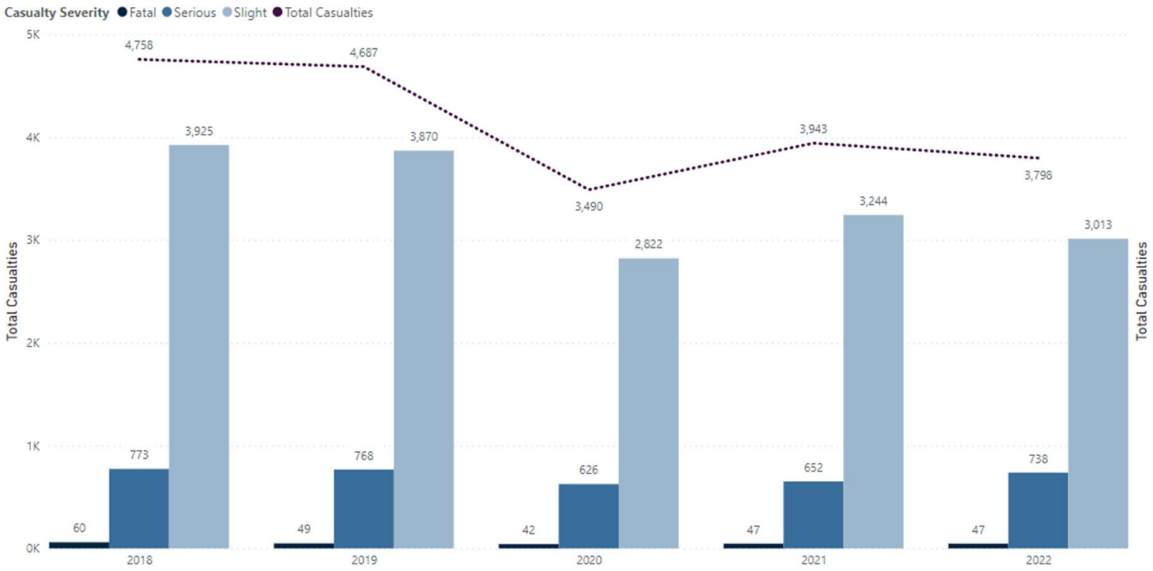

Figure 12 Casualty Severity 2018 - 2022

There was a 20% reduction in casualties in 2022 compared to the 2018-2019 average. This reduction in total casualties is largely the result of fewer slight casualties, as such the percentage of KSI casualties has increased. In 2018 and 2019 KSIs accounted for 17.5% of all casualties and in 2022 this has increased to 21% of all casualties.

In total between 2018-2022 there were 245 fatal casualties, these can be broken down into road user types as follows:

- 24% were motorcyclists
- 21% were pedestrians
- 21% were car drivers aged 25-69
- 12% were car passengers
- 8% were older car drivers (aged 70+)
- 5% were young car drivers (aged 16-24)
- 4% were cyclists
- 5% other

There were a further 3,557 serious casualties, broken down by road user type:

- 27% were motorcyclists
- 19% were car drivers aged 25-69
- 16% were pedestrians
- 12% were car passengers
- 11% were cyclists
- 5% were young car drivers
- 4.5% were older car drivers

- 5.5% other

Car drivers aged 25-69 are a large proportion of road users so the fact that group appears high in terms of KSI casualty percentage is unsurprising. In contrast, motorcyclists and pedestrians account for smaller proportions of traffic but account for a large percentage of KSI casualties. In total pedestrians were 16% and motorcyclists 27% of KSIs respectively, totalling 43% of all KSI casualties between 2018-2022.

Of these pedestrian fatalities 69% involved a car, and 82% of serious pedestrian casualties involved a car. Of the motorcycle fatalities 59% involved a car, and 59% of serious motorcycle casualties involved a car. A further 17% of fatal and 28% of serious motorcycle casualties were from single vehicle collisions. This means that motorcycle collisions involving cars and single vehicle collisions totalled 76% of fatal and 87% of serious motorcycle casualties between 2018-2022.

Between 2018-2022 car drivers were involved in 79% of KSI collisions and in 87% of all collisions in D&C. Car occupants accounted for 41% of KSI casualties and 63% of casualties across all severities. Cars were therefore involved in most injury collisions in D&C although their occupants accounted for a smaller casualty percentage.

Single Vehicle Collisions

Single vehicle collisions are where only one vehicle is involved, where a pedestrian was in a collision with a vehicle this would not be classed as a single vehicle collision.

Between 2018-2022 there were a total of 3,134 single vehicle collisions in D&C. This is 21% of the total 15,054 collisions that occurred during the same period. There were 41 single vehicle fatal collisions (18% of total), 741 single vehicle serious collisions (23% of total) and 2,352 single vehicle slight collisions (20%) of total.

Car drivers aged 25-69 accounted for 34% of single vehicle KSI collisions, followed by motorcyclists (35%), young car drivers (15%) and older car drivers (7%). The most common contributory factors in these single vehicle fatal and serious collisions were:

Fatal

1. Loss of control (25)
2. Exceeding speed limit (14)
3. Impaired by alcohol (14)
4. Slippery road (due to weather) (10)

Serious

1. Loss of control (333)
2. Slippery road (due to weather) (153)
3. Impaired by alcohol (137)

Fatalities

In 2020 The Parliamentary Advisory Council for Transport Safety (PACTs) released a report called "What kills most on the roads?"[10] The report outlines two key visualisations, the first a matrix showing deaths by road user and vehicle involved and the second all deaths involved with each mode, showing vehicle user deaths and other road user deaths. Using the PACTs report and also a methodology adaptation from the European Commission,[11] figures 13 and 14 show the D&C fatal data between 2018-2022.

	Pedestrian	Cyclist	Motorcyclist	Car Occupent	Other	LGV Occupent	HGV Occupent
Car	36	5	27	50	1		
HGV	6	1	6	17	2	1	1
LGV	9	2	8	10			
Motorbike			3				
Pedal cycle							
Single Vehicle		1	10	31	1	1	
Other	2		5	5	4	2	

Figure 13 Fatality Matrix for D&C 2018-2022[12]

Figure 13 shows the vehicles involved on the left and the road user death along the top. The top 5 vehicle/road user combinations with the most fatalities are:

- Car – Car occupant (50)
- Car – Pedestrian (36)
- Single Vehicle – Car occupant (31)
- Car – Motorcyclist (27)
- HGV – Car occupant (17)

These 5 combinations total 161 or 65% of fatalities in D&C between 2018-2022.

Between 2018-2022 there were a total of 11 fatal collisions with more than 1 fatal casualty, 9 of these were in Cornwall and 2 were in Devon. In 2022 there were 4 such fatal collisions resulting in 9 fatalities. This is why despite a reduction in fatal collisions in 2022 (42) compared to 2021 (47) the fatalities number remained at 47[13].

Figure 14 shows the total fatalities associated with each mode of transport. Most fatalities associated with walking, pedal cycle use and motorcycle use are the pedestrians and riders themselves. With HGVs and LGVs the majority of road user fatalities are other roads users.

[10] PACTS Report: What kills most on the roads? - PACTS

[11] The European Commission use the heaviest vehicle for the vehicle involved value- the same methodology has been used for D&C fatalities. Collision matrix TOTAL 2021.pdf (europa.eu)

[12] Analysis accurate as of 14 June 2023 – since this date two fatal casualties have been removed from the local data due to coronial rulings

[13] Multi fatality collisions as well as non Stats19 fatal suicide and medical episode collisions will be reviewed in more detail to identify and understand any relevant trends

This illustrates visually that some road users come to harm while others do harm. This is important to remember when designing interventions.

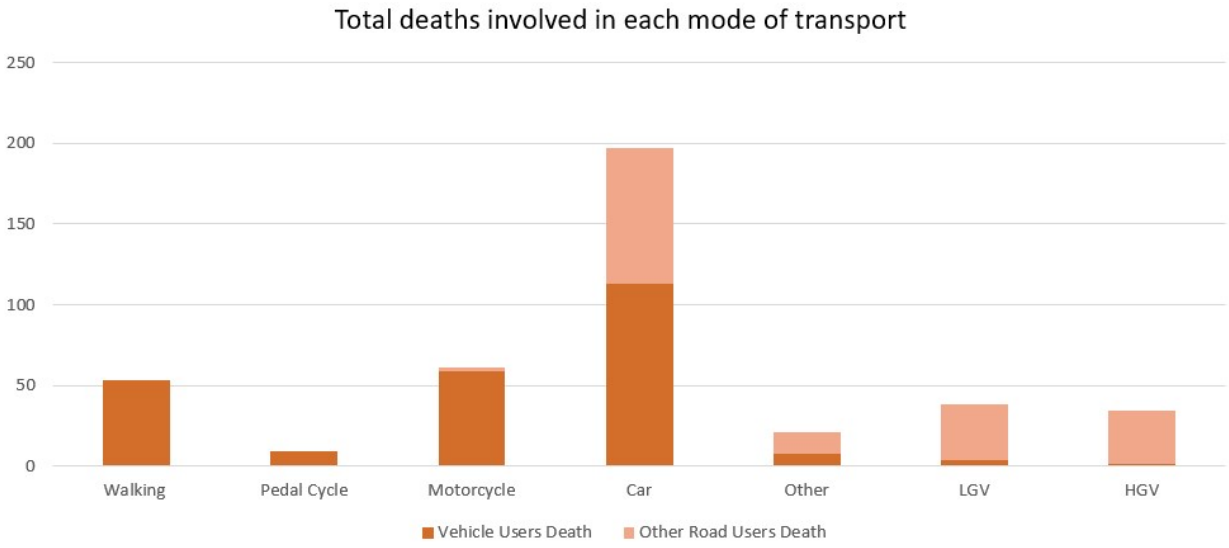

Figure 14 Total Deaths Involved in Each Mode of Transport[14]

Summary

This introductory section has provided an overview of D&C's progress towards it's 2030 interim target of a 50% reduction in KSI casualties. Following two years of reduced casualties resulting from a reduction in traffic flow due to Covid19 lockdown periods, 2022 has seen an increase in KSI casualties. When comparing to 2018-2019, both fatal and serious casualties have reduced. This reduction is contrary to external forecasts, that projected increases in KSI casualties in D&C between 2020-2030.

The following sections outline casualty data at the Local Authority level, key collision and casualty data for each VZSW priority theme, the Fatal Five, enforcement data, and the impacts of the Covid19 pandemic.

[14] "Other" will include motorised vehicles including tractors, buses etc.

4.0 Local Authority Casualties

Cornwall

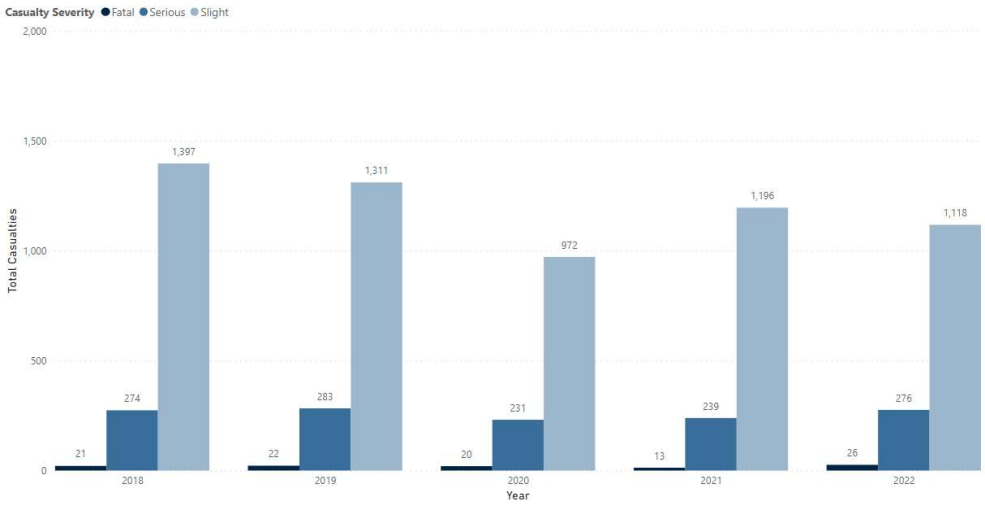

Figure 15 Cornwall Casualty Severity 2018 – 2022

Compared to the 2018-19 average, Cornwall's fatalities increased 21% in 2022, serious casualties decreased 1%, and slight casualties decreased 17%. The increase in fatalities is in contrast to the overall Devon and Cornwall trend. In 2022 Cornwall had 4 fatal collisions with multiple fatalities. These 4 collisions resulted in 9 fatalities which will be influencing the fatal casualty increase in 2022.

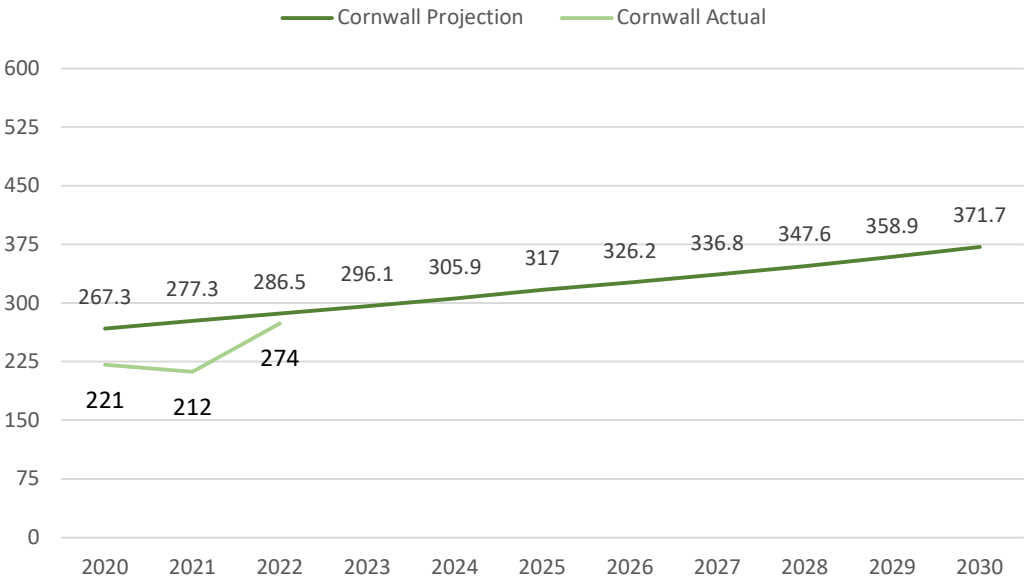

Figure 16 Cornwall Projected and Actual Change in KSIs 2020 – 2022

Figure 16 visualises the TVZ KSI casualty projection to 2030 for Cornwall and the actual KSI casualties data (excluding strategic roads). At the Devon and Cornwall police force level the difference between the actual 2022 KSI casualties and the projected KSIs is a 17% decrease, for Cornwall the difference is a 4% decrease.

Devon

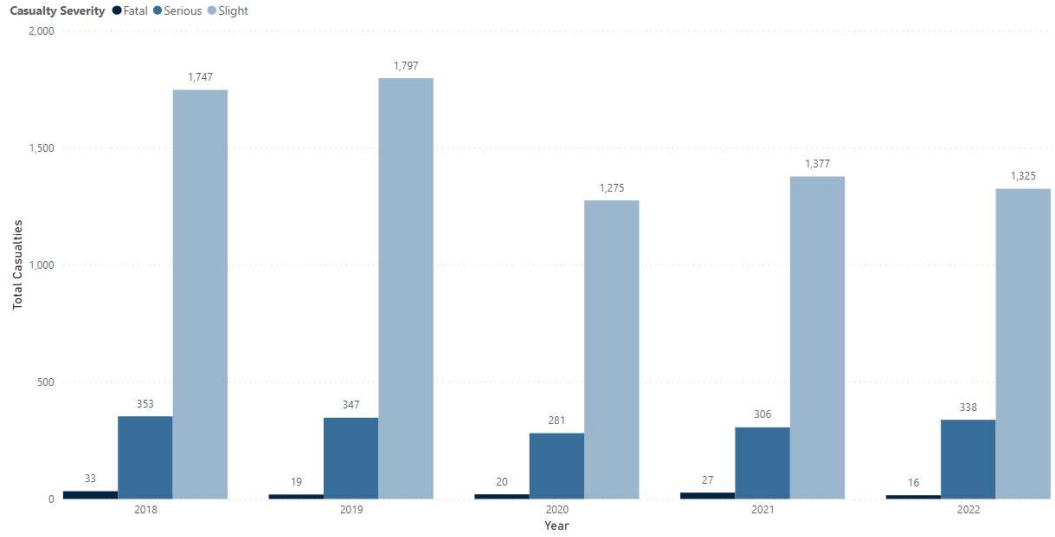

Figure 17 Devon Casualty Severity 2018 – 2022

Compared to the 2018-19 average, Devon's fatalities decreased 38% in 2022, serious casualties decreased 3%, and slight casualties decreased 25%.

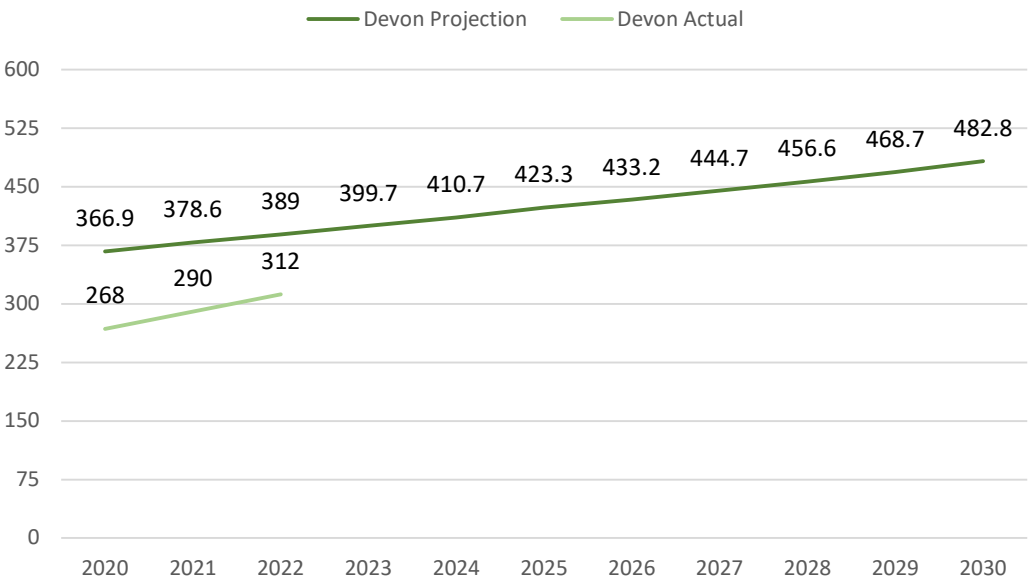

Figure 18 Devon Projected and Actual Change in KSIs 2020 – 2022

Figure 18 visualises the TVZ KSI casualty projection to 2030 for Devon and the actual KSI casualties data (excluding strategic roads). At the Devon and Cornwall police force level the difference between the actual 2022 KSI casualties and the projected KSIs is a 17% decrease, for Devon the difference is a 20% decrease.

Within the two local authority areas of Devon County Council and Cornwall Council there have been some fluctuations in fatalities. Cornwall had 13 fatalities in 2021, increasing to 26 fatalities in 2022. Devon had 27 fatalities in 2021, decreasing to 16 fatalities in 2022. These local fluctuations did not negatively reflect in the overall Devon and Cornwall fatality figures of 47 in 2021 and 47[15] in 2022.

Plymouth

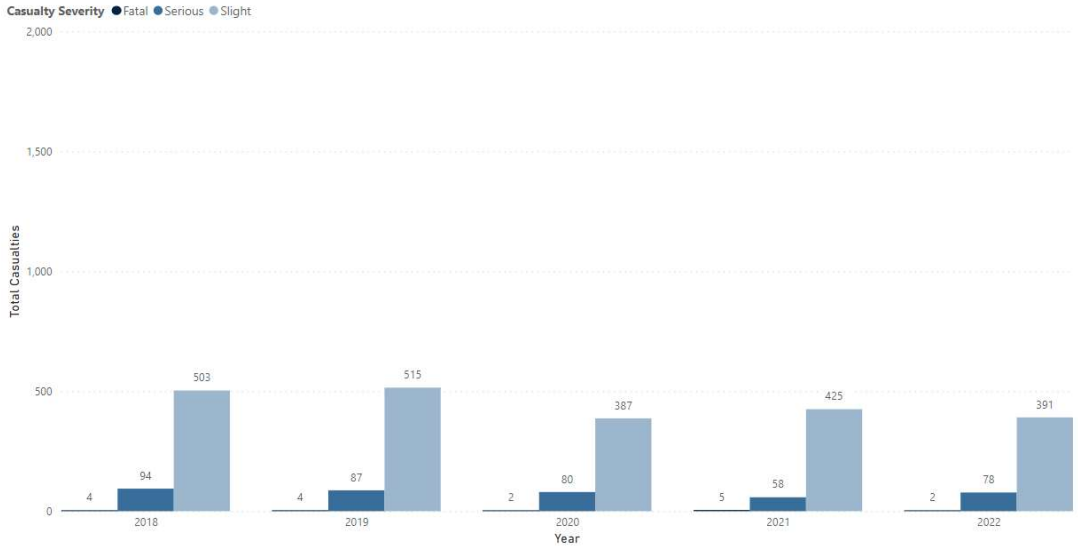

Figure 19 Plymouth Casualty Severity 2018 – 2022

Compared to the 2018-19 average, Plymouth's fatalities decreased 50% in 2022, serious casualties decreased 14%, and slight casualties decreased 23%[16].

[15] One of these 47 fatalities in 2022 was subject to a court case, and 3 men were found guilty of manslaughter Biker club killing in Plymouth: Three club members jailed for killing rival - BBC News

[16] It is worth noting that where there are smaller figures, the percentage change will look high. For example, a 50% change in fatalities represents and change from 4 to 2. In comparison Devon had a reduction from an average of 26 fatalities to 16, representing a decrease of 10 fatalities which translates to a smaller 38% decrease despite being a larger actual decrease in fatalities than Plymouth.

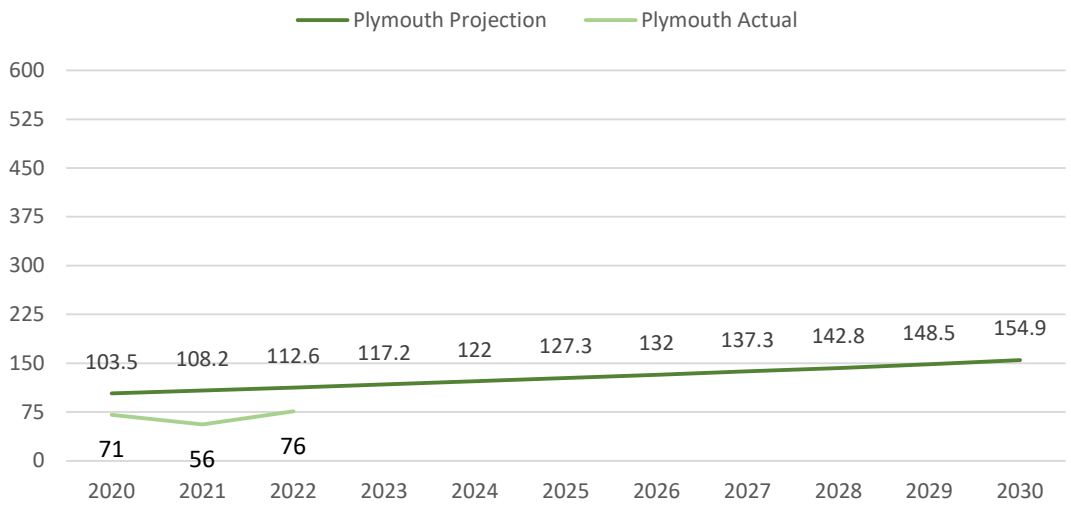

Figure 20 Plymouth Projected and Actual Change in KSIs 2020 – 2022

Figure 20 visualises the TVZ KSI casualty projection to 2030 for Plymouth and the actual KSI casualties to data (excluding strategic roads). At the Devon and Cornwall police force level the difference between the actual 2022 KSI casualties and the projected KSIs is a 17% decrease, for Plymouth the difference is a 33% decrease.

Torbay

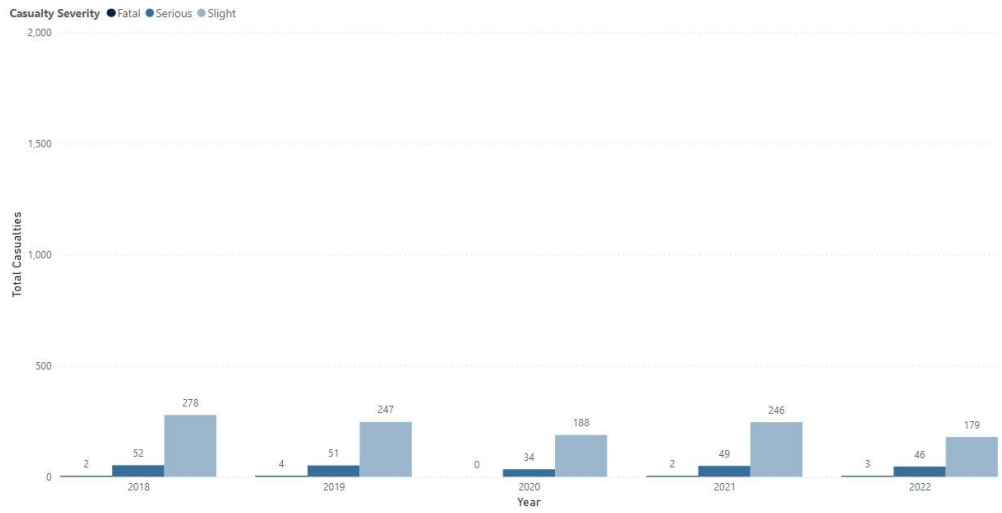

Figure 21 Torbay Casualty Severity 2018 – 2022

Compared to the 2018-19 average, Torbay's fatalities remained the same in 2022, serious casualties decreased 11%, and slight casualties decreased 32%.

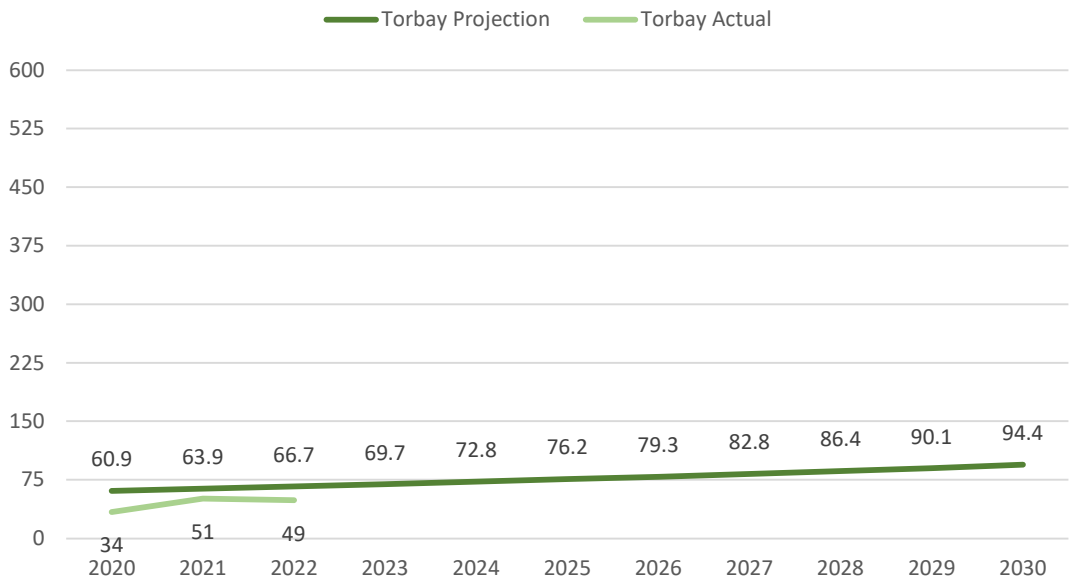

Figure 22 Torbay Projected and Actual Change in KSIs 2020 – 2022

Figure 22 visualises the TVZ KSI casualty projection to 2030 for Torbay and the actual KSI casualties to data (excluding strategic roads). At the Devon and Cornwall police force level the difference between the actual 2022 KSI casualties and the projected KSIs is a 17% decrease, for Torbay the difference is a 27% decrease[17].

Seasonality

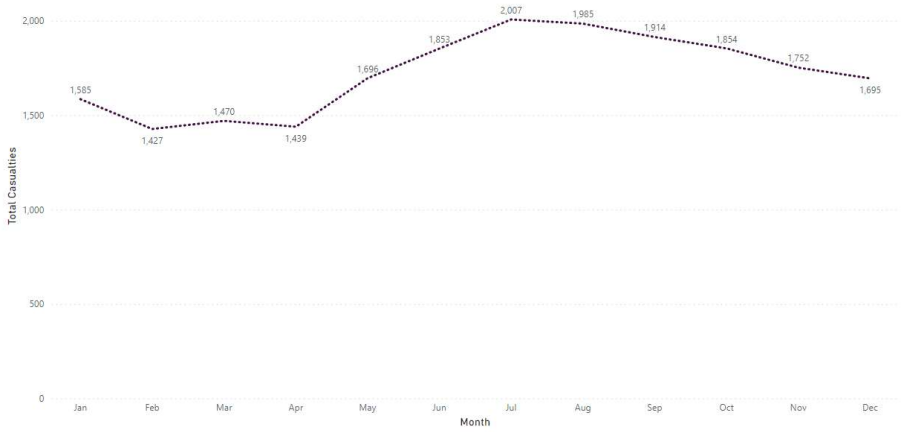

Figure 23 Devon and Cornwall total casualties by month 2018-2022

[17] As with Plymouth this percentage will be amplified by the small numbers involved.

Across Devon and Cornwall between 2018-2022, the months with the most casualties (all severities) were July, August and September. The months with the least collisions were February, March and April.

At a Local Authority level, the months of most and least casualties are different.

LA	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cornwall	488	526	495	506	599	724	771	732	772	642	542	603

Figure 24 Cornwall total casualties by month 2018-2022

Cornwall had the most casualties in July- September and the least in January-April.

LA	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Devon	753	628	658	648	763	767	844	959	798	854	851	738

Figure 25 Devon total casualties by month 2018-2022

Devon had the most casualties in July - August and the least in February - April.

LA	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Plymouth	217	204	209	180	208	222	258	178	231	234	245	249

Figure 26 Plymouth total casualties by month 2018-2022

Plymouth had the most casualties in July and also in November - December and the least in April and August.

LA	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Torbay	127	69	108	105	126	140	134	116	113	124	114	105

Figure 27 Torbay total casualties by month 2018-2022

Torbay had the most casualties in June - July and the least in February.

All four local authority areas, but Cornwall in particular experienced a peak in casualties correlating with a peak in traffic flow during the summer months. Vehicle flow data for 2022 from the National Highways Strategic Road Network shows that the county area of Cornwall had a traffic flow increase of 22% in June-August. The county of Devon had a smaller increase of 16% in June-August, for both counties the traffic flow peaked in August with a 30% increase in Cornwall and a 21% increase in Devon[18]. It is not possible to quantify what this increased vehicle

[18] Analysis of 36 traffic counters on the National Highways network for the year 2022, data is available for download at https://webtris.highwaysengland.co.uk/

flow means in terms of population but this seasonality is an important context for the next section which analyses the casualties per 100,000 population.

Casualties per 100,000 population

Casualties per 100,000 population is used within road safety analysis to facilitate comparative analysis between Local Authority and Police Force areas. The following tables outline the Devon and Cornwall police force casualties per 100,000 population, and also show the breakdown by Local Authority area.

Fatal casualties

Area	2016-2018 baseline	2019	2020	2021	2022
Cornwall Council	4.1	3.9	3.5	2.3	4.5
Devon County Council	3.5	2.4	2.5	3.3	2.0
Plymouth City Council	2.3	1.5	0.8	1.9	0.8
Torbay City Council	1.5	2.9	0.0	1.4	2.2
Devon and Cornwall Police Force	3.4	2.8	2.4	2.6	2.6

Figure 28 Fatal Casualties per 100,000 population 2019 – 2022[19]

Figure 28 visualises the fatalities per 100,000 for the Devon and Cornwall police force area and the 4 local authority areas that form it. Darker blue cells indicate higher values, Cornwall and Torbay's 2022 fatalities per 100,000 population are higher than the 2016-2018 baseline figures. Cornwall and Devon's 2022 rate is higher than the overall police force rate. Overall, there is a reduction in the 2022 figure compared to the baseline for the whole police force area.

Serious casualties

Area	2016-2018 baseline	2019	2020	2021	2022
Cornwall Council	48	50	41	42	48
Devon County Council	46	44	35	38	42
Plymouth City Council	26	33	31	22	29
Torbay City Council	35	38	25	35	33
Devon and Cornwall Police Force	43	44	35	36	41

Figure 29 Serious Casualties per 100,000 population 2019 – 2022

Figure 29 visualises the serious casualties per 100,000 for the Devon and Cornwall police force area and the 4 local authority areas that form it. Darker blue cells indicate higher values, Plymouth's 2022 serious casualties per 100,000 population are higher than the 2016-2018 baseline figures. Cornwall and Plymouth's 2022 rate is higher than the overall police force rate.

[19] Population estimate data is not available for 2022, 2021's data has therefore been used.

Overall, there is a reduction in the 2022 figure compared to the baseline for the whole police force area.

KSI casualties

Area	2016-2018 baseline	2019	2020	2021	2022
Cornwall Council	52	54	44	44	53
Devon County Council	50	46	38	41	43
Plymouth City Council	28	35	31	24	30
Torbay City Council	37	41	25	37	35
Devon and Cornwall Police Force	46	46	38	39	44

Figure 30 KSI Casualties per 100,000 population 2019 – 2022

Figure 30 visualises the KSI casualties per 100,000 for the Devon and Cornwall police force area and the 4 local authority areas that form it. Darker blue cells indicate higher values, Cornwall and Plymouth's 2022 KSI casualties per 100,000 population are higher than the 2016-2018 baseline figures. Cornwall's 2022 rate is higher than the overall police force rate. Overall, there is a reduction in the 2022 figure compared to the baseline for the whole police force area.

High Harm Routes

In total there are 131 red high harm routes, which is 17% of the total 751 routes A and B routes. This is a reduction from the 136 red routes in 2022 (2017-2021 data) and the 147 red routes in 2021 (20-16-2020 data). There are 27 red routes in Cornwall, 49 in Devon, 31 in Plymouth and 24 in Torbay.

Red routes are typically urban routes. There are therefore several red routes in Truro, Plymouth, Torquay, Paignton, Brixham, Newton Abbot, Exeter, and Barnstaple.

5.0 VZSW ROAD USER THEME: OLDER CAR DRIVERS (aged 70 and over)

5.1 Overview

Between 2018 and 2022 older car drivers were involved in 38 fatal, 439 serious and 1,571 slight collisions in D&C, shown in figure 25. These collisions resulted in 39 fatal injuries, 515 serious and 2,434 slight injuries. In total older drivers had 4 single vehicle fatal and 48 serious single vehicle collisions.

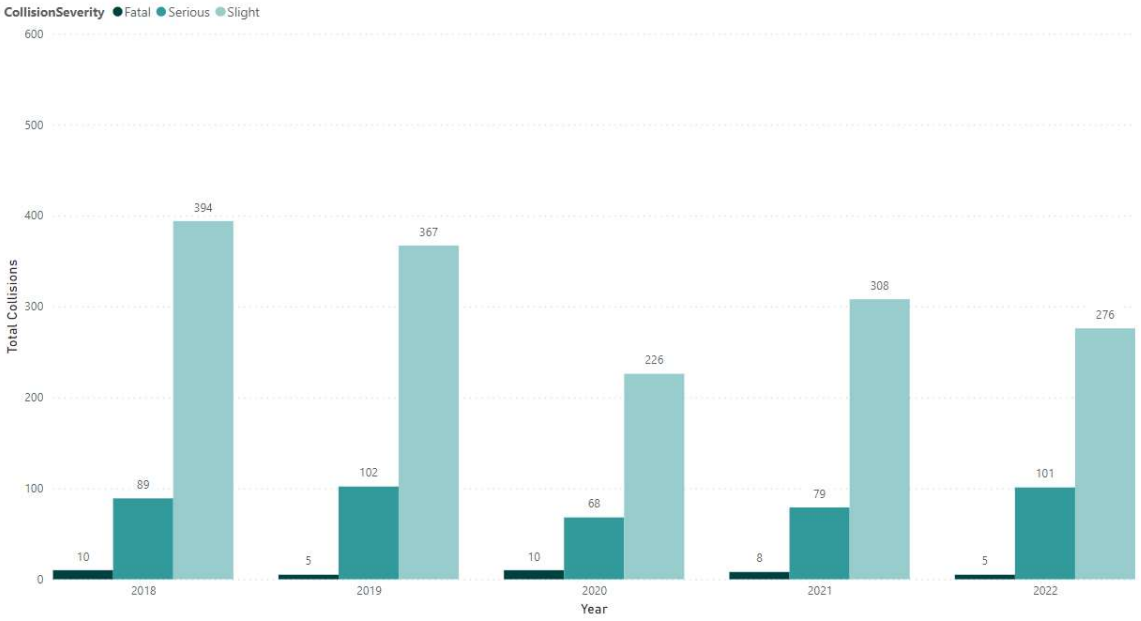

Figure 31 Older Car Driver Collision Severity 2018 - 2022

Between 2018 and 2022 older car drivers accounted for 19 fatal casualties, 159 serious and 843 slight casualties, see figure 32. Older drivers were therefore involved in 16% of fatal, 14% of serious collisions and 13.5% of slight collisions in D&C. Older drivers accounted for 8% of fatal, 4.5% of serious and 5% of slight casualties.

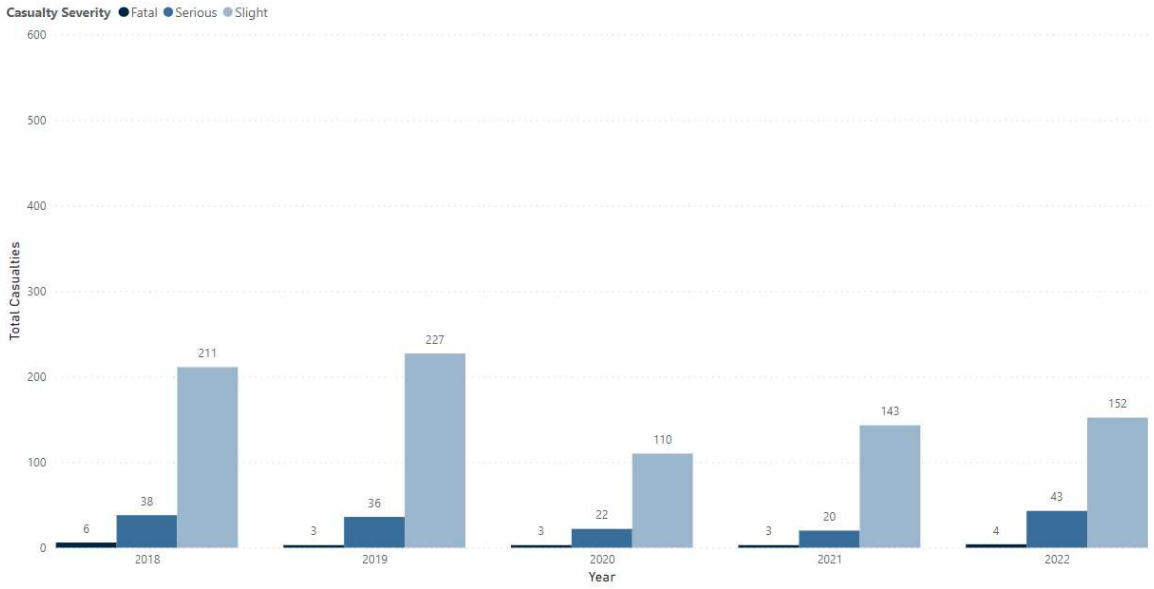

Figure 32 Older Car Driver Casualty Severity 2018 - 2022

The other KSI injuries in older driver collisions involved vulnerable road users including 6 pedestrians, 5 older driver passengers, 3 motorcyclist and 2 pedal cyclist fatalities. There were an additional 81 pedestrian, 78 older driver passenger, 67 motorcyclist, and 46 pedal cyclist serious injuries. Totalling 11 fatal and 194 seriously injured vulnerable road users in addition to the 24 fatal and 237 seriously injured casualties within the older driver's car.

Casualty time of day

Day	0000-0259	0300-0559	0600-0859	0900-1159	1200-1459	1500-1759	1800-2059	2100-2359
Mon	0	1	14	84	106	92	20	8
Tue	3	2	20	89	95	130	36	7
Wed	1	0	19	87	101	84	33	7
Thu	1	3	14	89	102	98	27	12
Fri	0	1	18	108	112	101	34	15
Sat	1	1	14	80	90	75	36	9
Sun	1	0	7	60	75	56	28	7

Figure 33 Older Driver Casualty by Time of Day 2018 - 2022

Figure 33 highlights the days and times that older driver casualties happened between 2018-2022. The main period for casualties is between 9 am and 6pm, particularly 3pm-6pm on Tuesdays and 9am-3pm Fridays.

Casualty distance from home

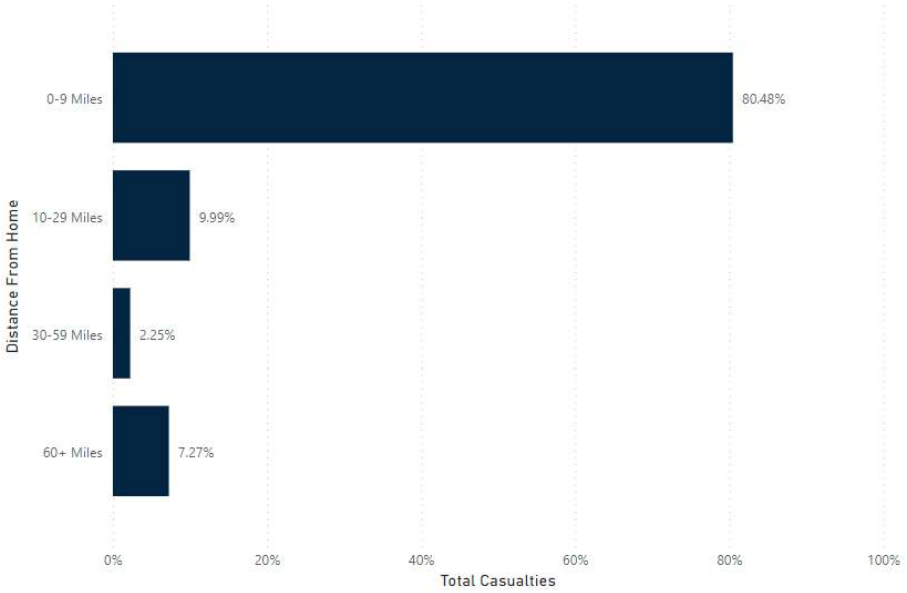

Figure 34 Older Driver Casualty by Distance from Home 2018-2022[20]

Driver residency

For all casualty severities between 2018-2022, figure 34 illustrates that more than 80% of older drivers were within 9 miles of their home address, with a further 10% within 10-29 miles.

PostcodeSector	Total Collisions
TQ13 9	38
PL12 6	36
TR11 5	35
EX10 9	34
TQ12 5	33
EX39 1	31
PL26 8	30
PL9 8	28
TQ4 7	28
EX11 1	27
EX12 2	27
PL25 3	27
TQ12 3	27
PL15 7	26
PL6 6	26
TQ3 1	26
TQ3 3	26
EX39 5	25
EX7 0	25
PL20 7	25
PL26 7	25
PL6 5	25
EX8 2	24
PL13 2	24
TQ1 2	24

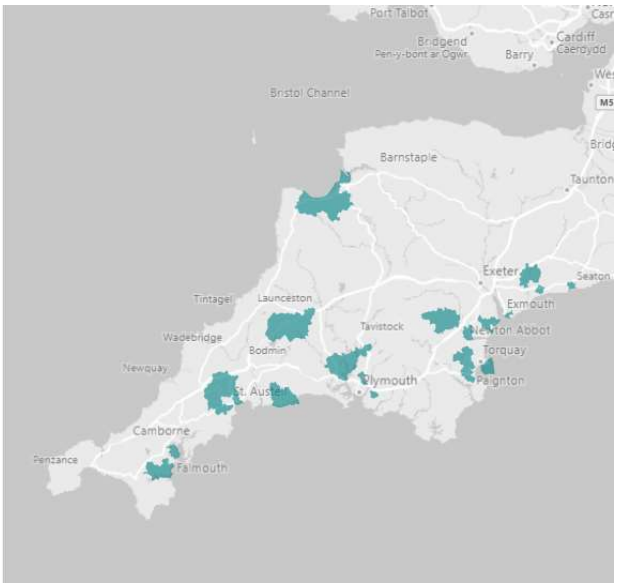

Figure 35 Older Driver Most Common Postcode Districts 2018-2022

[20] 16% of the postcode information could not be analysed due to insufficient information

Figure 35 visualises the top 25 postcode districts of older car drivers involved in collisions between 2018-2022. The top 5 postcode districts were TQ13 9, PL12 6, TR11 5, EX10 9 and TQ12 5.

Collision High Harm Routes

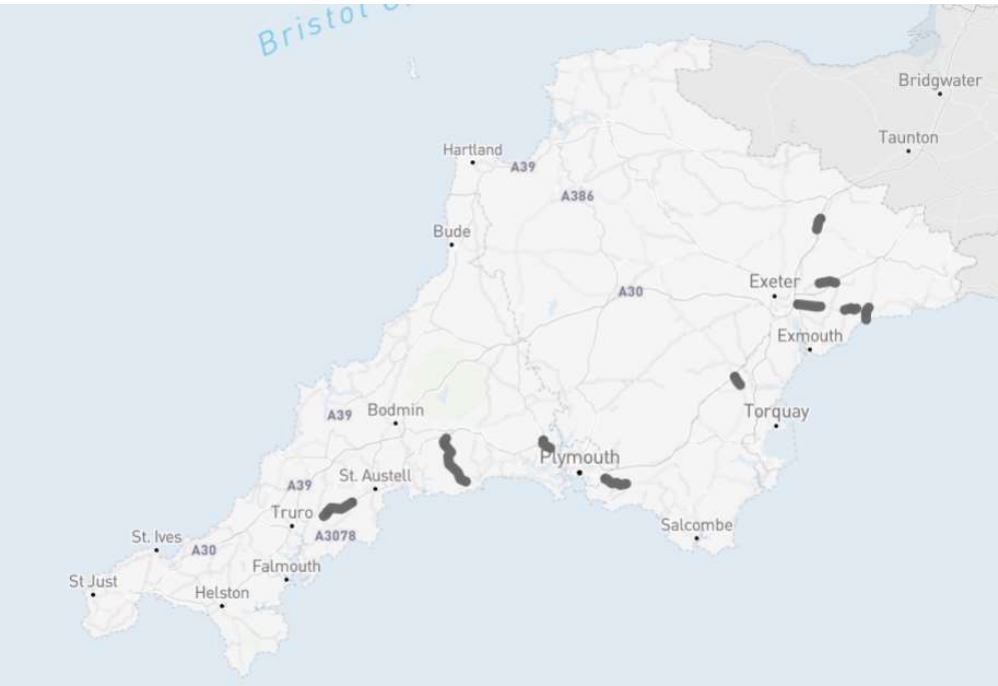

Figure 36 High Harm Routes for Older Car Drivers

The VZSW High Harm Routes dashboard highlights 11 key routes where older drivers have had a large percentage involvement in collisions over the last 5 years, these are:

- B3174 A30 Jct Daisymount to Jack In Green 40 nr Cranbrook – Green route
- A38 Drum Bridges RAB towards Newton Abbot Forches Cross Nr Claypits – Green route
- B3181 Cullompton to Willand – Green route
- A3052 Newton Poppleford to Bowd Junction B3176 – Amber route
- B3359 East Taphouse South to Barcelona – Green route
- A3052 Clyst St Mary RAB east to B3184 Farrington jct – Amber route
- A390 A3078 Trelowth jct to Hewas Water B3287 jct – Green route
- A375 Sidford to Sidmouth Seafront - Red route
- A379 Elburton Roundabout to Yealmpton Junction B3186 – Green route
- A381 Newton Abbot Wolborough Lights along East St to Train Stn Gyratory Jct - Red route
- A388 Hatt South east to Saltash - Red route

In contrast to the postcode district map which shows the residency of drivers, the high harm routes visualises where older drivers have collisions.

5.2 Contributory Factors

Between 2018-2022 the 3 contributory factors most assigned to an older driver in a fatal or serious collisions were:

Fatal

1. illness or disability, mental or physical (15)
2. failed to look properly (9)
3. poor turn or manoeuvre (8)

Serious

1. failed to look properly (159)
2. failed to judge other persons path or speed (71)
3. poor turn or manoeuvre (64)

The most common contributory factors assigned to another road user involved in a fatal or serious collision with an older car driver were:

Fatal

1. loss of control (6)
2. exceeding speed limit (6)
3. travelling too fast for conditions (4)
4. Failed to judge others path or speed (4)

Serious

1. failed to look properly (49)
2. (pedestrian) failed to look properly (37)
3. failed to judge other persons path or speed (37)

Contributory factors can be grouped into 5 distinct groups; Human Factors, Road Environment, Vehicle Defects, Pedestrian Related and Other[21]. The factors assigned in Older Driver collisions, across all road users, can be grouped as follows:

Factor Groups	Fatal Collisions	Serious Collisions
Human Factors	93%	91%
Road Environment	4%	5%
Vehicle Defects	0.5%	2%
Pedestrian Related	0.5%	0%

[21] Human Factors includes Stats19 contributory factors relating to injudicious actions, driver/rider error or reaction, impairment or distraction, behaviour or inexperience, vision affected and pedestrian only.

Other	2%	2%

Figure 37 the contributory factor groups for fatal and serious older driver collisions

The vast majority of contributory factors can be grouped under human factors for both fatal and serious collisions.

Collision Investigation Review

A review of 30 older driver KSIs collision investigation was undertaken. Key insights include the presence of pedal confusion among some older drivers. In addition, some older drivers were described as having pre-existing medical conditions.

6.0 VZSW ROAD USER THEME: YOUNG CAR DRIVERS (16-24)

6.1 Overview

Figure 38 illustrates that between 2018 and 2022 young car drivers were involved in 36 fatal, 465 serious and 2,371 slight collisions in D&C. These collisions resulted in 38 fatal injuries, 548 serious and 3,814 slight injuries. In total young drivers had 8 single vehicle fatal and 108 serious single vehicle collisions.

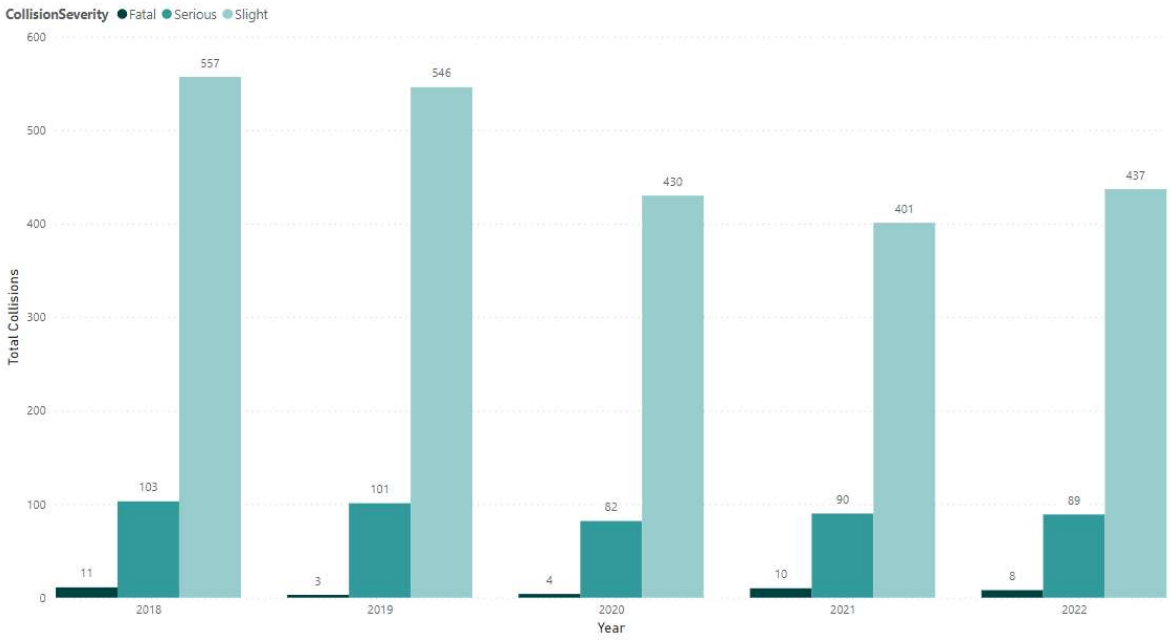

Figure 38 Younger Driver Collision Severity 2018 - 2022

Figure 34 indicates between 2018 and 2022 young car drivers accounted for 12 fatal casualties, 176 serious and 1,571 slight casualties. Young drivers were therefore involved in 16% of fatal, 15% of serious collisions and 20% of slight collisions across D&C accounting for 5% of fatal, 5% of serious and 9% of slight casualties.

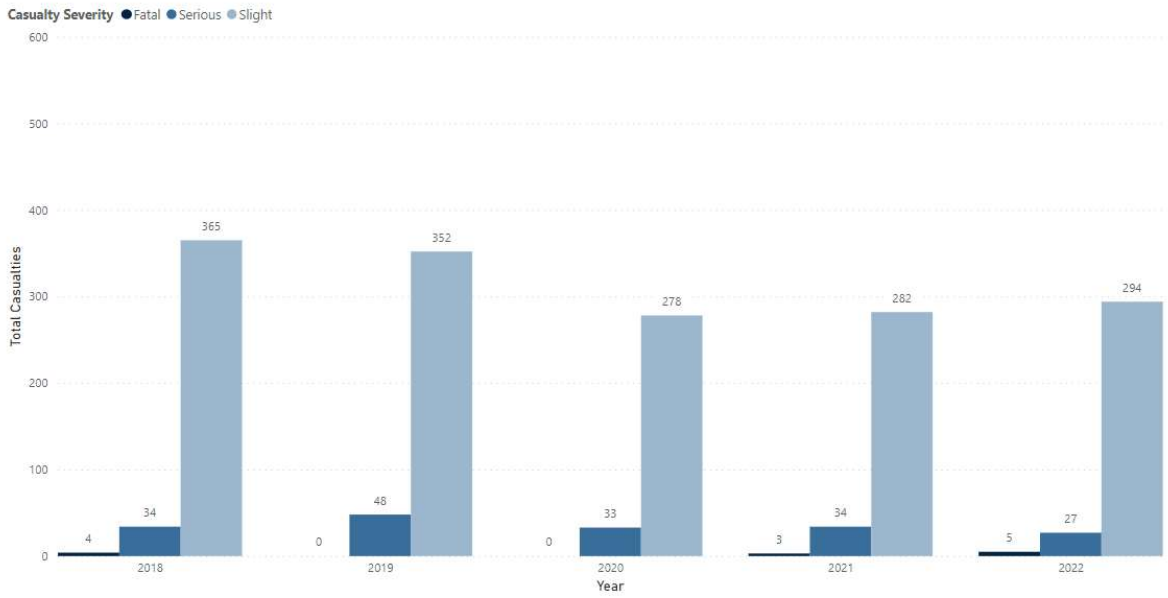

Figure 39 Younger Driver Casualty Severity 2018 - 2022

The other KSI injuries in young driver collisions involved vulnerable road users including 5 pedestrians, 10 young driver passengers, 5 motorcyclist fatalities and 4 pedal cyclist fatalities. There were an additional 61 pedestrians, 99 young driver passenger, 69 motorcyclist, and 27 pedal cyclist serious injuries. Totalling 14 fatal and 157 seriously injured vulnerable road users in addition to the 22 fatal and 275 seriously injured casualties within the young driver's car.

Casualty time of day

Day	0000-0259	0300-0559	0600-0859	0900-1159	1200-1459	1500-1759	1800-2059	2100-2359
Mon	24	17	81	62	63	133	101	88
Tue	24	19	98	90	72	131	115	64
Wed	33	12	98	78	72	132	99	77
Thu	39	15	94	77	74	145	110	79
Fri	46	17	97	64	106	158	121	112
Sat	68	33	49	89	100	112	131	85
Sun	73	50	35	75	84	92	105	83

Figure 40 Younger Driver Casualties by Time of Day 2018 - 2022

Figure 40 highlights the days and times that young driver casualties happened between 2018-2022. The main period for casualties is between 3pm and 6pm. Other periods of casualties are 6-12pm on Friday, and 3-9pm on Saturday. Thursday and Friday between 3-6pm is the period of most casualties.

Casualty distance from home

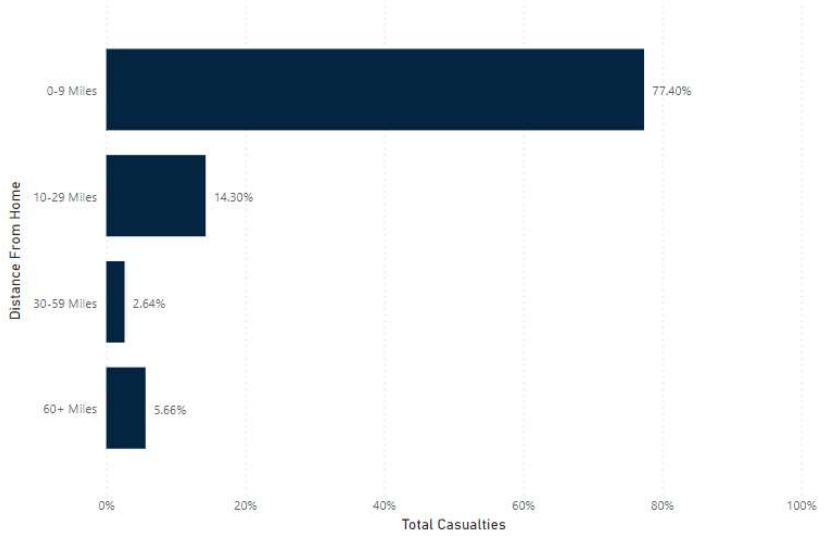

Figure 41 Younger Driver Casualty by Distance from Home 2018 - 2022[22]

For all casualty severities between 2018-2022, figure 41 outlines that 77.5% of young drivers were within 9 miles of their home address, with a further 14% within 10-29 miles.

Driver residency

PostcodeSector	Total Collisions
TQ12 1	63
PL26 7	62
PL26 8	62
EX22 6	53
TQ2 7	52
TR15 3	49
PL5 1	48
PL7 2	48
PL5 4	47
PL5 3	46
TQ3 3	46
PL21 0	45
EX20 1	44
PL15 9	44
PL2 3	44
PL2 2	43
TQ12 3	43
PL24 2	42
TQ1 4	42
PL25 3	41
PL3 6	41
TR16 5	41
EX11 1	40
PL14 3	40
PL2 1	40
PL5 2	40
PL6 6	40

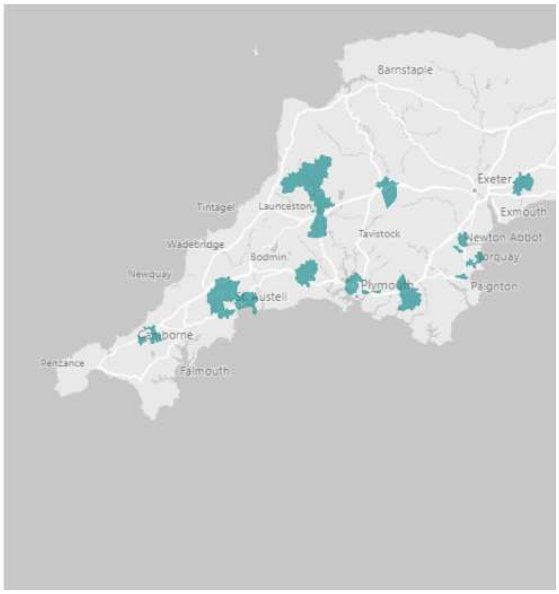

Figure 42 Younger Driver Postcode Districts 2018 - 2022

[22] 15% of the postcode information could not be analysed due to insufficient information

Figure 42 visualises the top 25 postcode districts of young car drivers involved in collisions between 2018-2022. The top 5 postcode districts were TQ12 1, PL26 7, PL26 8, EX22 6, and TQ7 6.

Collision High Harm Routes

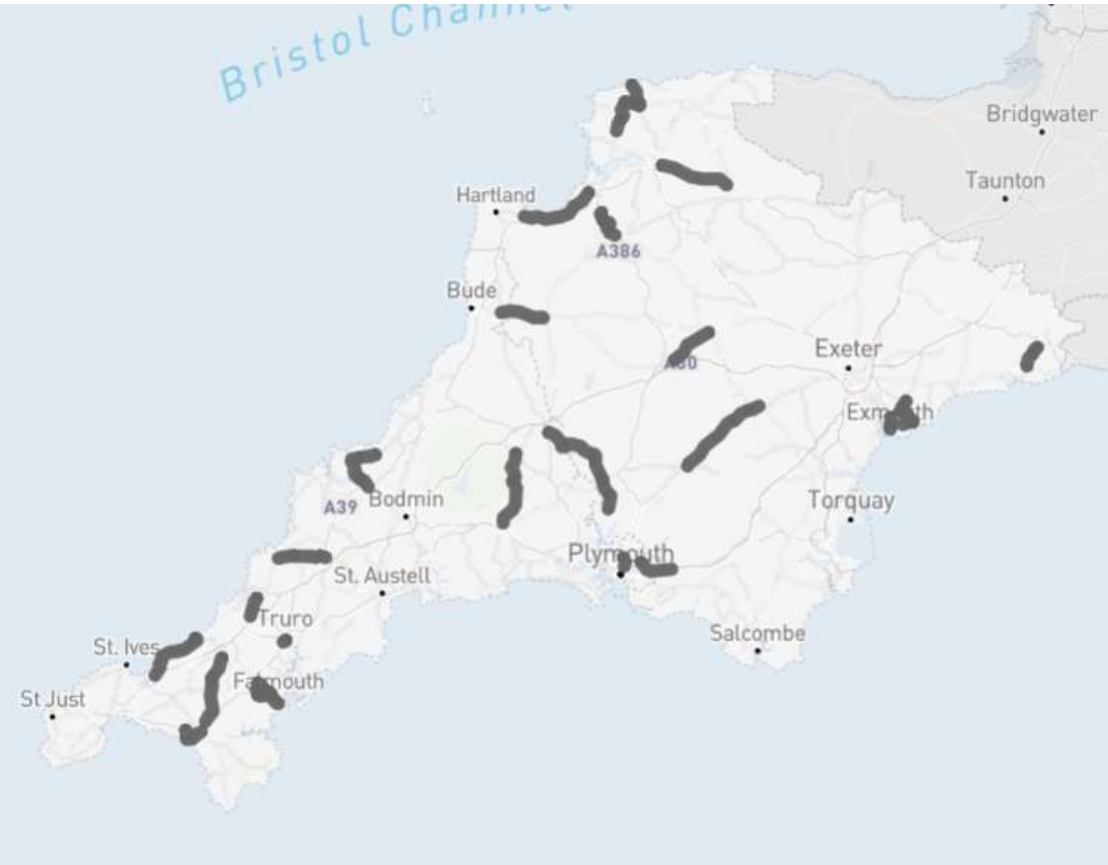

Figure 43 High Harm Routes for Young Car Drivers

The VZSW High Harm Routes dashboard highlights 37 key routes where young drivers are involved in more than 33% of collisions, the top 10 routes based on KSIs are:

- A3072 Red Post to Holsworthy – Green route
- A386 Landcross to Great Torrington – Amber route
- B3257 Bere Alston north to Gulworthy – Green route
- A361 Portmore Roundabout to Buckland Roundabout – Green route
- A39 Truro Morlaix Avenue to B3284 junction to A39 Arch Hill junction – Red route
- B3254 near Trenhome south to Liskeard – Green route
- B3301 Portreath B3300 (B3301 Hayle to Portreath B330) – Green route
- A361 Mullacott Cross to Knowle – Green route
- A376 Exmouth 30 limit to M&S Roundabout to Courtlands Cross – Red route
- B3297 B3280 near Nine Maidens Down south to Helston – Green route

In contrast to the postcode district map which shows the residency of drivers, the high harm routes visualises where young drivers have collisions.

6.2 Contributory Factors

Between 2018-2022 the 3 contributory factors most assigned to a young driver in a fatal or serious collision were:

Fatal

1. loss of control (18)
2. exceeding speed limit (10)
3. careless/reckless/in a hurry (9)

Serious

1. failed to look properly (101)
2. loss of control (95)
3. careless/reckless/in a hurry (88)

The six most common contributory factors assigned to another road user involved in a fatal collision with a young car driver were mostly pedestrian assigned contributory factors including:

1. wearing dark clothes at night
2. careless/reckless/in a hurry
3. dangerous action in the carriageway
4. disability or illness
5. failed to judge vehicles path or speed
6. impaired by alcohol

For serious collisions the top three contributory factors for other road users involved were:

1. failed to look properly (54)
2. failed to judge other persons path or speed (53)
3. careless/reckless/in a hurry (37)

Contributory factors can be grouped into 5 distinct groups; Human Factors, Road Environment, Vehicle Defects, Pedestrian Related and Other. The factors assigned in Young Driver collisions, across all road users, can be grouped as follows:

Factor Groups	Fatal Collisions	Serious Collisions
Human Factors	87%	84.5%
Road Environment	10%	13%
Vehicle Defects	2%	1.5%

Pedestrian Related	0%	0%
Other	0%	1%

Figure 44 the contributory factor groups for fatal and serious young driver collisions

The majority of Contributory Factors can be grouped under human factors. In contrast to older drivers there are a higher percentage of road environment contributory factors assigned in young driver collisions.

Collision Investigation Review

A review of 30 KSI collision investigation was undertaken. Key insights were that a number of young car drivers were found to be impaired by either drugs, alcohol or both. In addition, the emotional mood of some drivers indicated some mental health concerns.

7.0 VZSW ROAD USER THEME: Business Drivers

7.1 Overview Heavy Goods Vehicles (HGV) – vehicles weighing more than 3.5 tonnes

Figure 45 illustrates that between 2018 and 2022 HGV drivers were involved in 32 fatal, 84 serious and 309 slight collisions in D&C. These collisions resulted in 34 fatal injuries, 100 serious and 439 slight injuries.

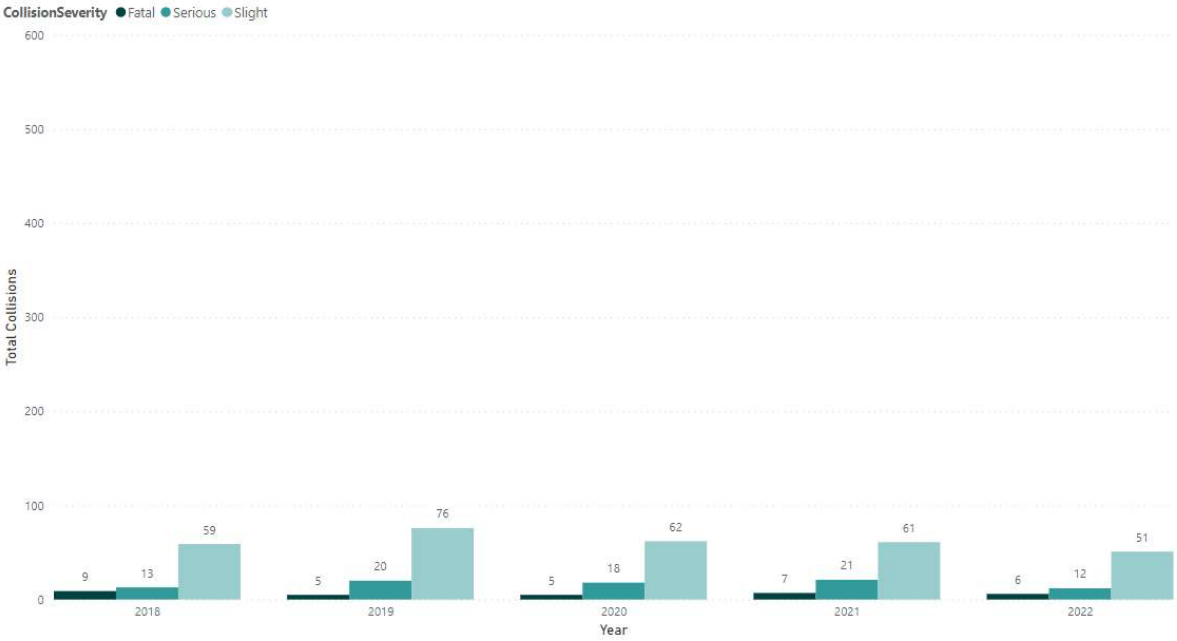

Figure 45 HGV Collision Severity 2018 - 2022

Between 2018 and 2022 HGV drivers/passengers accounted for 1 fatal casualty, 12 serious and 83 slight casualties.

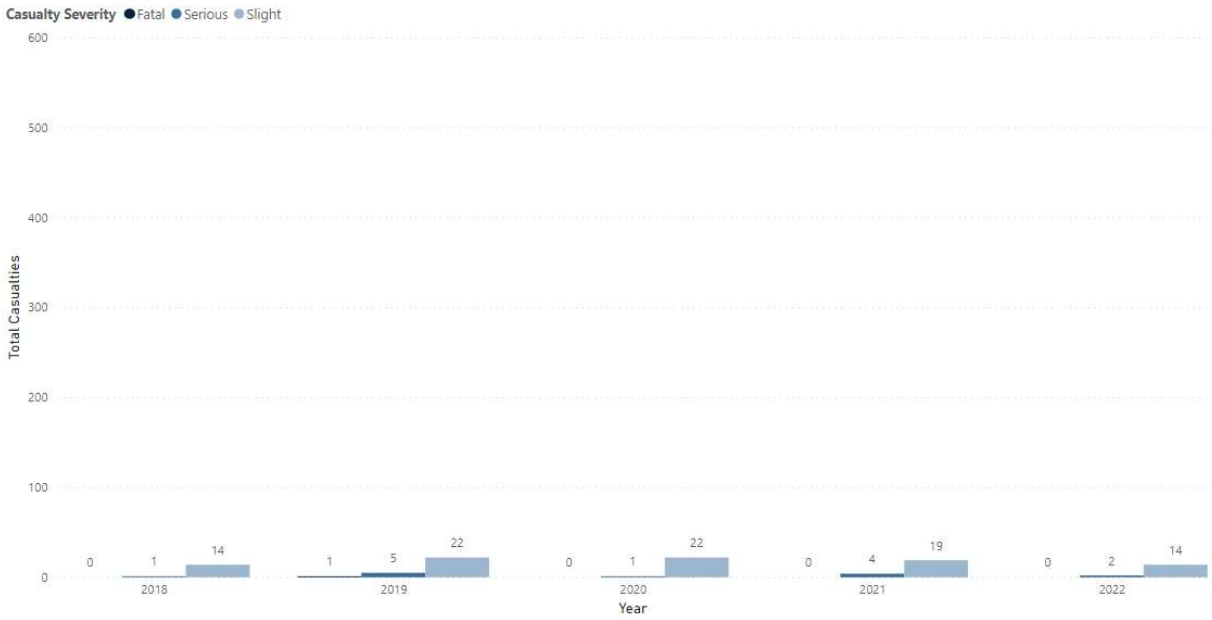

Figure 46 HGV Casualty Severity 2018 - 2022

The other KSI injuries in HGV driver collisions involved vulnerable road users including 6 pedestrian, 6 motorcyclist and 1 pedal cyclist fatalities. There were an additional 18 motorcyclist, 9 pedestrian and 6 pedal cycle serious injuries. Totalling 13 fatal and 33 seriously injured vulnerable road users. In addition, there were 16 car driver and passenger fatalities and 45 car driver and passenger serious injuries.

Casualty time of day

Day	0000-0259	0300-0559	0600-0859	0900-1159	1200-1459	1500-1759	1800-2059	2100-2359
Mon	0	7	7	15	10	12	4	2
Tue	4	0	9	8	8	12	1	0
Wed	2	0	9	14	12	7	4	1
Thu	0	3	12	11	15	8	1	1
Fri	2	1	10	15	11	8	0	1
Sat	2	2	3	2	4	1	0	1
Sun	0	1	1	1	2	1	0	1

Figure 47 HGV Casualties by Time of Day 2018 - 2022

Figure 42 highlights the days and times that HGV casualties happened between 2018-2022. The main period for casualties is Monday – Friday 9am and 6pm. In particular between 9am-12pm on Monday/Wednesday/Friday and between 12pm-3pm on Thursday.

Casualty distance from home

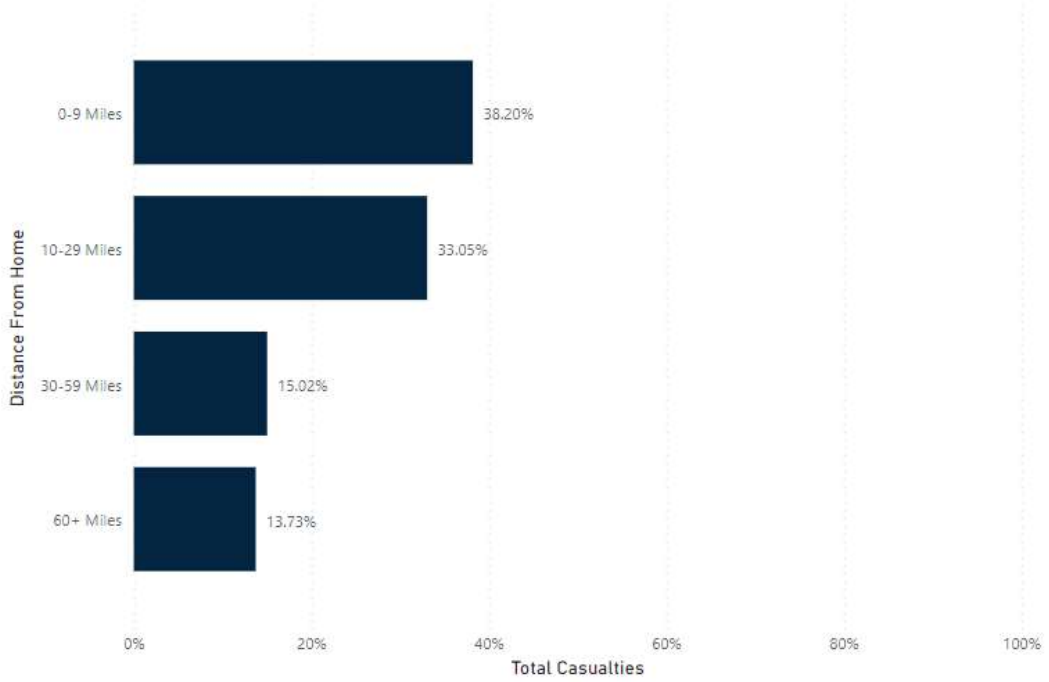

Figure 48 HGV Casualty by Distance from Home 2018 - 2022[23]

For all casualty severities between 2018-2022, figure 48 outlines that 38% of HGV drivers were within 9 miles of their home address, with a further 33% within 10-29 miles. HGV drivers are less likely to be within 9 miles of their home address compared to other road users in Devon and Cornwall. This likely reflects the nature of an HGV driving across long distances.

[23] 13% of the postcode information could not be analysed due to insufficient information

Driver residency

PostcodeSector	Total Collisions
EX1 3	10
EX39 4	10
TQ12 3	10
EX39 3	9
PL25 3	9
PL26 8	9
EX17 3	8
EX20 3	8
PL15 7	8
PL26 7	8
PL5 1	8
TQ12 1	8
TQ3 3	8
EX15 1	7
EX22 6	7
PL17 7	7
PL24 2	7
PL31 1	7
TR14 8	7
TR16 5	7
EX2 5	6
EX20 1	6
EX32 7	6
EX36 4	6
EX4 1	6
PL2 1	6
TQ12 5	6
TQ12 6	6
TQ2 7	6
TQ3 1	6
TR1 3	6

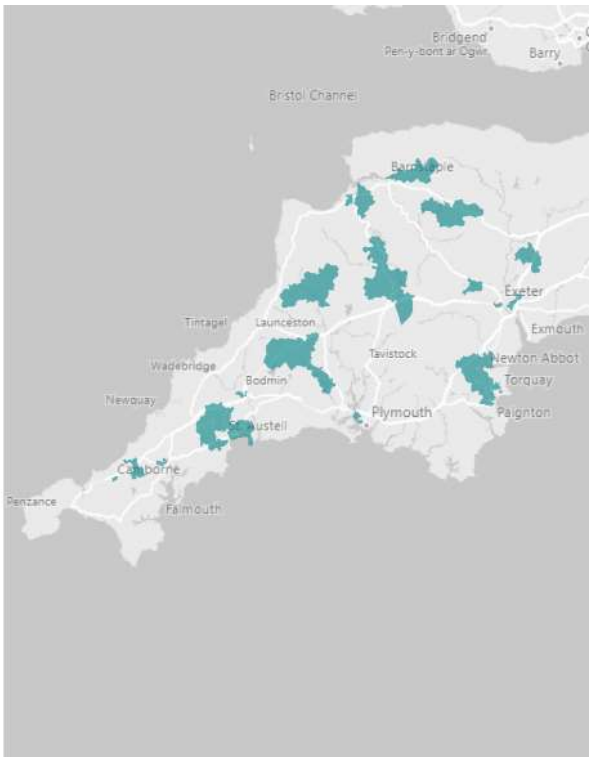

Figure 49 HGV Driver Postcode Districts 2018 - 2022

Figure 49 visualises the top 25 postcode districts of HGV drivers involved in collisions between 2018-2022. Although less likely to be within 9 miles of home, the top 25 residential postcodes for HGV drivers are all within Devon and Cornwall. The top 6 postcode districts were EX1 3, EX39 4, TQ12 3, EX39 3, PL25 3 and PL26 8.

7.2 Contributory Factors

Between 2018-2022 the 3 contributory factors most assigned to an HGV driver in a fatal or serious collision were:

Fatal

1. careless/reckless/in a hurry (4)
2. failed to look properly (4)
3. poor turn or manoeuvre (3)

Serious

1. loss of control (6)
2. failed to look properly (5)
3. following too close (4)

The three most common contributory factors assigned to another road user involved in collision with an HGV driver are:

Fatal

1. illness or disability (6)
2. failed to judge other persons path or speed (5)
3. loss of control (4)
4. failed to look properly (4)
5. (Pedestrian) failed to look properly (4)
6. (Pedestrian) disability or illness, mental or physical (4)

Serious

1. failed to look properly (26)
2. Loss of control (18)
3. careless/reckless/in a hurry (14)
4. slippery road (due to weather) (14)

Contributory factors can be grouped into 5 distinct groups; Human Factors, Road Environment, Vehicle Defects, Pedestrian Related and Other. The factors assigned in HGV collisions, across all road users, can be grouped as follows:

Factor Groups	Fatal Collisions	Serious Collisions
Human Factors	79%	79%
Road Environment	0%	7%
Vehicle Defects	14%	5%
Pedestrian Related	0%	0%
Other	7%	9%

Figure 50 the contributory factor groups for fatal and serious HGV driver collisions

The majority of contributory factors can be grouped under human factors, fatal collisions also have a large percentage of vehicle defect factors and serious collisions have a large percentage of road environment and vehicle defect factors. Both fatal and serious collisions have a large percentage of “other” contributory factors.

7.3 Overview Light Goods Vehicles (LGVs) – vehicles weighing less than 3.5 tonnes

Between 2018 and 2022 LGV drivers were involved in 37 fatal, 3591 serious and 1,366 slight collisions in D&C. These collisions resulted in 38 fatal injuries, 405 serious and 2,112 slight injuries, see figure 51.

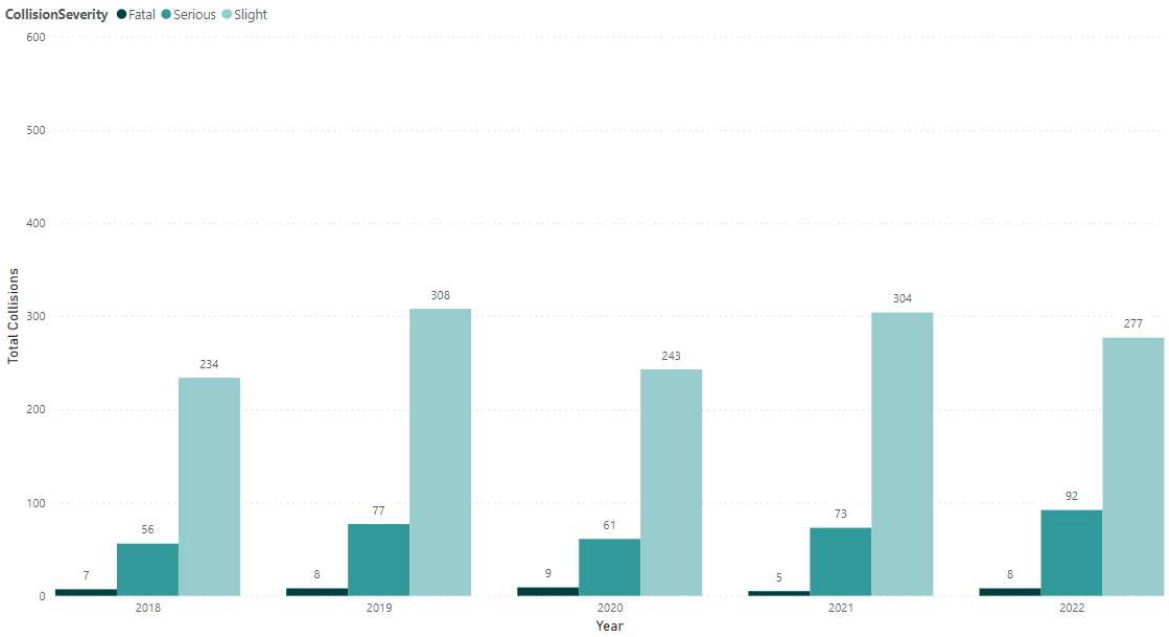

Figure 51 LGV Collision Severity 2018 - 2022

Between 2018 and 2022 LGV drivers/passengers accounted for 4 fatal casualty, 89 serious and 730 slight casualties, see figure 52.

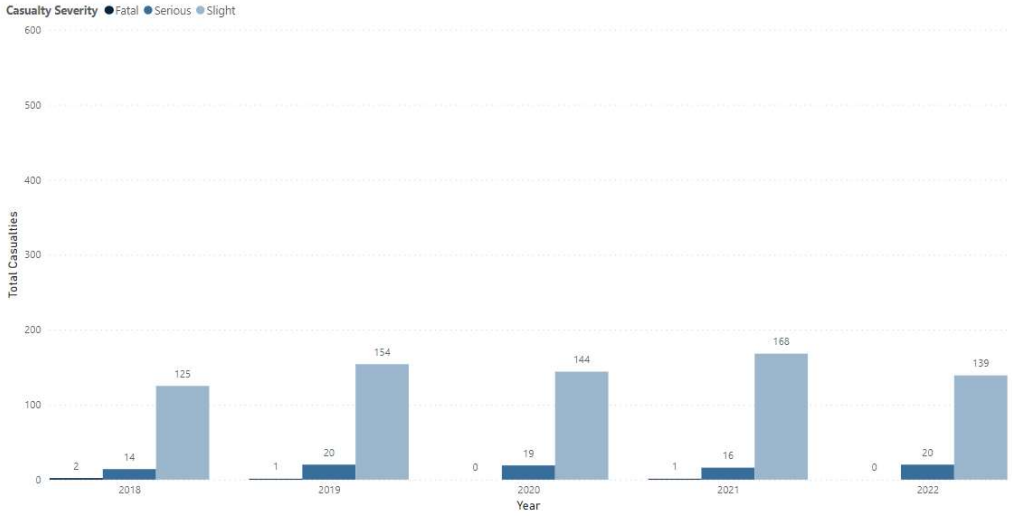

Figure 52 LGV Casualty Severity 2018 - 2022

The other KSI injuries in LGV driver collisions involved vulnerable road users including 9 motorcyclist, 9 pedestrian and 2 pedal cyclist fatalities. There were an additional 84 motorcyclist, 48 pedestrian and 47 pedal cyclist serious injuries. Totalling 20 fatal and 179 seriously injured vulnerable road users. In addition, there were 12 car driver and passenger fatalities and 130 car driver and passenger serious injuries.

Casualties time of day

Day	0000-0259	0300-0559	0600-0859	0900-1159	1200-1459	1500-1759	1800-2059	2100-2359
Mon	2	6	46	59	47	73	18	9
Tue	5	4	54	56	43	47	24	8
Wed	6	2	55	42	50	65	13	5
Thu	7	9	58	46	40	76	20	3
Fri	9	6	32	51	64	53	24	8
Sat	13	4	24	31	36	34	20	8
Sun	21	4	11	16	24	20	12	9

Figure 53 LGV Casualties by Time of Day 2018 - 2022

Figure 47 highlights the days and times that LGV casualties happened between 2018-2022. The main period for casualties is Monday – Friday 9am and 6pm. In particular between 3pm-6pm on Monday, Wednesday and Thursday, and between 12pm-3pm on Friday.

Casualty distance from home

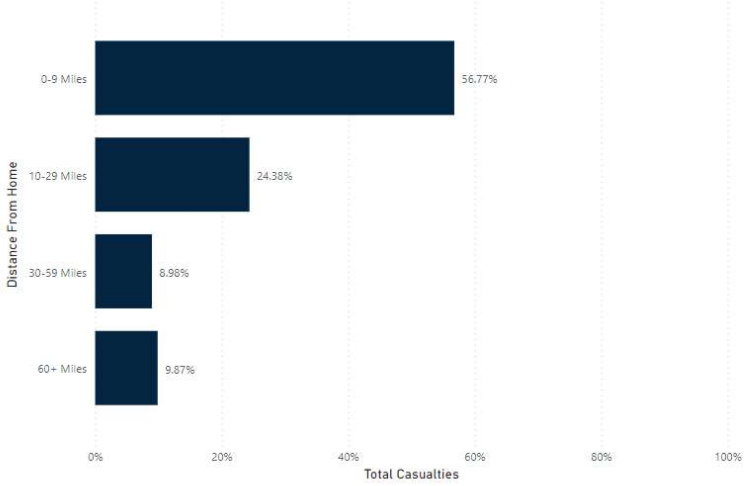

Figure 54 LGV Casualty by Distance from Home 2018 - 2022[24]

For all casualty severities between 2018-2022, figure 48 outlines that 57% of LGV drivers were within 9 miles of their home address, with a further 24% within 10-29 miles. LGV drivers are less likely to be within 9 miles of their home address compared to other road users in Devon and Cornwall. As with HGV drivers this likely reflects the nature of LGV driving/use for business.

[24] 13% of the postcode information could not be analysed due to insufficient information

Driver residency

PostcodeSector	Total Collisions
PL26 8	39
TQ12 1	29
TQ2 7	29
TQ3 3	29
PL2 3	28
PL14 3	27
TR7 2	27
PL6 5	25
TR15 3	24
EX31 3	23
PL2 2	23
EX15 1	22
EX4 8	22
PL5 2	22
PL6 6	22
TQ12 3	22
EX1 3	21
EX20 1	21
PL5 4	21
TQ1 4	21
TR9 6	21
PL2 1	20
PL26 7	20
PL5 1	20
TQ12 4	20
TQ12 6	20

Figure 55 LGV Driver Postcode Districts 2018 - 2022

Figure 55 visualises the top 25 postcode districts of LGV drivers involved in collisions between 2018-2022. Although less likely to be within 9 miles of home, the top 25 residential postcodes for LGV drivers are all within Devon and Cornwall. The top 5 postcode districts were PL26 8, TQ12 1, TQ2 7, TQ3 3 and PL2 3.

7.4 Contributory Factors

Between 2018-2022 the 3 contributory factors most assigned to a LGV driver in a fatal or collision were:

Fatal

1. failed to look properly (13)
2. failed to judge other persons path or speed (6)
3. careless/reckless/in a hurry (4)
4. fatigue (4)

Serious

1. failed to look properly (82)
2. careless/reckless/in a hurry (39)
3. failed to judge other persons path or speed (32)

The three most common contributory factors assigned to another road user involved in a fatal or collision with an LGV driver were:

Fatal

1. poor turn or manoeuvre (8)

2. loss of control (7)
3. (pedestrian) failed to look (5)
4. failed to judge other persons path or speed (5)
5. illness or disability, mental or physical (5)

Serious

1. failed to look properly (61)
2. failed to judge other persons path or speed (53)
3. slippery road (due to weather) (34)

Contributory factors can be grouped into 5 distinct groups; Human Factors, Road Environment, Vehicle Defects, Pedestrian Related and Other. The factors assigned in LGV collisions, across all road users, can be grouped as follows:

Factor Groups	Fatal Collisions	Serious Collisions
Human Factors	83.5%	81.5%
Road Environment	7%	13%
Vehicle Defects	2.5%	2%
Pedestrian Related	7%	0%
Other	0%	3.5%

Figure 56 the contributory factor groups for fatal and serious LGV driver collisions

The majority of contributory factors can be grouped under human factors, a large percentage of fatal LGV collisions have contributory factors under the road environment and pedestrian related groups. A large percentage of serious collisions have contributory factors grouped under the road environment group.

7.5 High Harm routes for all goods vehicles

Collision High Harm Routes

Figure 57 High Harm Routes for Goods vehicle drivers

The VZSW High Harm Routes dashboard highlights 12 key routes where goods vehicle drivers are involved in more than 33% of collisions, these routes are:

- A30 Chybucca Wind Farm Jct B3284 south west to A390 Chiverton Cross RAB – Green
- B3297 B3280 near Nine Maidens Down south to Helston – Green
- M5 Exeter Jct 29 to Jct 31 – Amber
- A3052 Sidford to Beer jct B3174 – Amber
- A30 Hayle Loggans Moor RAB east to end of single carriageway section nr Redruth – Amber
- M5 Exeter Jct 29 north to county boundary – Green
- A30 Boxheater Jct along Zelah Bypass to Jct B3285 Chybucca – Amber
- A30 Honiton to A30/A3030 Jct – Amber
- A30 St Erth RAB to south west to end of 40 section Canonstown – Amber
- A379 Elburton RAB east to Yealmpton Jct B3186 – Green
- A39 Carland A30 RAB south to Truro 40mph – Green
- B3178 Exmouth Rolle RAB to Knowle Hill RAB jct B31– Green

In contrast to the postcode district map which shows the residency of drivers, the high harm routes visualises where good vehicles have collisions.

8.0 VZSW ROAD USER THEME: MOTORCYCLISTS

8.1 Overview Motorcyclists riding motorcycles under 125cc

Figure 58 shows that between 2018 and 2022 Motorcyclists (under 125cc) were involved in 16 fatal, 410 serious and 830 slight collisions in D&C. In total motorcyclists (under 125cc) had 3 single vehicle fatal and 96 serious single vehicle collisions.

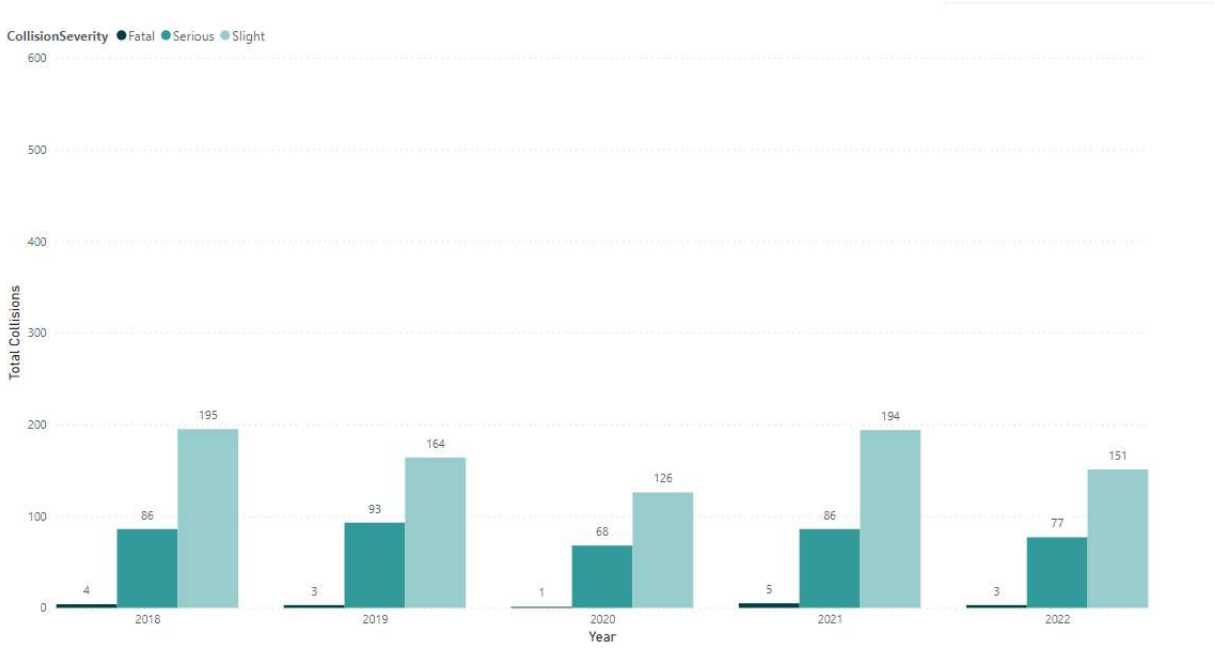

Figure 58 M/C Under 125cc Collision Severity 2018 - 2022

Between 2018 and 2022 motorcyclists (under 125cc) accounted for 14 fatal, 410 serious and 830 slight casualties, see figure 59. Motorcyclists (under 125cc) were therefore involved in 7% of fatal, 13% of serious collisions and 7% of slight collisions. Motorcyclists (under 125cc) were 6% of fatal, 12% of serious and 5% of slight casualties.

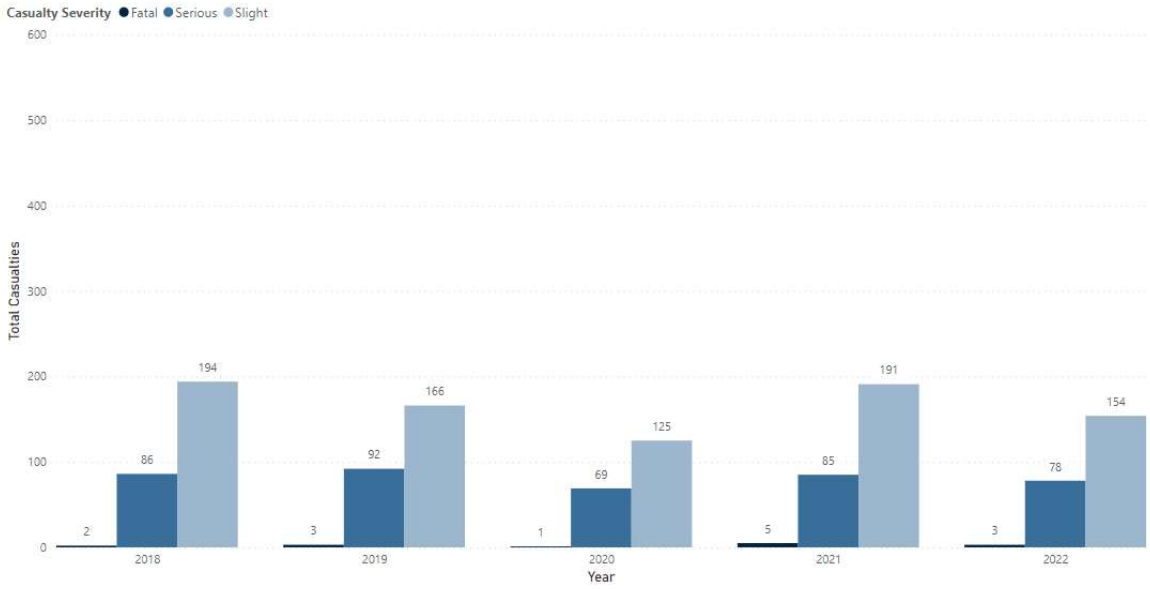

Figure 59 M/C Under 125cc Casualty Severity 2018 – 2022

Casualty time of day

Day	0000-0259	0300-0559	0600-0859	0900-1159	1200-1459	1500-1759	1800-2059	2100-2359
Mon	13	9	62	44	67	112	66	35
Tue	8	6	71	48	53	126	95	46
Wed	2	3	67	71	59	128	79	36
Thu	7	10	69	48	73	114	77	38
Fri	13	5	65	51	78	129	95	50
Sat	15	3	19	45	66	79	65	48
Sun	11	5	17	41	59	72	57	31

Figure 60 M/C Under 125cc Casualties by Time of Day 2018 – 2022

Figure 60 highlights the days and times that motorcycle (under 125cc) casualties happened between 2018-2022. The main period for casualties is between 3pm and 6pm on weekdays.

Casualty distance from home

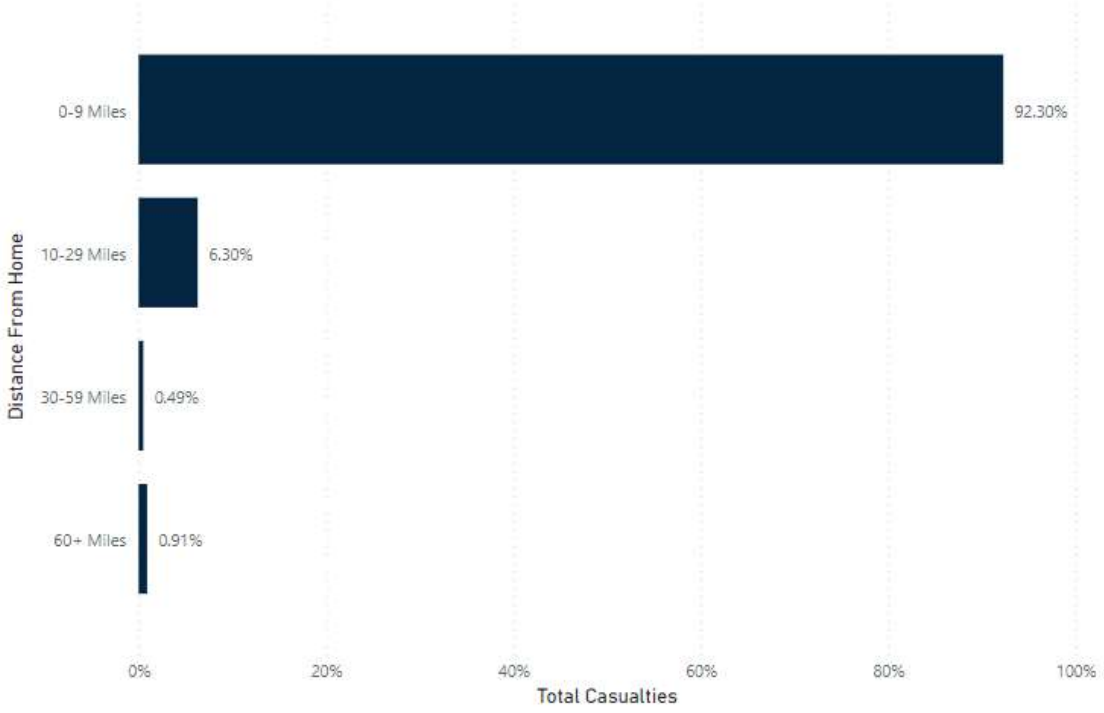

Figure 61 M/C Under 125cc Casualty by Distance from Home 2018 - 2022[25]

For all casualty severities between 2018-2022, figure 61 outlines that 92% of motorcycle riders (under 125cc) were within 9 miles of their home address, with a further 6% within 10-29 miles.

Rider residency

PostcodeSector	Total Collisions
TQ3 3	50
PL2 2	38
PL5 1	37
PL2 1	36
PL6 5	33
PL5 2	30
PL9 9	30
PL26 8	29
PL3 6	27
EX4 2	26
PL26 7	25
PL4 8	25
PL7 2	25
PL1 5	24
PL4 9	24
PL1 4	23
EX1 3	22
TQ12 1	22
EX4 1	20
PL5 3	20
TQ2 7	20
TQ5 9	20
EX2 6	19
PL25 3	19
TQ2 8	19
TR14 8	19

Figure 62 M/C Under 125cc Postcode Districts 2018 - 2022

[25] 15% of the postcode information could not be analysed due to insufficient information

Figure 62 visualises the top 25 postcode districts of motorcycle riders (under 125cc) involved in collisions between 2018-2022. The top 5 postcode districts are TQ3 3, PL2 2, PL5 1, PL2 1 and PL6 5.

8.2 Contributory Factors

Between 2018-2022 the 3 contributory factors most assigned to a motorcyclist (under 125cc) in a fatal or serious collision were:

Fatal

1. loss of control (6)
2. exceeding speed limit (5)
3. failed to look properly (4)
4. careless/reckless/in a hurry (4)

Serious

1. inexperienced or learner driver/rider (90)
2. loss of control (65)
3. failed to judge other persons path or speed (63)

The two most common contributory factors assigned to another road user involved in a fatal or serious collision with a motorcyclist (under 125cc) were

Fatal

1. careless/reckless/in a hurry (5)
2. failed to look properly (4)

Serious

1. failed to look properly (141)
2. failed to judge other persons path or speed (55)
3. poor turn or manoeuvre (38)

Contributory factors can be grouped into 5 distinct groups; Human Factors, Road Environment, Vehicle Defects, Pedestrian Related and Other. The factors assigned in Motorcycle (under 125cc) collisions, across all road users, can be grouped as follows:

Factor Groups	Fatal Collisions	Serious Collisions
Human Factors	91%	83%
Road Environment	8%	14.5%
Vehicle Defects	0%	1%
Pedestrian Related	0%	0%
Other	1%	1.5%

Figure 63 the contributory factor groups for fatal and serious motorcycle rider collisions

The majority of contributory factors can be group under human factors, there are also a large percentage of road environment factors for fatal and serious collisions.

Manoeuvres and junctions

The four most common manoeuvres for motorcyclists (under 125cc) in KSI motorcycle collisions are going ahead other (233), going ahead left-hand bend (44), going ahead right-hand bend (42) and overtaking moving vehicle on offside (35). For other vehicles involved in KSI motorcycle collisions the four most common manoeuvres are turning right (109), going ahead other (64), starting (30) and going ahead right-hand bend (28). In motorcycle (under 125cc) collisions 43% of vehicles are not within 20 metres of a junction, 22% are approaching a junction and 18% are mid junction on a roundabout or main road.

8.3 Overview Motorcyclists riding motorcycles over 125cc

Figure 64 shows that between 2018 and 2022 Motorcyclists (over 125cc) were involved in 43 fatal, 502 serious and 530 slight collisions in D&C. In total motorcyclists (over 125cc) had 7 single vehicle fatal and 155 serious single vehicle collisions.

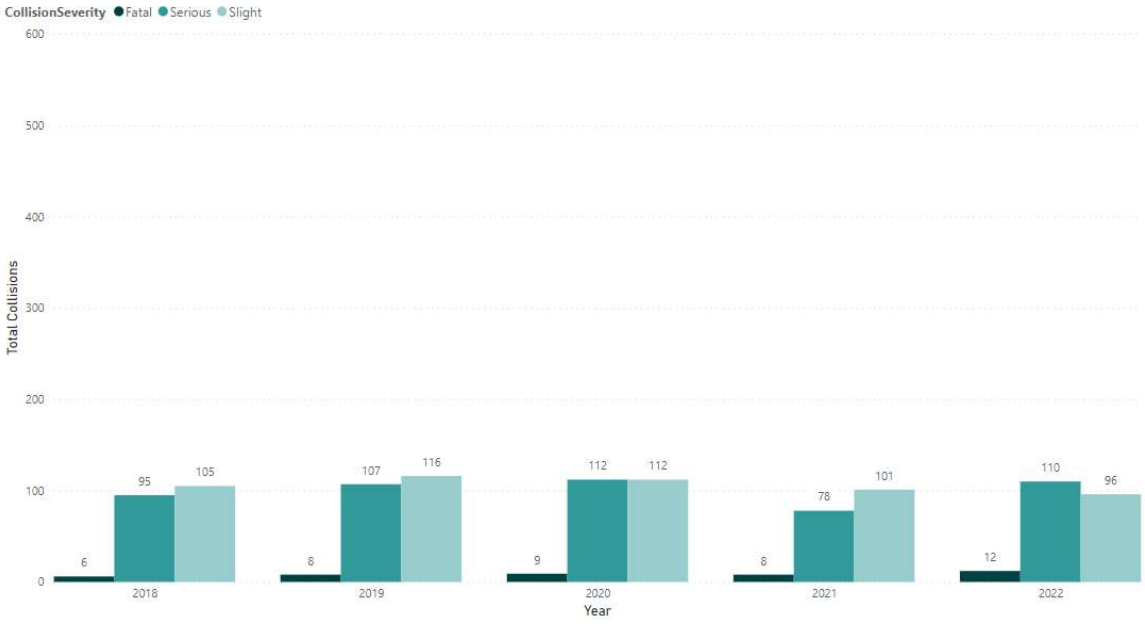

Figure 64 M/C Over 125cc Collision Severity 2018 - 2022

Figure 65 shows that between 2018 and 2022 motorcyclists (over 125cc) accounted for 42 fatal casualty, 505 serious and 555 slight casualties. Motorcyclists (over 125cc) were therefore involved in 18.5% of fatal, 16% of serious collisions and 5% of slight collisions. Motorcyclists (over 125cc) were 17% of fatal, 14% of serious and 3% of slight casualties.

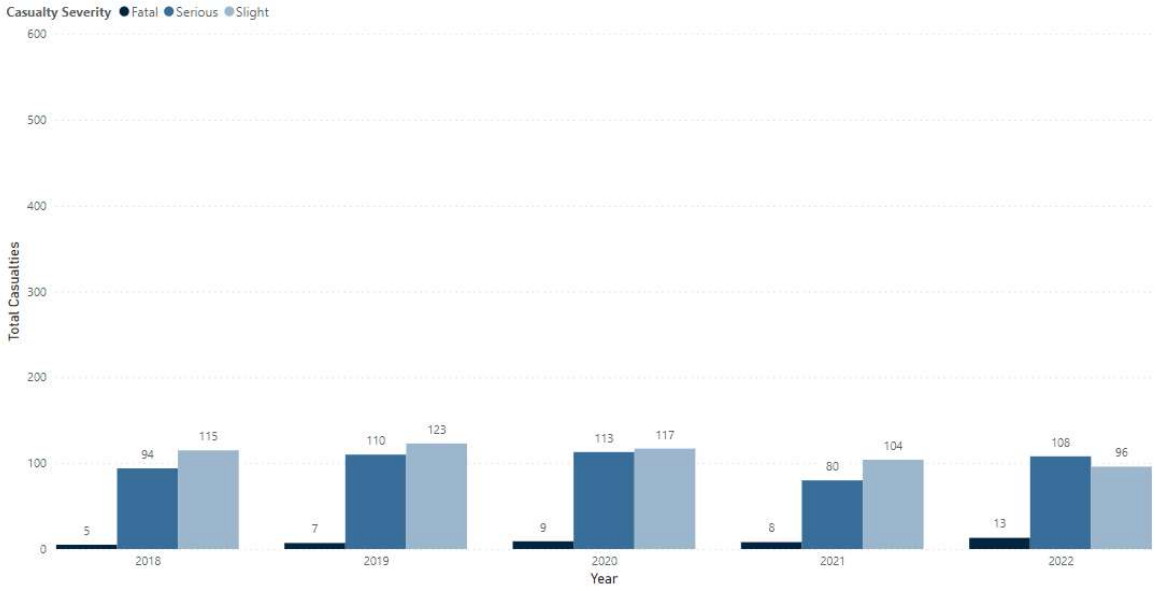

Figure 65 M/C Over 125cc Casualty Severity 2018 - 2022

Casualties time of day

Day	0000-0259	0300-0559	0600-0859	0900-1159	1200-1459	1500-1759	1800-2059	2100-2359
Mon	4	4	54	42	62	94	48	16
Tue	0	2	46	44	65	111	53	23
Wed	2	2	51	40	44	103	68	18
Thu	6	3	38	46	73	100	60	24
Fri	1	6	33	46	79	119	61	22
Sat	5	3	16	82	116	109	55	22
Sun	7	7	11	83	138	130	37	11

Figure 66 M/C Over 125cc Casualties by Time of Day 2018 - 2022

Figure 66 highlights the days and times that motorcycle (over 125cc) casualties happened between 2018-2022. The main period for casualties is between 3pm and 6pm on weekdays and between 9am and 6pm on weekends. In contrast to motorcycles under 125cc, casualties involving motorcycles over 125cc peak on weekends as well as during commute periods on weekdays.

Casualty distance from home

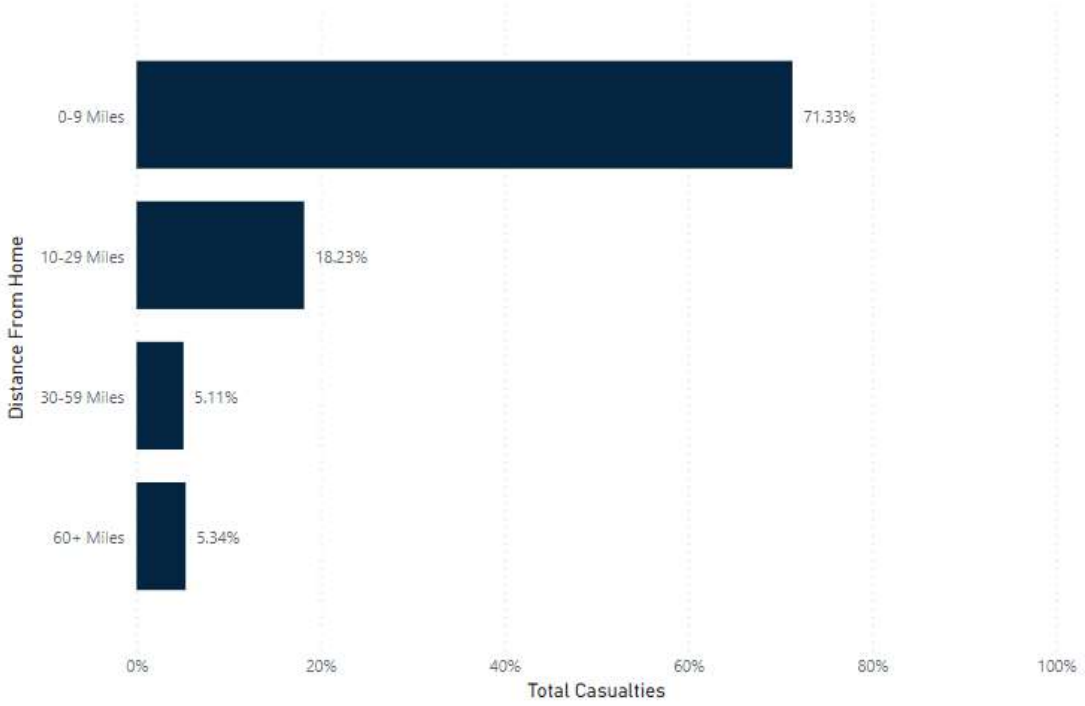

Figure 67 M/C Over 125cc Casualty by Distance from Home 2018 - 2022[26]

For all casualty severities between 2018-2022, figures 67 shows that 71% of motorcycle riders (over 125cc) were within 9 miles of their home address, with a further 18% within 10-29 miles.

[26] 13% of postcodes could not be analysed due to insufficient information

Rider residency

PostcodeSector	Total Collisions
TQ12 1	32
PL6 5	30
TQ3 3	29
PL9 9	28
PL3 6	27
PL5 2	23
PL6 6	22
EX4 2	20
PL5 3	20
TQ12 3	20
PL4 7	19
TQ12 4	19
EX1 3	18
PL5 4	18
PL6 8	18
PL7 2	18
TQ2 7	18
PL18 9	17
PL26 8	17
PL3 5	17
TR9 6	17
PL26 7	16
PL5 1	16
EX4 8	15
PL14 3	15
PL7 1	15
TR7 1	15

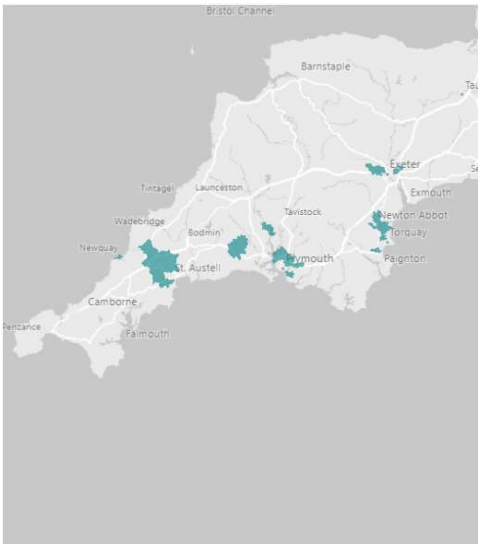

Figure 68 M/C Over 125cc Postcode Districts 2018 - 2022

Figure 68 visualises the top 25 postcode districts of motorcycle riders (over 125cc) involved in collisions between 2018-2022. The top 5 postcode districts were TQ12 1, PL6 5, TQ3 3, PL9 9 and PL3 6.

8.4 Contributory Factors

Between 2018-2022 the 3 contributory factors most assigned to a motorcyclist (over 125cc) in a fatal or serious collision were:

Fatal

1. loss of control (19)
2. exceeding speed limit (18)
3. poor turn or manoeuvre (14)

Serious

1. loss of control (119)
2. failed to look properly (83)
3. failed to judge other persons path or speed (78)

The three most common contributory factors assigned to another road user involved in a fatal or serious collision with a motorcyclist (over 125cc) were:

Fatal

1. failed to look properly (10)
2. poor turn lor manoeuvre (8)

3. failed to judge other persons path or speed (6)

Serious

1. failed to look properly (136)
2. poor turn or manoeuvre (53)
3. failed to judge other persons path or speed (52)

Contributory factors can be grouped into 5 distinct groups; Human Factors, Road Environment, Vehicle Defects, Pedestrian Related and Other. The factors assigned in Motorcycle collisions, across all road users, can be grouped as follows:

Factor Groups	**Fatal Collisions**	**Serious Collisions**
Human Factors	90%	85%
Road Environment	6%	12%
Vehicle Defects	0.5%	1.5%
Pedestrian Related	0.5%	0%
Other	3%	1.5%

Figure 69 the contributory factor groups for fatal and serious motorcycle rider collisions

The majority of contributory factors can be grouped under human factors, there are also a large percentage of road environment factors for fatal and serious collisions.

Manoeuvres and junctions

The four most common manoeuvres for motorcyclists in KSI motorcycle collisions are going ahead other (262), going ahead right hand bend (76), going ahead left hand bend (73) and overtaking moving vehicle on the offside (71). The four most common manoeuvres for other vehicles involved in KSI motorcycle collisions are turning right (142), going ahead other (100), going ahead right bend (37), stopping (26) and starting (26). In motorcycle collisions 45% of vehicles are not within 20 metres of a junction, 22% are approaching a junction and 18.5% are mid junction on a roundabout or main road.

8.5 High Harm Routes for all motorcycles

Collision High Harm Routes

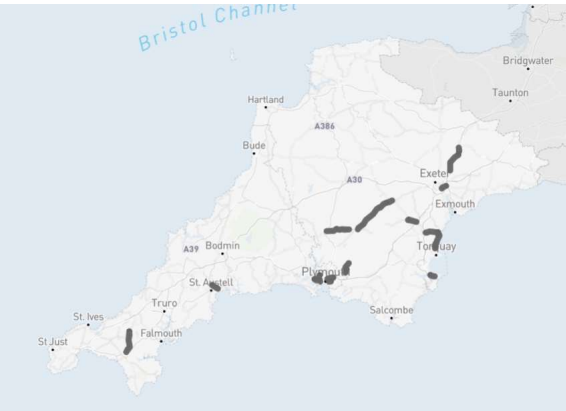

Figure 70 High Harm Routes for Motorcyclists (all ccs)

The VZSW High Harm Routes dashboard highlights 20 key routes where motorcyclists (all cc) involved in more than 33% of collisions these are, the top 10 routes are:

- B3417 Lee Moor to start of 40 Plympton – Amber route
- B3344 Bovey Tracy to Chudleigh Knighton – Red route
- A391 St Austell northwest to junction with B3374 Carluddon – Amber route
- B3181 Broadclyst to Cullompton – Green route
- B3212 Two Bridges to Moretonhampstead – Green route
- A381 Teignmouth to Newton Abbott A380 junction – Amber route
- A379 Teignmouth Shaldon Bridge to Torbay junction B3199 – Amber route
- B3214 Plymouth Curry Corner east of junction A374 Laira – Red route
- B3297 B3280 near Nine Maidens Down south to Helston – Green route
- A374 Union Street Plymouth from Stonehouse roundabout to Martin Street roundabout – Red route

In contrast to the postcode district map which shows the residency of riders, the high harm routes visualises where motorcyclists have collisions.

Collision Investigation Review

A review of 60 KSI motorcyclist collisions investigation was undertaken. Key insights include a large number of riders being unfamiliar with the motorcycle that they were riding. Further insights include a number of riders were impaired by alcohol, drugs or both and some riders were not wearing full personal protective equipment.

9.0 VZSW ROAD USER THEME: PEDAL CYCLISTS

9.1 Overview

Figure 71 shows that between 2018 and 2022 pedal cyclists were involved in 9 fatal, 413 serious and 1,070 slight collisions in D&C. These collisions resulted in 9 fatal injuries, 418 serious and 1,132 slight injuries. In total cyclists had 1 single vehicle fatal and 21 serious single vehicle collisions.

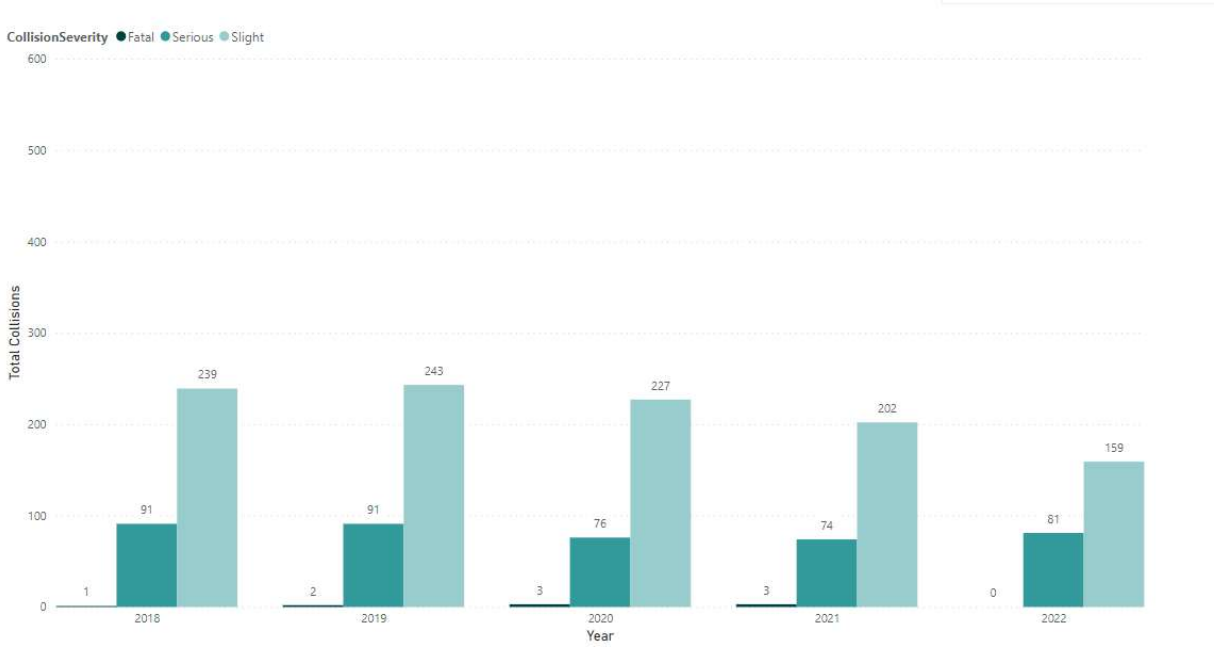

Figure 71 Pedal Cycles Collision Severity 2018 - 2022

Figure 72 illustrates that between 2018 and 2022 pedal cyclists accounted for 9 fatal casualty, 407 serious and 1,073 slight casualties. Most injuries were therefore injuries to the pedal cyclists themselves. Pedal cyclists were therefore involved in 4% of fatal, 13% of serious collisions and 9% of slight collisions. Pedal cyclists were 4% of fatal, 11% of serious and 6% of slight casualties.

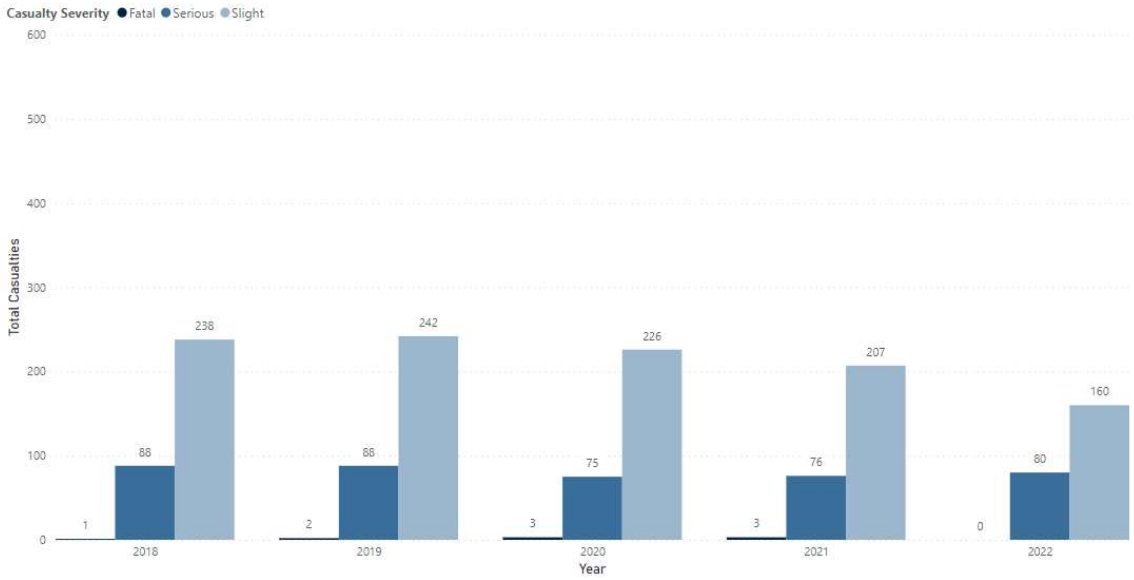

Figure 72 Pedal Cycle Casualty Severity 2018 – 2022

Casualties time of day

Day	0000-0259	0300-0559	0600-0859	0900-1159	1200-1459	1500-1759	1800-2059	2100-2359
Mon	0	7	103	58	59	150	75	12
Tue	1	4	146	74	81	163	97	15
Wed	5	6	121	75	72	164	90	15
Thu	1	4	128	82	66	168	89	17
Fri	2	4	93	79	76	150	67	12
Sat	5	2	43	105	92	99	44	7
Sun	1	0	21	106	95	80	37	17

Figure 73 Pedal Cycle Casualties by Time of Day 2018 - 2022

Figure 73 highlights the days and times that cyclist casualties happened between 2018-2022. The main period for casualties is between 6am and 9am and 3pm and 6pm on weekdays and between 9am and 6pm on weekends. Likely reflecting both the commuter period of the weekday and also leisure periods on the weekend.

Casualty distance from home

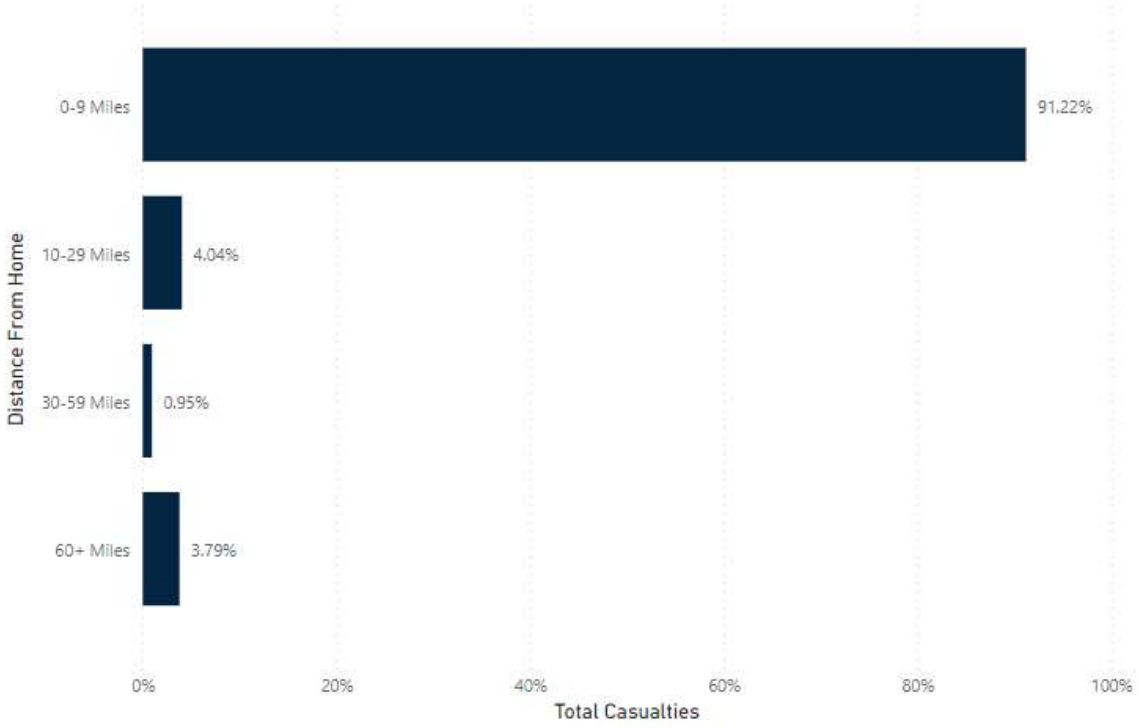

Figure 74 Pedal Cycle Casualty by Distance from Home 2018 - 2022[27]

For all casualty severities between 2018-2022, figure 74 shows that 91% of cyclists were within 9 miles of their home address, with a further 4% within 10-29 miles.

[27] 16% of postcodes could not be analysed due to insufficient information

Rider residency

PostcodeSector	Total Collisions
EX1 2	57
EX1 3	53
PL4 8	34
EX2 9	33
PL4 7	33
EX2 5	32
PL6 5	31
PL3 4	29
EX4 1	28
TQ3 3	28
PL12 4	27
PL5 1	27
PL7 2	27
EX4 2	26
EX4 6	26
EX6 8	26
PL1 5	26
PL3 6	26
PL9 8	24
EX2 7	23
EX3 0	23
EX31 3	23
EX4 8	23
PL2 1	23
PL2 3	23
PL7 4	23
TQ2 7	23

Figure 75 Pedal Cycle Postcode Districts 2018 - 2022

Figure 75 visualises the top 25 postcode districts of cycle riders involved in collisions between 2018-2022. The top 5 postcode districts were EX1 2, EX1 3, PL4 8, EX2 9 and PL4 7.

Collision High Harm Routes

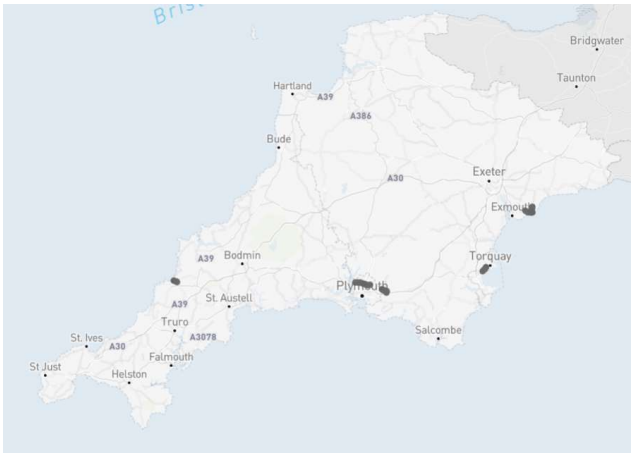

Figure 76 High Harm Routes for Cyclists

The VZSW High Harm Routes dashboard highlights 7 key routes where cyclists were involved in at least 33% of collisions these are:

- B3178 Knowle hill through Budleigh to East Budleigh – Green route
- A3022 Paignton Preston to Torre Abbey Sands Torquay – Red route
- A374 Plymouth Cattedown roundabout west of Charles Cross – Red route
- A3058 Newquay Henver Road from Porth junction to B3276 to A3059 junction – Amber route

- B3413 Plymouth Crownhill Road Crownhill East to Forder Valley – Amber route
- B3416 Plympton roundabout with B3417 east to A38 Deep Lane junction – Red route
- B3413 Plymouth Crownhill Road to Crownhill west to St Budeaux – Red route

In contrast to the postcode district map which shows the residency of riders, the high harm routes visualises where cyclists have collisions.

8.2 Contributory Factors

Between 2018-2022 the 3 contributory factors most assigned to a pedal cyclist in a fatal or serious collision were:

Fatal

1. failed to judge other persons path or speed (3)
2. loss of control (3)
3. failed to look properly (2)

Serious

1. failed to look properly (58)
2. failed to judge other persons path or speed (41)
3. careless/reckless/in a hurry (34)

The three most common contributory factors assigned to another road user involved in a fatal or serious collision with a pedal cyclist were:

Fatal

1. careless/reckless/in a hurry (3)
2. failed to look properly (3)
3. impaired by alcohol (2)

Serious

1. failed to look properly (207)
2. failed to judge other persons path or speed (66)
3. careless/reckless/in a hurry (52)

Contributory factors can be grouped into 5 distinct groups; Human Factors, Road Environment, Vehicle Defects, Pedestrian Related and Other. The factors assigned in pedal cycle collisions, across all road users, can be grouped as follows:

Factor Groups	Fatal Collisions	Serious Collisions
Human Factors	67%	83%
Road Environment	15%	9%
Vehicle Defects	9%	3%

Pedestrian Related	6%	2%
Other	3%	3%

Figure 77 the contributory factor groups for fatal and serious Cyclist rider collisions

The majority of contributory factors can be grouped into human factors, with fatal collisions the percentage of human factors is lower than with the other VZSW road user themes. Cyclists had a large percentage of road environment and vehicle defect factors assigned in fatal collisions and road environment factors assigned in serious collisions.

Manoeuvres and junctions

The four most common manoeuvres for pedal cyclists in KSI pedal cycle collisions are going ahead other (318), going ahead left hand bend (25) going ahead right bend (20) and turning right (15). The four most common manoeuvres of other vehicles involved in KSI pedal cycle collisions are going ahead other (126), turning right (72), starting (49) and turning left (38). In pedal cycle collisions 37% of vehicles are not within 20 metres of a junction, 22.5% are approaching a junction, 22.5% are mid junction on a roundabout or main road and 6% are entering a roundabout.

10.0 VZSW ROAD USER THEME: PEDESTRIANS

10.1 Overview

Figure 78 indicates that between 2018 and 2022 pedestrians were involved in 53 fatal, 553 serious and 1,511 slight collisions in D&C. These collisions resulted in 53 fatal injuries, 570 serious and 1,669 slight injuries.

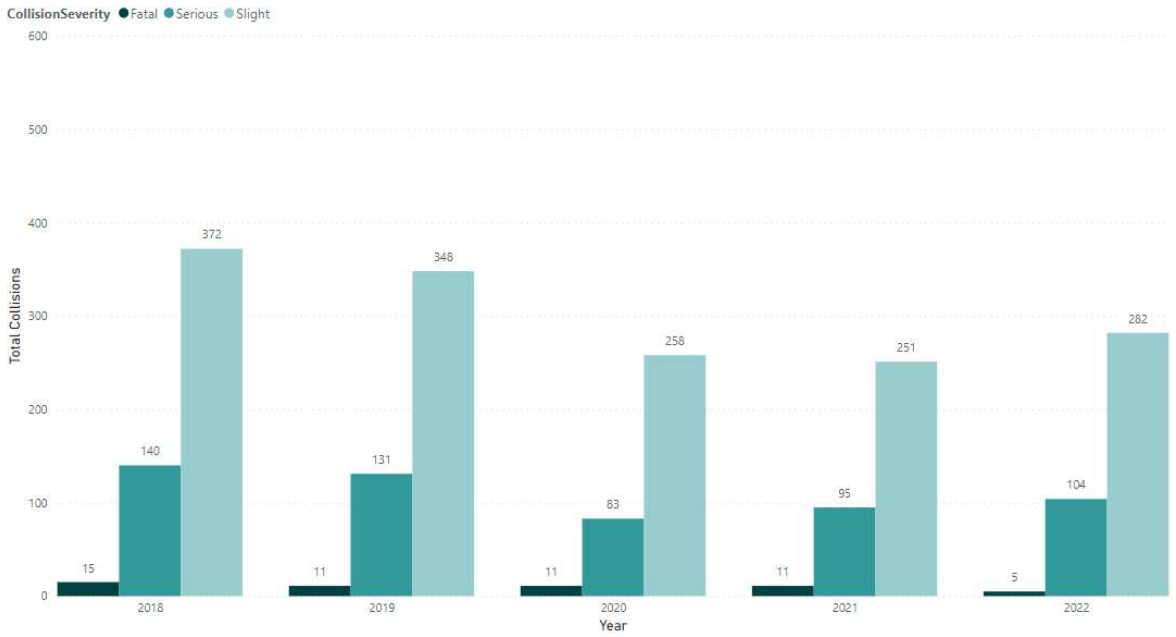

Figure 78 Pedestrian Collision Severity 2018 - 2022

Between 2018 and 2022, figure 79 shows that pedestrians accounted for 52 fatal casualty, 558 serious and 1,578 slight casualties. Most injuries were therefore injuries to the pedestrian themselves. Pedestrians were therefore involved in 23% of fatal, 17% of serious collisions and 13% of slight collisions. Pedestrians were 21% of fatal, 16% of serious and 9% of slight casualties.

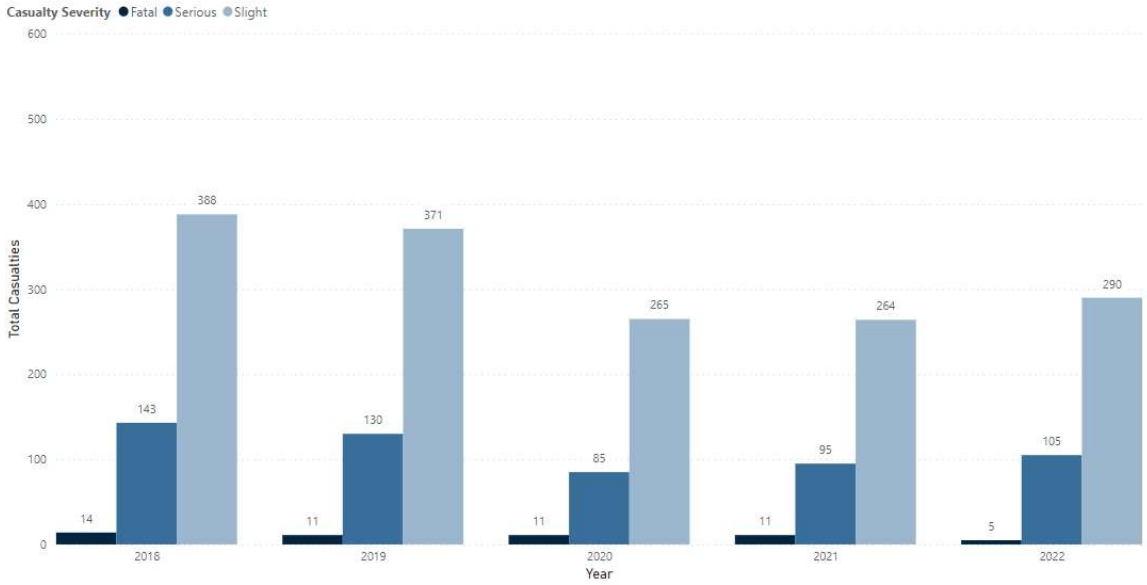

Figure 79 Pedestrian Casualty Severity 2018 - 2022

Casualties time of day all pedestrians

Day	0000-0259	0300-0559	0600-0859	0900-1159	1200-1459	1500-1759	1800-2059	2100-2359
Mon	7	8	101	153	132	257	85	37
Tue	9	5	97	135	146	251	98	30
Wed	10	4	92	142	174	281	104	31
Thu	11	2	102	137	168	281	140	40
Fri	12	9	131	162	143	245	117	87
Sat	40	19	19	104	153	143	92	93
Sun	80	33	8	64	88	94	52	28

Figure 80 Pedestrian (all) Casualties by Time of Day 2018 - 2022

Figure 80 highlights the days and times that pedestrian casualties happened between 2018-2022. The main period for casualties is between 6am and 6pm weekdays and between 12pm and 6pm on weekends. In particular there are a large number of casualties between 3pm and 6pm on weekdays.

Casualties time of day child pedestrians

Day	0000-0259	0300-0559	0600-0859	0900-1159	1200-1459	1500-1759	1800-2059	2100-2359
Mon	0	0	36	10	15	117	11	2
Tue	0	0	34	9	11	83	15	3
Wed	0	0	38	10	17	116	18	2
Thu	0	0	39	14	19	110	33	4
Fri	0	0	48	16	17	108	25	4
Sat	1	0	2	14	39	38	20	10
Sun	0	0	0	10	18	39	12	2

Figure 81 Pedestrian (under 16) Casualties by Time of Day 2018 – 2022

Figure 81 shows pedestrian casualties for those aged under 16. A total of 1,189 casualties between 2018-2022, of which 232 were KSI. There is a clear peak between 3pm-6pm weekdays, and a smaller peak between 6am-9am during periods when children would be travelling to school.

Casualty distance from home

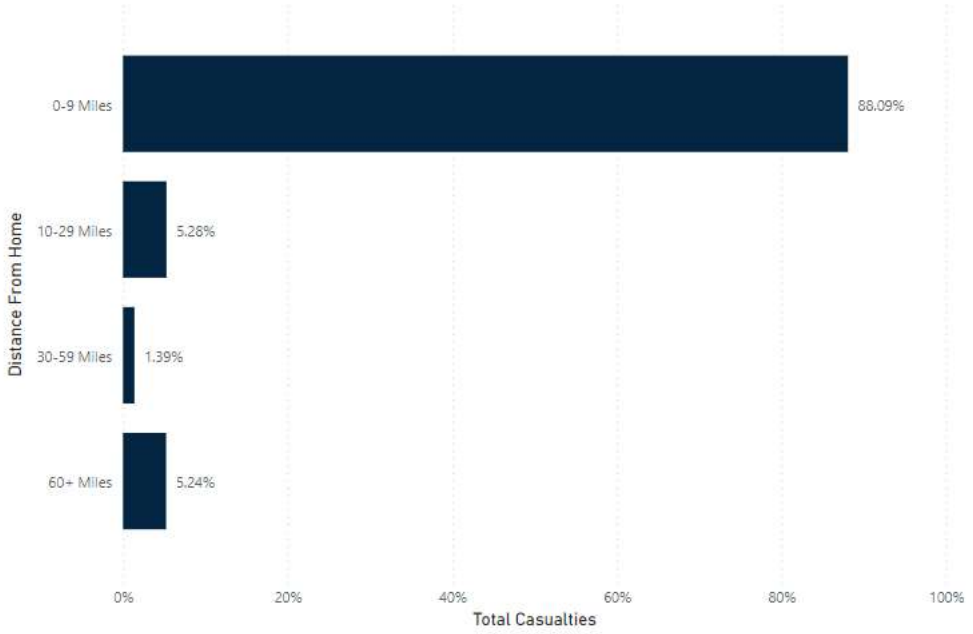

Figure 82 Pedestrian Casualty by Distance from Home 2018 - 2022[28]

For all casualty severities between 2018-2022, figure 82 shows that 88% of pedestrians were within 9 miles of their home address, with a further 5% within 10-29 miles.

[28] 19% of postcodes were not available to analyse

Casualty residency

Postcode Sector	Count
TQ3 3	64
PL2 2	57
TQ2 7	49
PL1 5	47
PL2 3	47
PL5 1	45
TQ1 4	42
PL4 8	41
TQ2 6	41
PL5 3	39
TQ1 1	39
PL5 4	38
TR14 7	38
PL2 1	37
PL3 4	37
TQ2 5	37
EX1 2	36
TQ3 2	36
EX10 9	35
PL31 2	34
TQ1 3	34
TQ2 8	34
PL5 2	33
PL25 4	32
TR1 3	32

Figure 83 Pedestrian Postcode Districts 2018 - 2022

Figure 83 visualises the top 25 postcode districts of pedestrians involved in collisions between 2018-2022. The top 5 postcode districts were TQ3 3, PL2 2, TQ2 7, PL1 5 and PL2 3.

Collision High Harm Routes

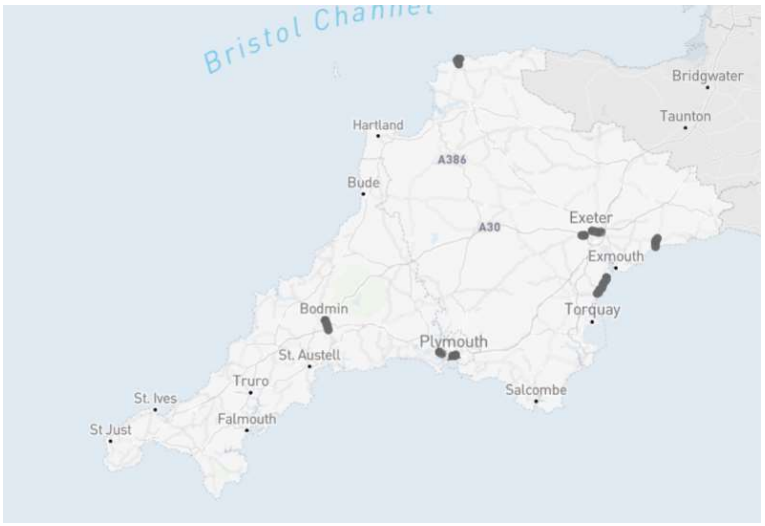

Figure 84 High Harm Routes for Pedestrians

The VZSW High Harm Routes dashboard highlights 17 key routes where pedestrians were involved in at least 33% of collisions these are, the top 10 routes are:

- B3178 Exmouth Strand to Rolle Road roundabout – Red route
- B3181 Cullompton Urban Area – Red route
- B3250 Mutley Plain Curry Corner north to Hyde Park junction – Red route
- A379 Dawlish to Teignmouth – Red Route
- B3183 Exeter Vue roundabout to Middlemoor roundabout – Red route
- A381 Newton Abbot Wolbrough Lights along East Street to Train Station Gyratory junction – Red route
- B3240 Plymouth Barbican Area Notte Street east to junction A374 Exeter Street – Red route
- A375 Sidford to Sidmouth Seafront – Red route
- B3238 Curry Corner to junction A374 Cattedown roundabout – Red route
- A3047 Camborne A30 junction Premier Inn roundabout to junction B3303 Centenary Street – Red route

In contrast to the postcode district map which shows the residency of pedestrians, the high harm routes visualises where pedestrians are involved in collisions.

10.2 Contributory Factors

Between 2018-2022 the 3 contributory factors most assigned to a pedestrian in a fatal or serious collision were:

Fatal

1. pedestrian wearing dark clothing at night (15)
2. (pedestrian) failed to look properly (14)
3. (pedestrian) impaired by alcohol (11)

Serious

1. (pedestrian) failed to look properly (275)
2. (pedestrian) careless/reckless/in a hurry (108)
3. (pedestrian) failed to judge other persons path or speed (85)

The three most common contributory factors assigned to another road user involved in a fatal or serious collision with a pedestrian were:

Fatal

1. failed to look properly (19)
2. exceeding speed limit (10)
3. loss of control (7)

Serious

1. failed to look properly (190)
2. careless/reckless/in a hurry (64)

3. failed to judge other persons path or speed (37).

Contributory factors can be grouped into 5 distinct groups; Human Factors, Road Environment, Vehicle Defects, Pedestrian Related and Other. The factors assigned in pedestrian collisions, across all road users, can be grouped as follows:

Factor Groups	**Fatal Collisions**	**Serious Collisions**
Human Factors	47%	43%
Road Environment	2%	3%
Vehicle Defects	0%	0.5%
Pedestrian Related	47%	51%
Other	4%	2.5%

Figure 85 the contributory factor groups for fatal and serious pedestrian collisions

The majority of contributory factors can be grouped into human factors and pedestrian related factors.

Manoeuvres and junctions

The three most common manoeuvres in KSI pedestrian collisions are going ahead other (393), starting (44) and reversing (43). In pedestrian collisions 61% of vehicles are not within 20 metres of a junction, 19% are approaching a junction and 9% have cleared a junction or are waiting/parked at junction exit.

Collision Investigation Review

A review of 31 collision investigation reports was undertaken. Key insights include that a number of pedestrians were impaired by alcohol or drugs at the time of the collision and were in the carriageway.

11.0 FATAL FIVE

There are five main contributory factors that feature strongly in fatal and serious injury collisions nationally, these are;

1. Inappropriate or excess speed
2. Not wearing a seat belt
3. Driver distractions including mobiles devices
4. Driving under the influence of drink or drugs
5. Careless and inconsiderate driving

These factors are referred to as the "Fatal Five"[29]. Figure 86 outlines the total KSI collisions for the years 2018-2022, and Figure 87 the total KSI collisions for each of the fatal five. Some collisions may be counted under more than one fatal five category.

Year	Total KSI Collisions	No Seatbelt	Distraction	Speed	Drink	Drugs	Careless
2018	748	3[30]	44 (6%)	142 (19%)	86 (12%)	23 (3%)	568 (76%)
2019	736	6	37 (5%)	128 (17%)	74 (10%)	34 (5%)	543 (74%)
2020	612	10	42 (7%)	131 (21%)	61 (10%)	34 (6%)	444 (73%)
2021	621	11	24 (4%)	118 (19%)	74 (12%)	33 (5%)	454 (73%)
2022	700	17	24 (3%)	120 (17%)	69 (10%)	40 (6%)	459 (66%)

Figure 86 KSIs collisions with Fatal Five contributory factors

Year	Total KSI Casualties	No Seatbelt	Distraction	Speed	Drink	Drugs	Careless
2018	833	2	58 (7%)	172 (21%)	107 (13%)	33 (4%)	626 (75%)
2019	817	4	56 (7%)	154 (19%)	84 (10%)	40 (5%)	592 (72%)
2020	668	9	52 (8%)	153 (23%)	69 (10%)	42 (6%)	488 (73%)
2021	699	12	25 (4%)	136 (19%)	87 (12%)	47 (7%)	500 (72%)
2022	785	18	29 (4%)	148 (19%)	86 (11%)	51 (7%)	502 (64%)

Figure 87 KSIs casualties with Fatal Five contributory factors

[29] These contributory factors are (speed) 306 exceeding speed limit, 307 travelling too fast for conditions (intoxication) 501 impaired by alcohol, 806 (Pedestrian) Impaired by alcohol, 502 impaired by drugs, 807 (Pedestrian) Impaired by drugs, (distraction) 508 driver using mobile, 509 distraction in vehicle, 510 distraction outside vehicle, (carelessness) 301 disobeyed automatic light signal, 302 disobeyed give way or stop sign or markings, 304 disobeyed pedestrian crossing facility, 305 illegal turn or direction of travel, 303 disobeyed double white lines, 401 junction overshoot, 403 poor turn or manoeuvre, 405 failed to look properly, 406 failed to judge others path or speed, 407 too close to cyclist, horse or pedestrian, 408 sudden braking or braking in a way unsuitable for conditions, 310 cyclist entering road from pavement, 308 following too close, 601 aggressive driving, 602 careless, reckless, in a hurry, 507 rider wearing dark clothing, 802 pedestrian failed to look properly, 803 pedestrian failed to judge vehicle's path or speed, 804 wrong use of pedestrian crossing facility, 805 pedestrian dangerous action in the carriageway, 808 pedestrian careless, reckless, in a hurry, 809 pedestrian wearing dark clothing at night, 904 vehicle door opened or closed negligently.

[30] The seatbelt data is not presented as a percentage due to the complex nature of seatbelt exemptions making it difficult to quantify the total collisions/casualties required to wear a seatbelt.

Between 2018 and 2022 there has been an increase in KSI collisions where casualties were not wearing seatbelts and where drugs were a contributory factor. There has been a decrease in the percentage of KSIs where carelessness contributory factors were assigned to the collision. There was an increase in speed related contributory factors during 2020 which correlates with the changing speeds of vehicles during periods of Covid19 travel restrictions.

Figures 88 through to 93 show collision heatmaps for carelessness, alcohol intoxication, drugs, speed and not wearing a seatbelt.

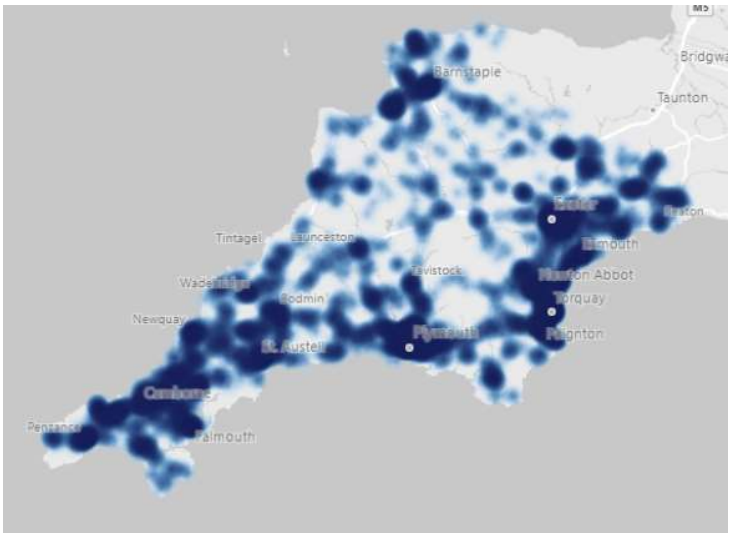

Figure 88 Heatmap of KSI Collisions Involving Contributory Factors for Carelessness

The dark blue colour indicates the density of collisions, for carelessness the map visualises a high density of collisions across Devon and Cornwall. In particular in urban areas.

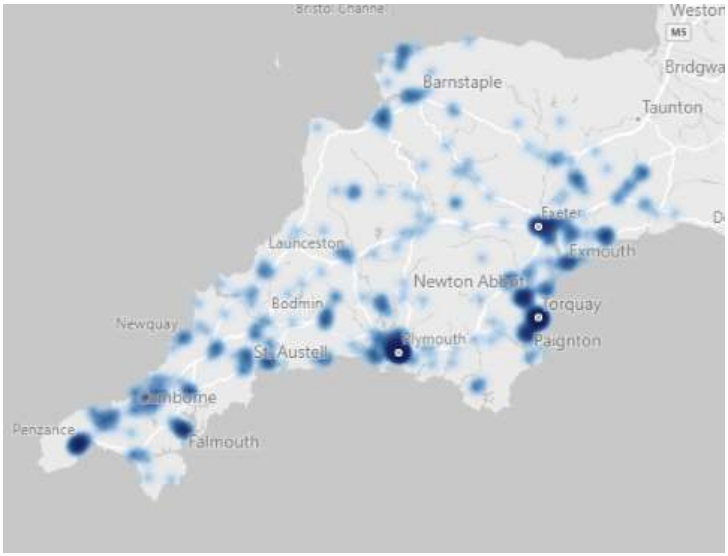

Figure 89 Heatmap of KSI Collisions Involving Contributory Factors for Alcohol

For alcohol the map visualises a high density of collisions in Plymouth, Torquay, Exeter, Penzance and surrounding areas.

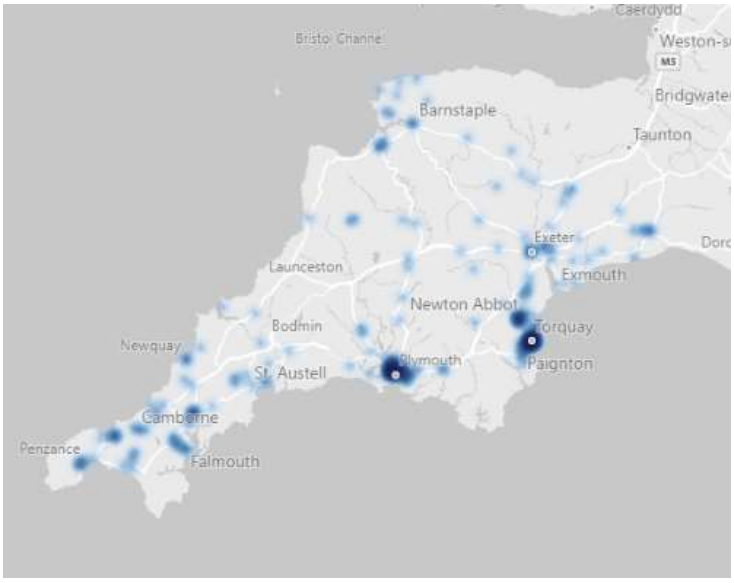

Figure 90 Heatmap of KSI Collisions Involving Contributory Factors for Drugs

For drugs the map visualises a high density of collisions in Plymouth, Torquay, Newton Abbot and surrounding areas.

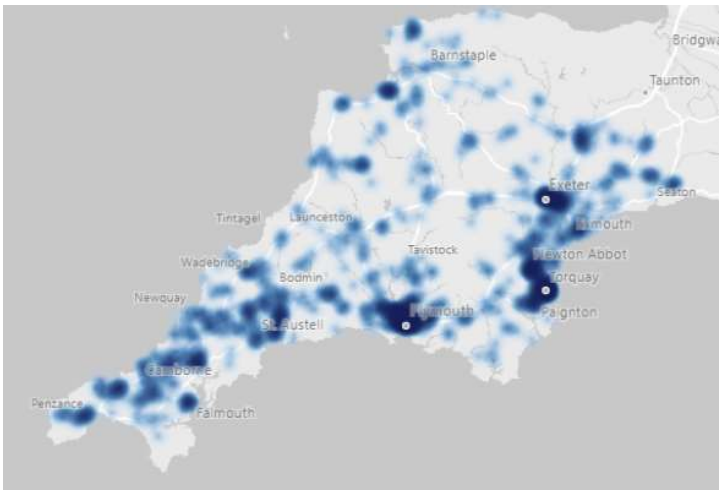

Figure 91 Heatmap of KSI Collisions Involving Contributory Factors for Speed

For speed the map visualises a high density of collisions in Plymouth, Torquay, Paignton, Newton Abbot, Exeter, Bideford, Ilfracombe, St Austell, Camborne, Falmouth, Penzance and Hayle.

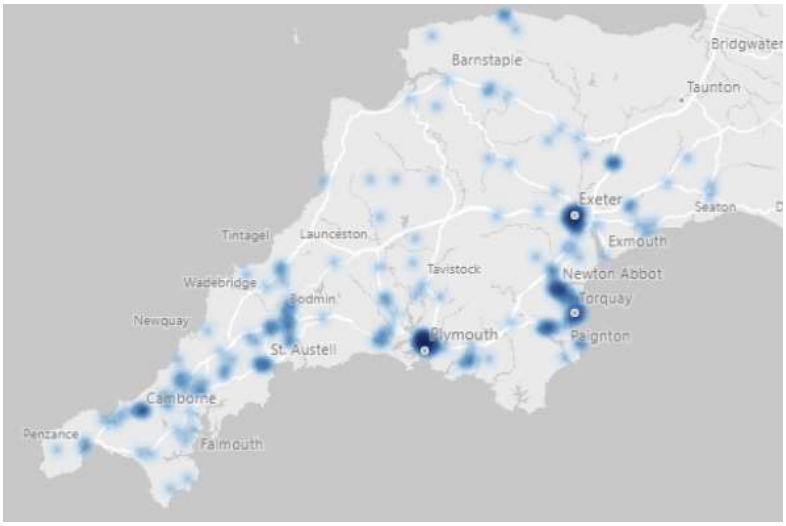

Figure 92 Heatmap of KSI Collisions Involving Contributory Factors for Distraction

For distraction the map visualises a high density of collisions in Plymouth, Torquay, Newton Abbot, Exeter and Camborne.

Figure 93 Heatmap of KSI Collisions Where Casualty is not Wearing a Seatbelt

For seatbelts the map visual has less high density areas than for the other fatal 5. There is heat density over Plymouth and Paignton.

12.0 ENFORCEMENT

Road traffic enforcement is undertaken throughout D&C via static, average and mobile safety cameras, police officer enforcement and also via submissions through Community Speed Watch (CSW) volunteers and Operation Snap

12.1 Safety Cameras

The following safety camera data excludes offences that were not progressed and reflects enforcement outcomes rather than enforcement detections. The following data uses the action taken to outline the outcomes for 2021 and 2022.

	Enforcement hours	Speed awareness course	Conditional offer	Prosecution
Total speed enforcement 2021	244,233	76,187	8,044	859
Total speed enforcement 2022	277,527	117,064	12,304	1,456
Change	+ 14%	+ 54%	+ 53%	+ 69%
Static Camera 2021	146,160	32,210	2,033	279
Static Camera 2022	173,356[31]	75,551	6,998	925
Change	+ 19%	+ 135%	+ 244%	+ 232%
Mobile Camera 2021	3,036	37,587	5,753	554
Mobile Camera 2022	2,437	34,021	4,999	471
Change	- 20%	- 9%	- 9%	- 9%
ASC 2021	95,037	6,390	258	26
ASC 2022	101,734	7,492	307	60
Change	+ 7%	+ 17%	+ 19%	+ 131%

Figure 94 Safety Camera Offence Outcomes (excl. No Further Action (NFA) offences)

Figure 94 shows the 2021 and 2022 enforcement data for safety cameras, in 2022 there was a 14% increase in enforcement hours across all camera types. This resulted in a 52% increase in enforcement across the three enforcement outcomes. Both Average and Static speed enforcement hours increased in 2022 however, this resulted in a disproportionate increase in enforcement outcomes. This will in part reflect the fact that the increased enforcement is

[31] There are some data input errors present in the dataset that records the hours of enforcement. It was not possible to check every record but outliers were removed from the calculation of total hours.

attributable to new and upgraded defunct sites. The increase could also indicate that there was an increase in offending in 2022 not attributable to increased enforcement activity.

There was a decrease in mobile enforcement hours, which is attributable to resourcing issues both in terms of personnel and vehicles, and a temporary loss of enforcement capacity during the onboarding and training of new staff[32]. In addition, the way we undertake mobile enforcement has changed. Historically we enforced at casualty concern sites. Now in keeping with Road Safety Support's Raising the Game[33] report, VZSW has adopted an "unpredictable visibility" approach with the objective of increasing the "dread of detection." This means we now additionally enforce at community concern sites, which has the effect of increasing our enforcement visibility across Devon and Cornwall.

In 2021 a total of 45,507 Speed Awareness Courses (SAC) were attended, of these 99.4% of the offences were detected via automated cameras. In 2022 a total of 74,301 SAC's were attended, 99.6% were detected via automated cameras. These figures are not directly comparable to the data outlined above as not all SAC attendance within a calendar year will have been detected that same calendar year due to the time it takes to process an offence.

Camera detection trends

The Home Office has collated speed detection data since 2011, this data is grouped into speed offences detected via cameras and those detected without cameras. The data for Devon and Cornwall is visualised in the below chart.

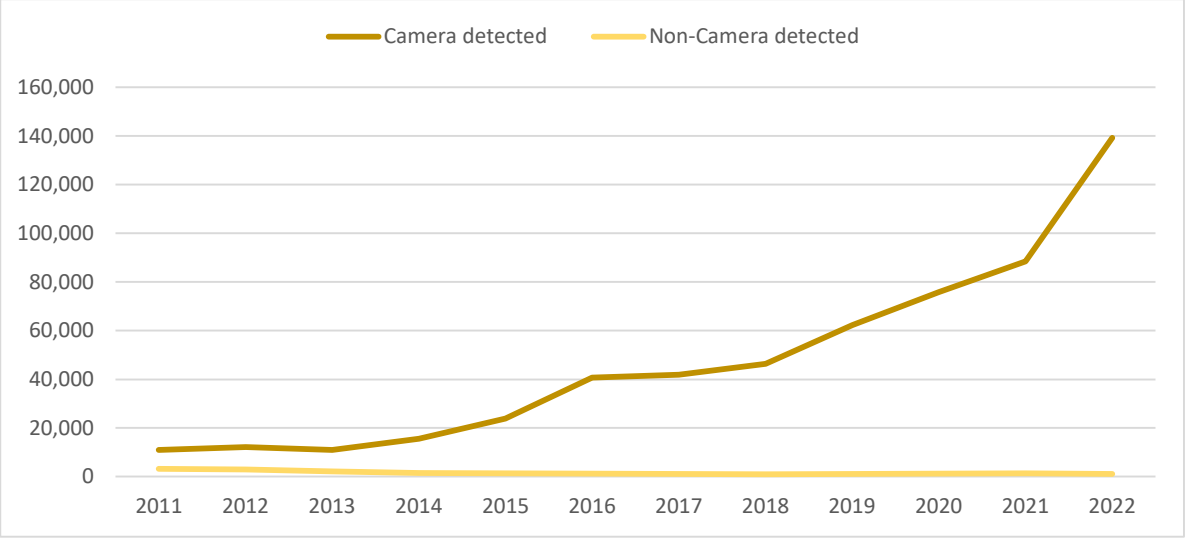

Figure 96 camera and non-camera speed detections in Devon and Cornwall 2011-2022

[32] In 2023 the hours of mobile enforcement as of 23 August 2023 are 2,864, as of 23 August 2021 there had been 2,165 hours of mobile enforcement- a 32% increase. With more than 4 months remaining of 2023 the total mobile enforcement hours will be well in excess of the 2021 total enforcement hours.

[33] Road Safety Support - Enforcement Strategy - Raising the Game September 2019 re edited August 2020.pdf

Figure 96 visualises an increase in camera detections between 2011 and 2022, with particular increases following changes to the enforcement threshold in 2018 and 2019. There was a sharp increase in 2022, the changes between 2021 and 2022 by camera type were outlined in more detail above. Figure 97 visualises the change in non-camera detected offences detected by police officer enforcement. This shows a decline between 2011 and 2022 from a height of 3,191 offences in 2011 to 1,054 in 2022 as visualised in figure 90. Between 2011 and 2018 there were annual reductions in the number of police officers nationally,[34] this was also the case in Devon and Cornwall. This reduction in the number of police officers correlates with the reduction in the number of speed detections by police officer enforcement (non-camera).

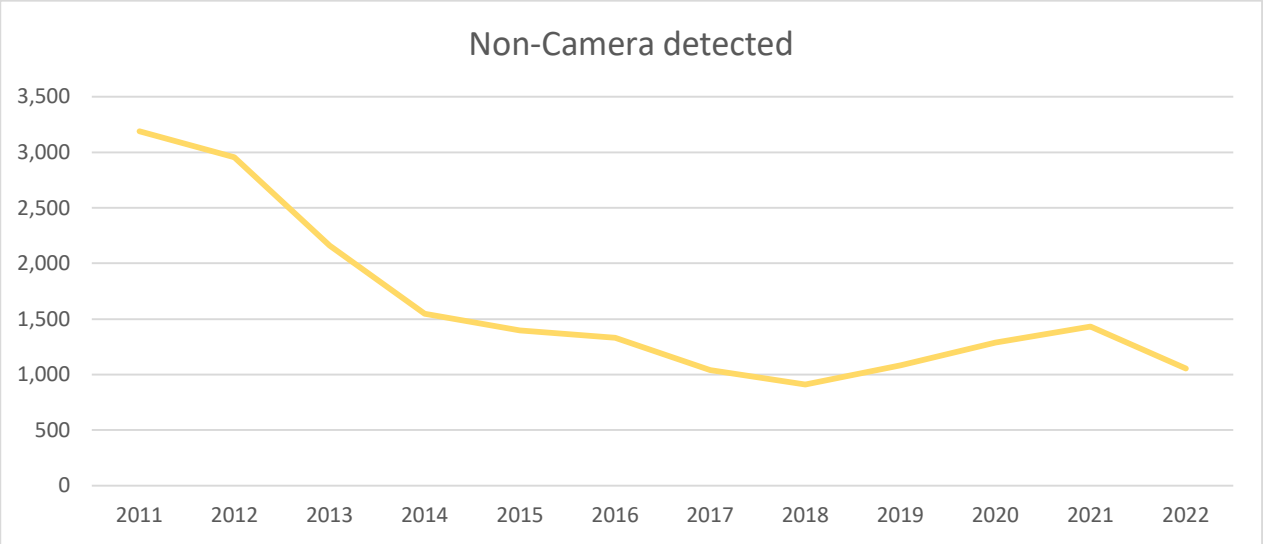

Figure 97 non-camera speed detections in Devon and Cornwall 2011-2022

12.2 Community Speed Watch

In 2022 the number of registered community groups has increased to 181 groups across 306 sites. Across a total of 2,214 sessions these volunteers identified 24,747 drivers exceeding the speed limit resulting in 18,693 drivers receiving a warning letter (17,934 1st letter, 703 2nd & 56 3rd). The steep decline from 1st letter to subsequent letters shows a positive outcome for this community led initiative.

	Groups[35]	Volunteers[36]	Sites	Sessions	Detections	Letters
2021	141	582	191	1,269	17,499	13,696
2022	181	950	306	2,214	22,747	18,693
Change	+28%	+63%	+60%	+75.5%	+30%	+36.5%

[34] Police workforce, England and Wales: 31 March 2022 - GOV.UK (www.gov.uk)
[35] This is the total registered groups as of December 2021 and December 2022
[36] This is the total registered volunteers as of December 2021 and December 2022

Figure 98 Community Speed Watch groups, sites, sessions, detections and letters data for 2021 and 2022

In 2023 the administration of CSW has changed, the change means that our CSW volunteers will be able to undertake more activity. Including being able to enforce in locations with 20mph speed limits. In addition, this administration change will make it easier going forward to identify CSW sites where additional mobile enforcement would be beneficial.

12.3 Speed Compliance

In 2023 Road Peace in conjunction with Agilysis, published a speed limit compliance analysis[37]. Using data from connected vehicles[38] the percentage of drivers exceeding the speed limit was calculated for each police force area. With 5.53% of vehicles exceeding the speed limit Devon and Cornwall ranked favourably with only 14 police forces having a lower percentage of vehicles exceeding the speed limit out of a total of 50 police forces.

12.4 Police Issued Tickets

Police Issued Tickets (PITs) can be broken down into 5 categories, these are Driver Seen Officer Witnessed, Graduated, Notice of Intended Prosecution, Roadside Deposit and Vehicle Defect Rectification Scheme. Graduated and Roadside deposit both relate to the way in which the penalty is collected. In 2021 and 2022 the PITs broken down into the three main categories were as follows:

Offence Type	2021	2022	Change
Driver Seen Officer Witnessed	8,247	9,663	+17%
Notice of Intended Prosecution	1,134	2,533	+123%
Vehicle Defect Rectification Scheme	655	669	+2%

Figure 99 Breakdown of Police Issued Tickets, by Ticket Type 2021-2022

Driver Seen Officer Witnessed

The top 5 driver seen officer witnessed offences in 2022 were:

2022	Total offences	Change from 2021
Use of a motor vehicle on a road/public place without third party insurance	2,521	+ 24%
Use of a motor vehicle on a road without a valid test certificate	1,085	+ 12%

[37] Pioneering data reveals best and worst areas in UK for speeding - RoadPeace

[38] The connected vehicle data represents a subset of vehicles using the road network- it can be used as an indication of speeds on the network. The data has been locally reviewed against datasets from speed recording devices- where data is compared like for like the connected vehicle data reflects the speeds on our road network.

Use of a handheld mobile phone/device while driving a motor vehicle on a road	885	+64%
Drive a motor vehicle otherwise than in accordance with a licence	795	+1%
Drive a mechanically propelled vehicle on a road/in a public place without due care and attention	618	+47%

Figure 100 Breakdown of Driver Seen Officer Witnessed offences 2022

Figure 100 shows that there was a 64% increase in driver seen officer witnessed offences for use of handheld mobile phone while driving. This increase may in part be due to the introduction of laws in March 2022, which strengthened the definition of mobile phone use. There was also a 47% increased in driving without due care and attention offences.

Notice of Intended Prosecution

In 2021 97% of the notice of intended prosecution offences were Op Snap offences, in 2022 91% of notice of intended prosecution offences were Op Snap. This decrease was due in part to the Acusensus camera trial between September and November 2022 which generated 8% of notice of intended prosecutions in 2022. The top 5 notice of intended prosecution offences in 2022 were:

2022	**Total offences**	**Change from 2021**
Drive a mechanically propelled vehicle on a road/in a public place without due care and attention	1465	+103%
Drive a mechanically propelled vehicle on a road/in a public place without reasonable consideration to other users	419	+172%
Drive on road other than motorway, fail to comply with red/green arrow/lane closure light signals	211	+70%
Motor vehicle fail to comply with solid white line markings	149	+192%
Use of handheld mobile phone/device while driving a motor vehicle on a road	21	+200%

Figure 101 Breakdown of Notice of Intended Prosecution Offences 2022

The majority of this NoIPs were generated through Op Snap, so the increase in NoIPs reflects the increase in Op Snap submissions.

Vehicle Defect Rectification Scheme

The top 5 vehicle defect rectification scheme offences in 2022 were:

2022	Total offences	Change from 2021
Use of a motor vehicle on a road fail to maintain lamps/reflectors/rear markings/devices in working order/clean	222	+21%
Use of a vehicle on the road without lights at night/in reduced visibility	129	+7.5%
Drive a vehicle when registration mark fails to conform with regulations	58	0%
Use a passenger vehicle with tyres of insufficient tread- less than 1.6mm	30	-35%
Drive vehicle no front registration plate	27	-27%

Figure 102 Breakdown of Vehicle Defect Rectification Scheme Offences 2022

Figure 102 shows a 21% increase in failure to maintain lamps/reflector/rear markings/devices in working order offences.

12.5 Operation Snap

In 2021 there were a total of 1,887 submissions to Op Snap. In 2022 this increased by 152% to 4,746 submissions. In total positive action was taken on 1,442 submissions in 2021 and 3,400 submissions in 2022. This is 76% and 72% of submissions respectively in 2021 and 2022.

12.6 Acusensus Camera Trial

Between September 2022 and November 2022 VZSW trialled an innovative new camera technology. The Acusensus camera uses Artificial Intelligence (AI) to detect drivers who are using a mobile device while driving and to identify drivers and passengers who are not wearing a seatbelt.

In total 15 days of enforcement were undertaken across 12 different enforcement sites, totalling 76 hours of enforcement. In total 590 seatbelt and 45 mobile phone offences were reviewed by the Collision and Ticketing team.

<u>Seatbelts</u>

162 drivers elected for an educational course, 61 have paid a fixed penalty notice, 29 registered keepers have nominated another person, 298 registered keepers have failed to respond to S172 notice and the offences will be prepared for court[39].

<u>Mobile Phones</u>

[39] As of January 2023, figures subject to change

20 elected to pay a fixed penalty notice, 8 registered keepers have failed to respond to S172 notice and the offences will be prepared for court, and 12 registered keepers were issued warnings.

A more detailed review of 206 of these offences was undertaken, of which there were 180 seatbelt and 26 mobile phone offences. Of the 180 seatbelt offences 114 of the drivers were driving a goods vehicle, 35 were driving a car, and 22 were driving a taxi. Of the 22 taxi drivers, 21 were detected on Outland Road in Plymouth. Of the 26 mobile phone offences, 14 drivers were driving a goods vehicle and 11 were driving a car.

12.7 Intoxication

In 2021 a total of 1,227 individuals were charged with intoxication related offences, in 2022 this decreased slightly to 1,139 individuals. There are still a number of ongoing investigations for 2022 offences so the final number charged for 2022 is likely to increase.

Offence Description	2021 Total	2022 Total
Drive motor vehicle when alcohol level above limit	912	752
Fail to provide specimen for analysis - vehicle driver	144	155
Drive whilst unfit through drink	63	122
In charge of motor vehicle - alcohol level above limit	54	51
Drive a vehicle whilst unfit through drugs	23	17
Drive motor vehicle with a proportion of a specified controlled drug above the specified limit	16	28
Fail to provide specimen - person in charge of vehicle	10	12
Attempt to drive vehicle whilst unfit through drink	3	0
In charge of vehicle whilst unfit through drink	2	0
Fail to co-operate with a preliminary test - motor vehicle offence	2	0
Cause death by driving without due care and attention / reasonable consideration while unfit through drink	0	2

Figure 103 Intoxication Charges for 2021 and 2022

84% of intoxication charges in 2021 related to alcohol, 3% drugs and 13% failure to provide specimen/comply. In 2022 80% of charges related to alcohol, 5% drugs and 15% failure to provide specimen/comply. In 2022 there were 2 charges for causing death by driving without due care and attention/reasonable consideration while unfit through drink.

Year	Aged 16-24	Aged 25-69	Aged over 70	Male	Female
2021	206	1,005	16	945	282
2022	188	932	19	881	258

Figure 104 Age and Gender for Intoxication Charges

In 2021 17% of intoxication charges were for individuals aged 16-24, 82% aged 25-69 and 1% aged over 70. 77% were male and 23% female. In 2022 16.5% of intoxication charges were for individuals aged 16-24, 82% aged 25-69 and 2% aged over 70. 77% were male and 23% female.

Year	East Cornwall LPA	West Cornwall LPA	Plymouth LPA	South Devon LPA	Exeter, East and Mid Devon LPA	North and West Devon LPA
2021	238	185	195	262	233	115
2022	193	188	184	228	230	114

Figure 105 Police LPA Area for Intoxication Charges

The combined intoxication offences for Cornwall LPA accounts for 33%, Plymouth for 16% and the Devon LPA areas for 50% of the total Devon and Cornwall police force offences.

In 2022 a total of 9,845 breathalyser tests and 1,508 drug wipe tests were performed.

13.0 2022 Safety Performance Indicators and Measures

In 2022 VZSW adopted a number of Safety Performance Indicators (SPIs) using publications from PACTs and Agilysis to guide the development and adoption of SPIs across the safe system pillars.[40]

The SPIs that VZSW adopted are:

Safety Performance Indicator	Safe System Pillar
Percentage of traffic complying with speed limits on national roads (e.g. National Highways roads, A30/A38/A303/A35/M5)	Safe Speed
Percentage of traffic complying with speed limits on local roads.	Safe Speed
Percentage of drivers who do not drive after a) consuming alcohol b) consuming drugs	Safe Road Use
Percentage of vehicle occupants using a seat belt a) driver b) front seat passenger	Safe Road Use
Percentage of drivers not using in vehicle phone a) hand held b) hands free	Safe Road Use
Percentage of motorcyclists wearing full PPE	Safe Road Use
Percentage of vehicles manufactured in the last 3/5 years	Safe Vehicles
Percentage of routes that are red on the high harm routes dashboard	Safe Roads
To be determined	Post-Crash Care

Figure 106 VZSW Safety Performance Indicators

Each SPI has an outcome measure which measures relevant enforcement activity and a final measure which measures associated KSIs.

In order to measure safe road use a road user survey of Devon and Cornwall residents will be undertaken annually. The 2023 survey report is published on the VZSW website and the SPIs and measures are visualised in the below graphics.

[40] PACTs Developing safe system road safety indicators for the UK - a report by PACTS in association with Ageas - PACTS and Agilysis Developing and Maintaining Safety Performance Indicators - Agilysis

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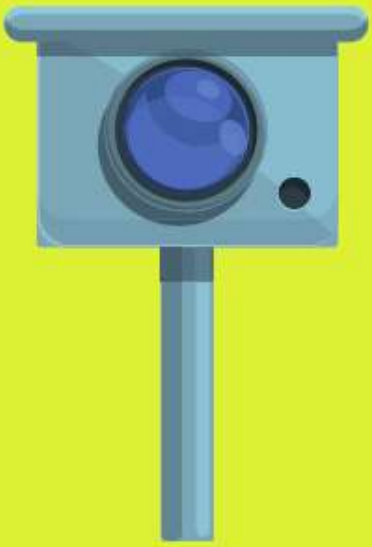
Safety Performance Indicators:

Speed
National Roads

23% Percentage of traffic complying with speed limits on national roads (e.g. National Highways roads)

Outcome Measures

Number of drivers detected speeding by Safety Cameras on national roads	**38,537**
Number of drivers who received a speed awareness course	**31,971**
Number of drivers who received a conditional offer	**5,103**
Number of drivers prosecuted	**408**
Number of drivers detected speeding by a police officer	**401**



Final Measures

Number of people killed or seriously injured in a collision where speed was a contributory factor (over the limit)	**11**
Number of people killed or seriously injured in a collision where speed was a contributory factor (too fast for conditions)	**12**

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Safety Performance Indicators:

Speed
Local Roads

Percentage of traffic complying with speed limits on local roads

30%

Outcome Measures

Number of drivers detected speeding by Safety Cameras on local roads	96,168
Number of drivers who received a speed awareness course	84,959
Number of drivers who received a conditional offer	7,141
Number of drivers prosecuted	1,028
Number of drivers detected speeding by a police officer	653
Number of vehicles detected speeding by CSW (20/30/40 MPH only)	22,747

Final Measures

70 Number of people killed or seriously injured in a collision where speed was a contributory factor (over the limit)

91 Number of people killed or seriously injured in a collision where speed was a contributory factor (too fast for conditions)

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Safety Performance Indicators:

Impairment

91% Percentage of drivers who do not drive after a) consuming alcohol

99% Percentage of drivers who do not drive after a) consuming drugs

Outcome Measures

Number of breathalyser tests performed	9,845
Number of positive breathalyser tests	777
Number of drug wipes performed	1,508
Number of positive drug wipe tests	723

Final Measures

Number of people killed or seriously injured in a collision where alcohol was a contributory factor (impaired by alcohol)	78
Number of people killed or seriously injured in a collision where speed was a contributory factor (impaired by drugs - illicit or medicinal)	48

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Safety Performance Indicators:

Seatbelts

Percentage of vehicle occupants using a seat belt - driver **99.6%**

Percentage of vehicle occupants using a seat belt - passenger **98 %**

Outcome Measures

Number of drivers detected not wearing a seat belt by a police officer **280**

Number of drivers detected not wearing a seatbelt by Acusensus cameras **550**

Number of passengers detected not wearing a seat belt by a police officer **61**

Final Measures

13 Number of drivers/riders killed or seriously injured in a collision where a seatbelt was not being worn

4 Number of passengers killed or seriously injured in a collision where a seatbelt was not being worn

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Safety Performance Indicators:

Distraction

79% Percentage of drivers not using in vehicle phone - hand held

36% Percentage of drivers not using in vehicle phone - hands free

Outcome Measures

Number of drivers detected using a mobile phone by Acusensus cameras **40**

Number of drivers detected using a mobile phone by a police officer **873**

Final Measures

Number of people killed or seriously injured in a collision where driver using mobile phone is a contributory factor **3**

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Safety Performance Indicators:

Vehicles, High Harm Routes & Emergency Service Response

Outcome Measure

Number of drivers detected for safe vehicle related offences by a police officer **669**

Final Measure

Number of people killed or seriously injured in a collision where vehicle defects were a contributory factor **28**

Safety Performance Indicator

17% Percentage of routes that are red on the high harm routes dashboard

Final Measure

108 Number of fatal or serious casualties on a red high harm route

Outcome Measure

Percentage of fire and rescue responses within 15 minutes

Devon	Cornwall
74%	66%

Percentage of police responses within 20 minutes

Devon & Cornwall
54%

The data visualised on pages 83-88 are the first results for the annual VZSW Safety Performance Indicators, Outcome and Final Measures. Not all SPIs and measures identified were ultimately measurable and so there will be a review and re-identification of SPIs and measures for some pillars of the safe system.

Of note in the 2023 results:

- Only 23% and 30% of respondents indicated that they always comply with speed limits on national and local roads respectively
- 99% of respondents indicated that they never consume drugs and drive compared to the 91% that responded that they never drink alcohol and drive
- 99.6% and 98% of respondents indicated that they always wear a seatbelt as a driver and passenger respectively. This is contrary to the large number of non-seatbelt use detected by the Acusensus AI cameras
- 36% of respondents indicated that never use their phone hands-free while driving while 79% indicated that they never used their phone hand-held while driving. While the use of hands-free technology is legal, there is evidence to suggest that use of phones hands free still presents a road safety risk[41]

The collation of SPIs and measures will be undertaken annually. This annual dataset will create comparable insights and will help with the identification of emerging trends. It will also provide an indicator of whether VZSWs activities are positively impacting on road user behaviour.

[41] We Need To Talk About Handsfree: Officer understanding of the dangers of handsfree and handheld mobile phone use by drivers - Road Safety Knowledge Centre

14.0 IMPACT OF COVID 19

The Covid19 pandemic saw national travel restrictions imposed initially between 26 March 2020 and 10 May 2020 (first lockdown). A second national lockdown was imposed between 5 November 2020 and 2 December 2020 and a third lockdown was introduced between 6 January 2021 and 19 July. The third lockdown had a phased ending to the lockdown period with many restrictions being removed in April/May 2021.

In 2020 and 2021 there was a reduction in collisions and consequently in casualties in D&C. This reduction can be better understood through forecasting and visualisation methods to understand the likely implications of the Covid19 lockdowns.

14.1 ARIMA Analysis

Using autoregressive integrated moving average (ARIMA) analysis historic monthly collision numbers can be used to forecast the number of collisions in 2020-2022 if the identified trend for the 2015-2019 period had continued.

As part of the methodology for forecasting a period of historic data is used, this data is split into an 80% training dataset and a 20% test dataset. The forecasting model is built using the 80% training dataset and the forecast produced is compared to the 20% test dataset to assess how accurate the forecast is against known values. For this analysis the 2015-2018 period constituted the training dataset, and the 2019 period the test dataset.

When comparing the training forecast to the test dataset the forecast was within +/- 9% of the known collision values. The actual data was always within the 80% confidence bands of the forecast. Any collisions outside of these confidence bands therefore in the 2020-2022 forecast would indicate a deviation from the expected collision trend.

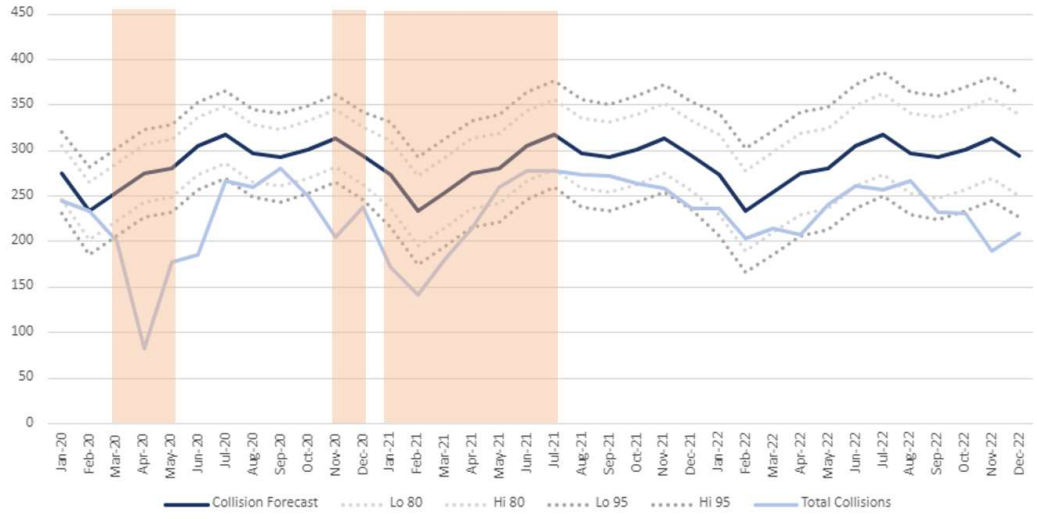

Figure 107 ARIMA Collision Forecast 2020-2022

Figure 107 shows the collision forecast for 2020-2022 in dark blue and the actual collisions for that period in light blue. The 80% and 95% confidence bands are illustrated by grey dotted lines. The periods of lockdown are illustrated by the orange pillars. The graph visualises periods of collision reductions during Covid19 lockdown periods, with collision increases following lockdown periods. Additional context can be added through visualising the reduction in traffic volume from a 2018-19 baseline (see figure 108).

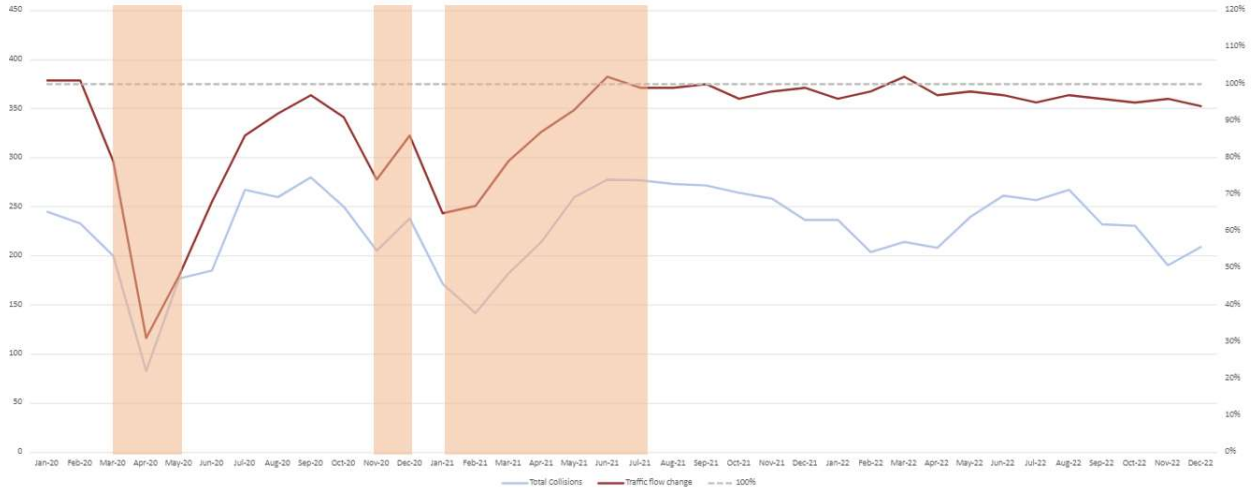

Figure 108 ARIMA Traffic Flow Forecast 2022

Figure 108 visualises the traffic flow between 2020-2022 as a percentage of the 2018-19 baseline period. The grey dotted line indicates where traffic would be the same as the baseline period. The red line shows the traffic flow against the right axis, it visualises a reduction in traffic during each lockdown period with increases in traffic flow following the lifting of restrictions. The traffic flow line correlates with the light blue collision line. Following the third Covid19 lockdown traffic flow increased to similar levels to the 2018-19 baseline with some fluctuations. However, since April 2022 there has been a slight reduction in traffic flow.

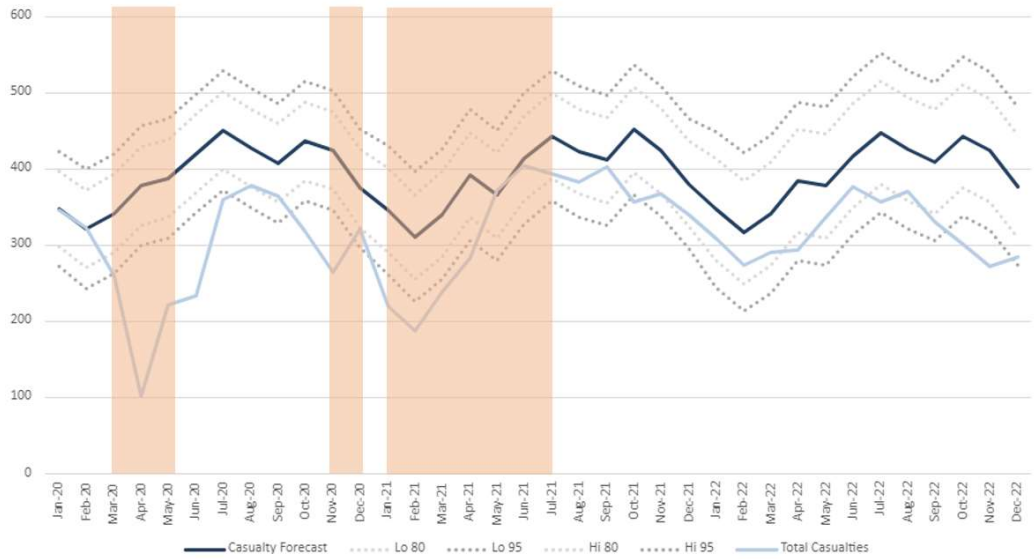

Figure 109 ARIMA Casualties Forecast 2020 - 2022

Casualties for the period 2020-2022 were also forecast and this is visualised alongside actual casualties in figure 109. As with collisions, casualties reduced during periods of Covid19 lockdown and increased following the lifting of restrictions.

The forecast and actual collisions and casualties for 2020-2022 are summarised in Figures 110 and 111 below. The table also includes the 2019 test forecast to illustrate the accuracy of the model.

Year	Forecast	Low 80%	High 80%	Total Collisions	Percentage difference from forecast
2019	3307	2,967	3,647	3,402	+ 3%
2020	3439	3,064	3,815	2,623	- 24%
2021	3,437	2,976	3,899	2,829	- 18%
2022	3,437	2,905	3,969	2,746	- 20%

Figure 110 Collision Forecast Compared to Actual 2020 – 2022

The test forecast for 2019 shows that collisions were under forecast, with an additional 95 collisions occurring in 2019 than were forecast. In contrast in 2020, 2021 and 2022 there were less collisions than forecast. This reduction in 2020 and 2021 correlates with periods of reduced travel and Covid 19 restrictions. The reason for the 2022 reductions are less clear but some possible reasons were outlined in the introduction to this report.

Year	Forecast	Low 80%	High 80%	Total Casualties	Percentage difference from forecast
2019	4,700	4,135	5,266	4,688	- 0.3%
2020	4,715	4,103	5,327	3,490	- 35%
2021	4,700	4,030	5,371	3,944	- 19%
2022	4,708	3,895	5,523	3,792	- 24%

Figure 111 Casualties Forecast Compared to Actual 2020 - 2022

The test forecast for 2019 shows that casualties were over forecast, with 12 less casualties in 2019 than were forecast. In 2020, 2021 and 2022 there were also less casualties than forecast. As with collisions this reduction in 2020 and 2021 correlates with periods of reduced travel and Covid 19 restrictions.

It is important to note that the above forecasts project different figures to the forecasts discussed in the introduction as developed by Agilysis and the Towards Zero Foundation. This is because the above forecasts using the historic trend of collisions and casualties whereas the aforementioned forecasts use a forecast for traffic volume and model the expected increase/decrease in casualties given the projected change in vehicle flow.

14.2 National Trends

Due to the relatively small numbers it was not possible to forecast the data at a more granular level, either by Local Authority, mode of transport or by casualty/collision severity. The Department for Transport have however undertaken such an analysis using the casualty averages for the period 2017-2019 as a baseline.

In their report *The impact of lockdown on reported road casualties in Great Britain, final results:2020* the DfT describes Devon and Cornwall as "typical of the national trends …did not have local restrictions implemented."[42] Given that Devon and Cornwall are reflective of national trends the DfTs analysis will be presented below.

[42] The impact of lockdown on reported road casualties Great Britain, final results: 2020 - GOV.UK (www.gov.uk)

Casualty Severity

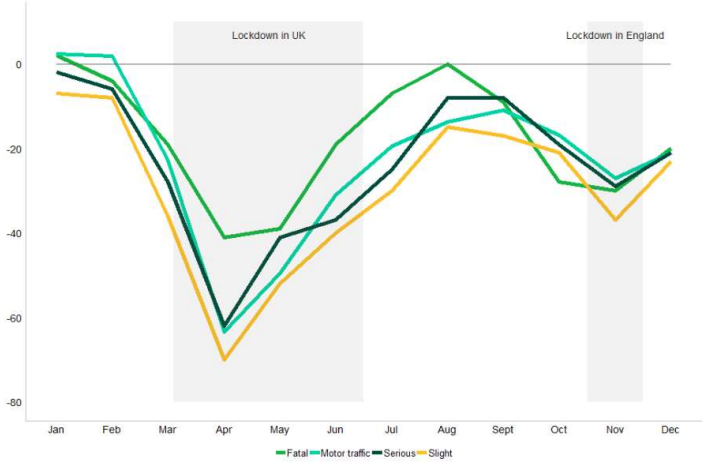

Figure 112 DfT chart showing the percentage change in casualty severity nationally compared to a 2017-2019 baseline

Figure 112 visualises a reduction in casualties as motor traffic decreased in 2020. In particular there was a smaller percentage decrease in fatalities compared to serious and slight casualties.

Mode of transport

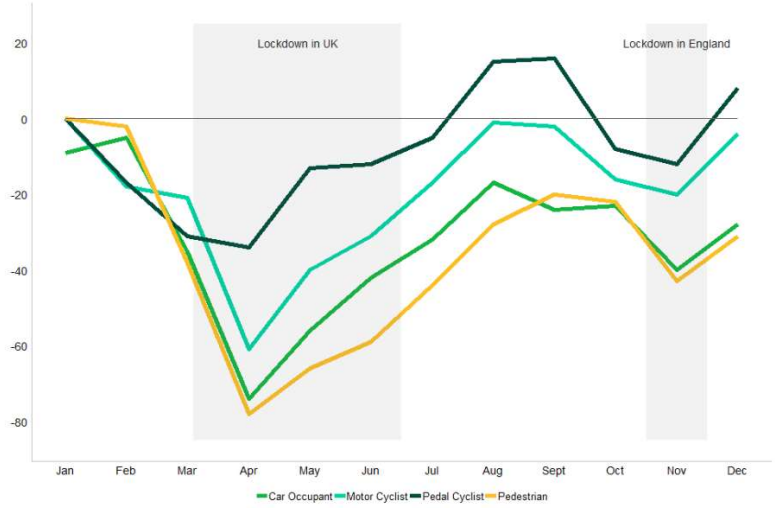

Figure 113 DfT chart showing the percentage change in casualties compared to a 2017-2019 baseline across 4 modes of travel

Figure 113 shows that the reduction in pedestrian and car occupant casualties was higher than those for motorcyclists and pedal cyclists. In fact, there was an increase in the percentage of pedal cyclist casualties in August-September and December. Likely reflecting the increased pedal cyclist traffic volumes.

Casualty ages

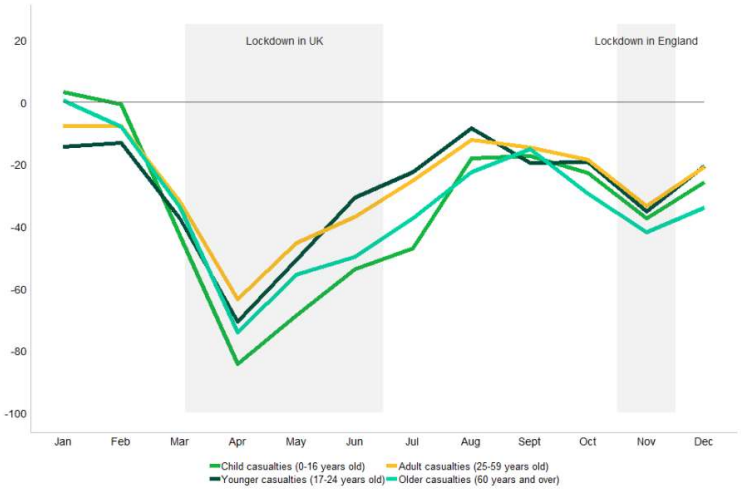

Figure 114 DfT chart showing the percentage change in casualties compared to a 2017-2019 baseline by age group

Figure 114 shows a larger decrease for child casualties and for older casualties. This is likely a reflection of school closures and the isolation of older vulnerable individuals during Covid19 lockdowns. In contrast the age groups 17-24 and 25-59 would be more reflective of the adult working population, some of which were classified as key workers and were therefore exempt from some travel restrictions.

15.0 Conclusion

The collision and casualty figures for 2020 and 2021 were heavily influenced by the lockdown restrictions imposed during the Covid19 pandemic. To assess performance in 2022 it is therefore advisable to compare to a pre-Covid19 baseline. Such a comparison shows a downward trend in collisions and casualties across all severities.

In 2021 the Towards Zero Foundation (TVZ) launched the GB Road Safety Performance Index. This projected that not only would Devon and Cornwall see a sustained increase in KSI casualties between 2020 and 2030 but the local authority areas within D&C would be among the top 10 worst performing areas. To date this increase has not come to fruition, but the projections serve as important context. D&C is not starting with a static annual position but rather an upward trajectory.

Cornwall had a higher rate of KSI casualties per 100,000 population than the Devon and Cornwall police force areas as a whole. It will be important to assess if this continues in 2023 and to further analyse the differences in casualty trends between the Local Authority areas.

The Strategic Assessment has presented some key insights into each VZSW road user theme, traffic volumes and speed, individual local authority area casualties per 100,000 population, the fatal five, enforcement activity and the impact of Covid19.

Pedestrians and motorcyclists, and in particular those riding motorcycles over 125cc are a large proportion of killed and serious injury casualties and should be a key priority.

Some road users are involved in a large number of collisions but do not constitute a proportional number of casualties. When designing interventions VZSW should be cognisant that some roads users come to harm and others do harm.

This report will be complemented by the 2023 Road User Survey, Safety Performance Indicators and a national comparator report.

16.0 LIMITATIONS

The 2022 collision and casualty data has been fully validated but is subject to variation. In addition, a small number of fatal collisions are awaiting a coroner's inquest, the result of which may result in a fatality being deemed to be outside the definition of a Stats19 collision.[43] Any changes resulting from this would be documented and reflected in collision and casualty reports.

Offence data is subject to change as the offence is progressed. For example, approximately 900 2022 intoxication offences are still under investigation. Some offence data may require a reporting lag to account for the police enforcement process.

There is a lack of contextual data, for example it has not been possible to obtain data relating to the number of vehicle licence holders or vehicle ownership in D&C which would have provided context to collision and casualty reporting. It is also not possible to report the number of hours of enforcement undertaken in respect of police issued tickets.

Devon County Council has some vehicle recording devices across eight sites that have a comprehensive daily dataset for vehicle flow and speed. This has facilitated an analysis of the impact of Covid19. The data, however, only represents a small sample relative to the large road network of Devon and Cornwall.

A deep dive of collision investigation reports identified some pertinent insights for the motorcycle, pedestrian, older and younger driver themes. These collisions were randomly selected but are none the less a small sample of the overall KSI collisions.

The DfT have published a methodology to divide casualties into 5 severity groups instead of the traditional 3 severity groups. These new groups are, Fatal, Very Serious, Moderately Serious, Less Serious and Slight. The traditional groups are, Fatal, Serious and Slight. We are currently reviewing the quality of the local data before we begin using these additional injury severities.

The data analysis for this report was completed between June 2023-September 2023, it is subject to some fluctuation. Any changes will be reflected in the 2024 version of the Strategic Assessment.

[43] This mainly relates to the designation of a death as being the result of suicide or medical episode rather than the road traffic collision.