

# London E-scooter Trial Safety Factsheet

May 2025

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## **Executive Summary**

**Guidance issued by the Department for Transport (DfT) in summer 2020 allowed local authorities in the UK to trial e-scooters as part of a rental scheme. Rental e-scooters are the only legal way to ride an e-scooter on public land. Vehicles used in these trials must meet minimum standards set by the DfT and the London e-scooter rental trial (“Trial”) exceeds these standards, for example the Trial has a maximum speed limit of 12.5mph compared to 15.5mph set nationally. The use of privately-owned e-scooters on public land remains illegal in the UK and private e-scooters are not required to meet any minimum standards for use as a vehicle. The Trial e-scooters in London are considerably more robust than private e-scooters.**

**The purpose of the Trial is to gather insights on this new mode of transport to determine the long-term role e-scooters can play in the Mayor and TfL’s strategy for a safer, greener and healthier future for London.**

**The Trial began on 7 June 2021, coordinated by TfL in partnership with London Councils, participating London boroughs and selected operators Dott, Lime, and TIER (Phase 1). Following a Government decision in June 2022 to extend e-scooter trials, TfL launched a further competitive procurement. Through this process, operators Dott, Lime and Voi were selected to run the next phase (Phase 2) from 25 September 2023 under a new two-year contract with the possibility of extension(s) of up to one year.**

**The purpose of this factsheet is to report on Trial injury data using the same established method that is used for other modes of road transport, rather than using operator-reported injury data which has been used in Trial publications to date. This factsheet also provides a comparison of injury data for Trial e-scooters and private e-scooters.**

**Collisions reported to the police via the data collection system known as STATS19 provides the best available comparable data source across modes and is therefore selected as the data source for this factsheet. Note there are limitations to STATS19 as outlined in the ‘data limitations’ section. Injury risk rates show the likelihood of being injured on London’s roads by the mode of transport used. This is calculated by dividing the police reported casualty numbers per mode by the journey numbers for that mode. The injury risk rates in this factsheet relate to Trial e-scooters only and does not relate to private e-scooters. This means that the injury risk rates should not be read as representative of e-scooters as a mode.**

**This factsheet looks at collisions reported to the police relating to the Trial and comparisons to other modes over the Phase 1 period (7 June 2021 – 24 September 2023). During this time, there were 12 police reported collisions that related to Trial e-scooters which resulted in zero fatalities and 14 serious injuries. Of these 14 serious injuries, 11 were to people riding Trial e-scooters and three were to people walking who were injured in collisions with people riding Trial e-scooters.**

**It is important to highlight that there are limitations to the data collected in this factsheet which are outlined in the 'data limitations' section. This includes the fact that the Trial related data is based on a small sample size (14 serious injuries and 3.2 million journeys compared to 2,329 serious injuries and an estimated 900 million journeys for cycling). Given the small sample size, these figures are not fully representative of London and therefore should be used to provide indicative trends only. More journey data is required before making statistical conclusions on police reported collisions relating to the Trial. This data will be collected and monitored through Phase 2.**

**During Phase 1, there were no fatalities associated with the Trial. When comparing fatality risk rates across modes, the rate was lower for the Trial compared to all main modes across London.**

**Using the 11 serious injuries to people riding Trial e-scooters, the killed or serious injury (KSI) risk rate for people riding Trial e-scooters decreased year on year from 5.27 serious injuries per million journeys in 2021 to 2.09 serious injuries per million journeys in 2023. This means that the KSI risk rate for the Trial in 2021 (when it first launched) was higher than other modes but, in 2023, after two years of operation, the KSI risk rate for people riding Trial e-scooters reduced to a rate comparable to the rate for people riding pedal cycles. This could be due to a normalisation of the mode following the Trial's launch.**

**Using the three serious injuries to people walking who were injured in collisions with people riding Trial e-scooters, the KSI risk rate for people decreased year on year from 3.51 serious injuries per million journeys in 2021 to 0.00 serious injuries per million journeys in 2023. The KSI risk rate for people walking being injured by people riding a Trial e-scooter in 2021 (when the Trial first launched) was higher than other modes but in 2023, after two years of operation, the KSI risk rate decreased to a rate lower than other modes.**

**Private e-scooters by contrast were involved in six rider fatalities, 168 rider/passenger serious injuries and 68 serious injuries to people walking over the Phase 1 time period. Trial e-scooters represent six per cent of all KSIs for e-scooters in London.**

## **Data Sources and Limitations**

Data on e-scooter collisions is available from more than one source. Throughout the Trial, TfL has published data on operator-reported injuries. However, to enable comparisons with other modes, this factsheet uses the DfT published STATS19 data. The benefits and limitations of each data source are explained below.

### **Police reported collision data - STATS19**

This factsheet uses the DfT's published data and statistics on road collisions and casualties based on data collected by or reported to the police via the data collection system known as STATS19. During the time period covered by this factsheet, "E-scooters" were not one of the designated vehicle types collected in STATS19 reportable collisions, as such they were classed as "other vehicle" and could only be identified using a free text field. Therefore some e-scooter collisions may have been missed using STATS19 data.

It should be noted that single-vehicle e-scooter and pedal cyclist collisions are less likely to appear in STATS19 since they have no obligation to inform the police of collisions. This could mean that risk rates for these modes could be understated compared to other modes.

### **Operator reported injury data - Trial**

Throughout the Trial, TfL has published data at four-weekly intervals including information about trip numbers, average distance per trip, average time and the number of people injured as reported to the Trial operators. This data and further findings can be found on TfL's website [here](#). Due to the limitations with STATS19 data as outlined in the previous section, the injury data in these publications has used operator-reported data. This is gathered from TfL and operators through a wide range of sources including from customers, the public, emergency services or TfL's Network Management Control Centre (NMCC).

This operator-reported injury data differs to the police reported collision data collected through STATS19 because not all injuries reported to the operators will have been reported to the police, some incidents reported by operators did not occur on the public highway (i.e. were out of scope of STATS19), and not all of the injuries reported to the police will meet the STATS19 definition of reportable "serious" injuries. In particular, a comparison of STATS19 and operator data shows that most of the incidents where an e-scooter rider was injured without another vehicle being involved were not captured by the police reported data.

### **Data used in this factsheet**

The purpose of this factsheet is to report on Trial injury data using the same established method that is used for other modes of transport. Collisions reported to the police via STATS19 provides the best available comparable data source across modes and is therefore selected as the data source for this factsheet.

This factsheet provides a summary of personal injury road traffic collisions and casualties relating to the Trial which have been reported to and by the Metropolitan

Police Service (police) in accordance with the [DfT STATS19 definitions](#). They have been identified as relating to the Trial through reviewing the information included in the 'other vehicle' category free text field. These reports have been used to calculate a risk rate that is comparable to those published by TfL in October 2024 in the '[Casualties in Greater London during 2023 road safety factsheet](#)'.

This factsheet also includes a summary of all e-scooter (both private and Trial) collisions and casualties in Greater London from the STATS19 dataset and has been provided for comparison to the Trial related reports.

## Data limitations of this factsheet

There are limitations to the data sources and data collection methods used for this factsheet. In summary these include:

- STATS19 data collection system:
  - During the time period covered by this factsheet, 'e-scooters' were classed as 'other vehicle' and could only be identified using a free text field. This could mean that some e-scooter collisions and collisions specifically associated with the Trial have been missed using STATS19 data. More information can be found on the DfT website [here](#).
  - Single vehicle e-scooter and pedal cyclist collisions are less likely to appear in STATS19. This could mean that risk rates for these modes are understated when compared to other modes.
- Injury risk rates:
  - The injury risk rates calculated for the Trial are based off small sample sizes of journey and injury data. The small sample size is not representative of London and therefore definitive conclusions cannot be made on risk rates of the Trial.
  - The injury risk rates calculated are for Trial e-scooters only. There is no available journey data for private e-scooters and therefore an injury risk rate cannot be calculated for private e-scooters. The injury risk rate calculations and comparisons are therefore reflective of Trial e-scooters only (and their specific and high safety standards) and not e-scooters as a mode.
  - The journey data used is collected differently for the Trial compared to other modes. For the Trial, journey data is collected using near real-time information from a set of Application Programming Interfaces. For other modes, journey data is collected from the [London Travel Demand survey](#) that randomly selects a sample of households in London to be interviewed about their travel habits.
  - The injury risk rates for the Trial are calculated using journey numbers from partial years in 2021 and 2023, whereas the injury risk rates for other modes is calculated using journey numbers from full years in 2021 and 2023. Therefore it should be noted that there may be seasonal fluctuations not accounted for in the Trial injury risk rates in 2021 and 2023, and that 2022 is the only year that uses a full year of journey data for the Trial.
  - E-scooter users are not protected by a vehicle body in the same way as car users. They are therefore more likely to be injured in a collision with a

car than the car occupant. This makes the risk rates for e-scooter riders more comparable to pedal cycling and motorcycling than to cars.

- All e-scooter collisions and casualties in London
  - The Trial injury and journey data reflects a limited geography of London where the Trial operators (ten boroughs only). All e-scooter collisions and casualties reflect the whole of London.

The DfT published a [national evaluation of e-scooter trials report](#) in December 2022 which provides a national view on the safety of e-scooter trials.

# Police Reported Collisions Relating to the Trial – Phase 1

During Phase 1 (7 June 2021 to 24 September 2023), there were 12 police-reported collisions relating to Trial e-scooters which resulted in zero fatalities and 14 serious injuries. Figure 1 shows that of these 14 serious injuries, 11 were to people riding Trial e-scooters and three were to people walking when they were injured in a collision involving Trial e-scooter riders. Figure 2 shows this data broken down across the different years of Phase 1. Figure 3 shows this data across every three months of Phase 1.

Figure 1: People seriously injured on or in a collision involving a Trial e-scooter during Phase 1

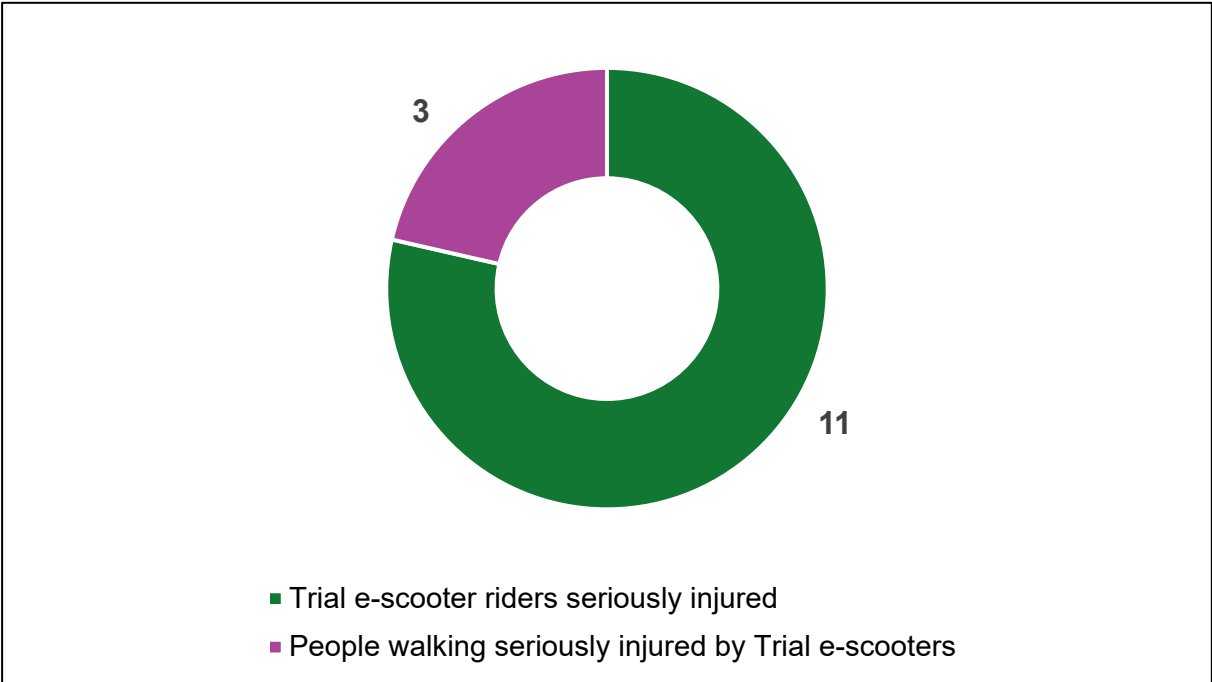


Figure 2: People seriously injured on or in a collision involving a Trial e-scooter during Phase 1, broken down by year

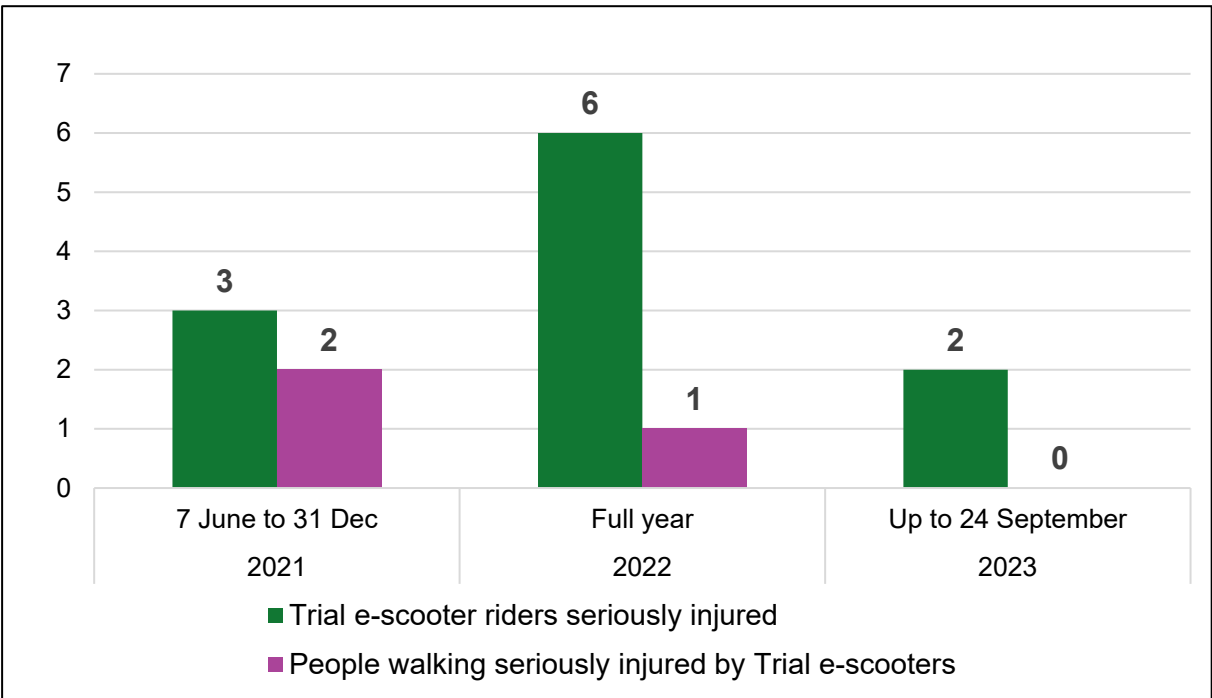
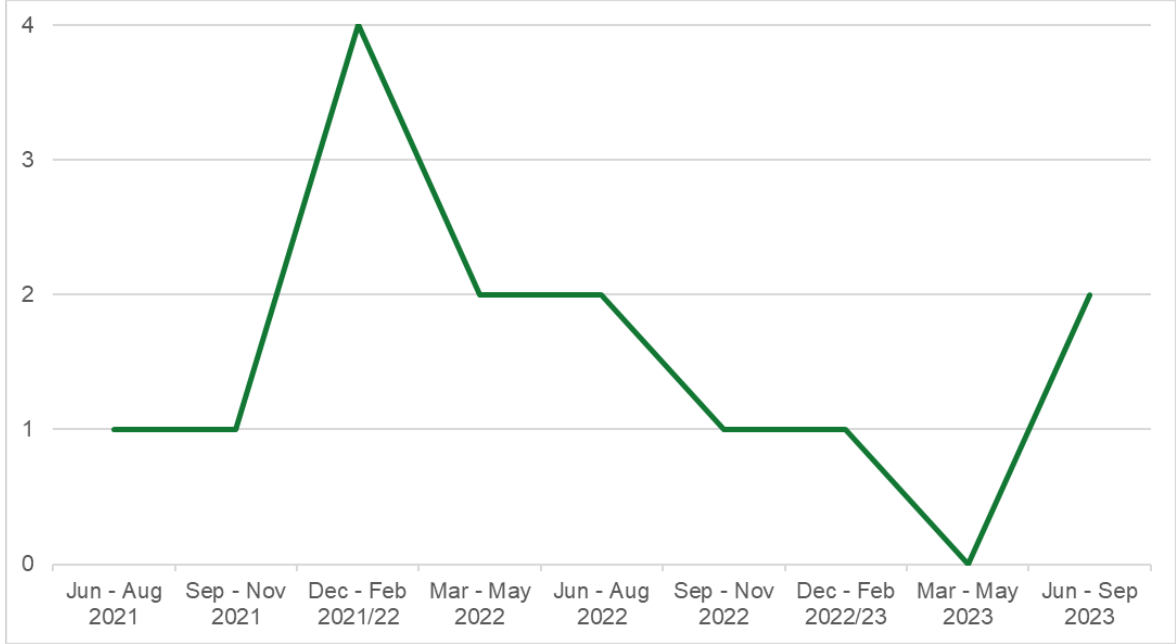


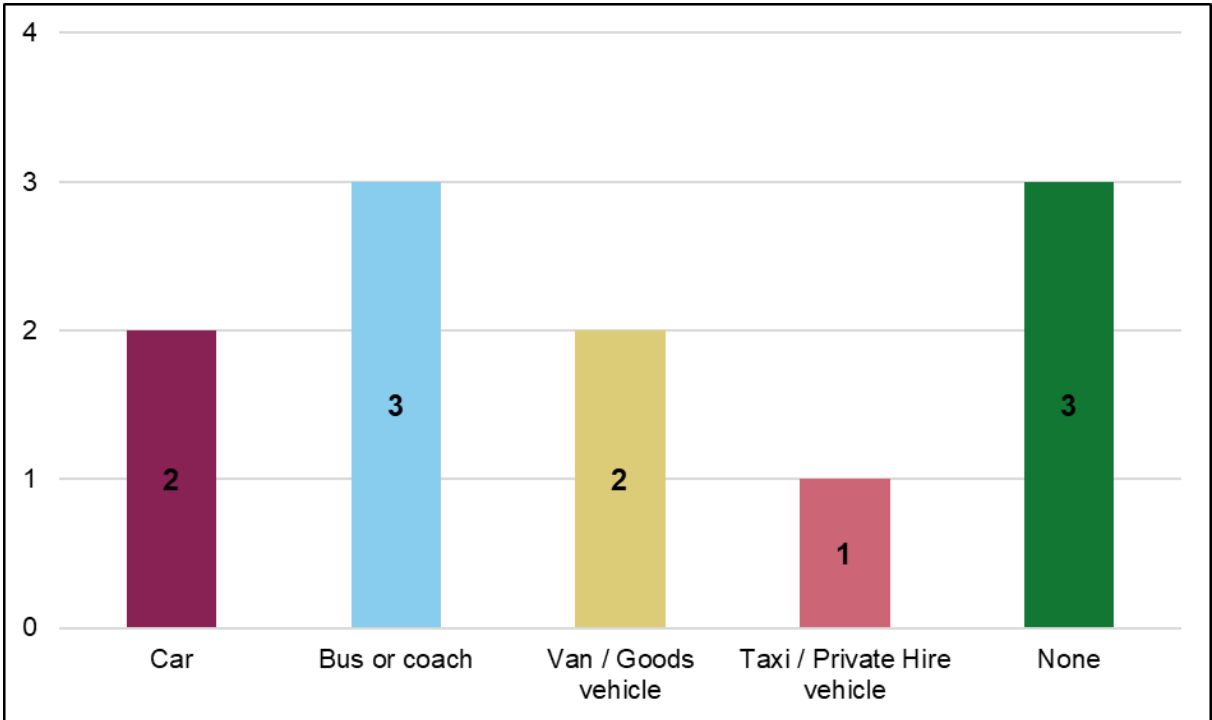
Figure 3: People seriously injured on or in a collision involving a Trial e-scooter over the duration of Phase 1, broken down by quarter (every three months)



**Other vehicles involved in collisions related to Trial e-scooters**

Figure 4 illustrates data on other vehicles involved in the 11 police-reported collisions associated with the Trial. Note that involvement does not necessarily mean the other vehicle was at fault for the collision. Figure 4 shows that eight out of the 11 collisions that resulted in serious injuries to Trial riders during Phase 1 involved another vehicle, and three were solo collisions.

Figure 4: People seriously injured on or in a collision involving a Trial e-scooter during Phase 1, broken down by other vehicles involved (excluding casualty mode)



# Injury Risk Rates for the Trial – Phase 1

## Comparative injury risk rates

Injury risk rates show the likelihood of being injured on London’s roads by the mode of transport used. This is calculated by dividing the casualty numbers per mode by the journey numbers for that mode. For the Trial, the casualty numbers are based on 14 police reported serious injuries and for other modes the casualty numbers are based on the the data included within the [‘Casualties in Greater London during 2023 road safety factsheet’](#). For journey numbers, Trial journeys are published [here](#) whereas other modes use the London Travel Demand Survey data published in the [Casualties in Greater London during 2023: Injury risk annex](#) (Table 6). The injury risk rates for the Trial are calculated using journey numbers from partial years in 2021 and 2023, whereas the injury risk rates for other modes is calculated using journey numbers from full years in 2021 and 2023. Therefore it should be noted that there may be seasonal fluctuations not accounted for in the Trial injury risk rates in 2021 and 2023, and that 2022 is the only year that uses a full year of journey data for the Trial.

The e-scooter risk rates are calculated for Trial e-scooters only and does not include data for private e-scooters. It is also not possible to calculate injury risk rates for dockless e-bikes as injury and journey data is not available for this mode type.

## Risk of injury to people riding a Trial e-scooter

Figure 5 shows that the killed or serious injury (KSI) risk rate for people riding Trial e-scooters decreased year on year from 5.27 serious injuries per million journeys in 2021 to 2.09 serious injuries per million journeys in 2023. The average KSI risk rate across the Phase 1 period was 3.45 serious injuries per million journeys.

Figure 5: KSI risk rate per million journeys for people riding Trial e-scooters, broken down by year

Year	Trial dates	Trial e-scooter rider KSIs	Journeys	KSI per M journeys
2021	7 June to 31 December	3	569,648	5.27
2022	Full year	6	1,657,717	3.62
2023	Up to 24 September	2	959,122	2.09
<b>Phase 1 Total</b>	<b>June 2021 – September 2023</b>	<b>11</b>	<b>3,186,487</b>	<b>3.45</b>

For fatalities alone, Figure 6 shows that no one was killed while riding a Trial e-scooter during Phase 1. This means that the average annual fatality risk rate for the Trial was lower when compared to other modes.

Figure 6: Fatality risk rate per million journeys for all main modes across all of London broken down by year (\*a risk rate was not included here as the data collected at this time was during the Covid pandemic and was not deemed representative)

Year	Bus or coach occupant	Taxi or PHV occupant	Car occupant	Motorcyclist	Pedal Cyclist	Pedestrian	Trial E-Scooters Phase 1
2021	0.001	-	0.003	0.139	n/a*	0.015	0.000
2022	0.001	0.010	0.008	0.180	0.016	0.017	0.000
2023	-	0.011	0.005	0.170	0.017	0.020	0.000
<b>Average</b>	<b>0.001</b>	<b>0.007</b>	<b>0.005</b>	<b>0.164</b>	<b>0.017</b>	<b>0.017</b>	<b>0.000</b>

For fatalities and serious injuries combined, Figure 7 shows that the KSI risk rate for the Trial in 2021 (when it first launched) was higher than other modes except motorcycling. However, in 2023, after two years of operation, the KSI risk rate for people riding Trial e-scooters (2.09) was comparable to the rate for people riding pedal cycles (2.04).

Figure 7: Fatality and serious injury risk rate per million journeys for all main modes across all of London, broken down by year

Year	Bus or coach occupant	Taxi or PHV occupant	Car occupant	Motorcyclist	Pedal Cyclist	Pedestrian	Trial e-scooter Phase 1
2021	0.06	0.16	0.14	9.19	n/a*	0.40	5.27
2022	0.08	0.26	0.16	7.66	2.37	0.50	3.62
2023	0.07	0.40	0.14	6.22	2.04	0.52	2.09
<b>Average</b>	<b>0.07</b>	<b>0.27</b>	<b>0.15</b>	<b>7.59</b>	<b>2.20</b>	<b>0.47</b>	<b>3.45</b>

**Risk of being injured in a collision involving a Trial e-scooter**

Figure 8 shows that the KSI risk rate for people walking being injured by people riding a Trial e-scooter decreased year on year from 3.51 serious injuries per million journeys in 2021 to 0.00 serious injuries per million journeys in 2023. The average KSI risk rate for people walking across Phase 1 was 0.94 serious injuries per million journeys.

Figure 8: KSI risk rate per million journeys for people walking being injured by people riding Trial e-scooters during Phase 1, broken down by year

Year	Trial dates	People Walking KSIs	Journeys	KSI per M journeys
2021	7 June to 31 December	2	569,648	3.51
2022	Full year	1	1,657,717	0.61
2023	Up to 24 September	0	959,122	0.00
<b>Phase 1 Total</b>	<b>June 2021 – September 2023</b>	<b>3</b>	<b>3,186,487</b>	<b>0.94</b>

Figure 9 uses casualty data from the Road Danger Reduction dashboard (page 7, Casualty by Involved Vehicle Types). This figure shows that the KSI risk rate for people walking being injured by people riding a Trial e-scooter in 2021 (when the Trial first

launched) was higher than other modes except motocyling. However, in 2023, after two years of operation, the KSI risk rate decreased to a rate lower than other modes.

Figure 9: KSI risk rate per million journeys to people walking for for all main modes across all of London, broken down by year

Year	Taxi or Private Hire Vehicle	Car	Motorcycle	Cycle	Trial e-scooter Phase 1
2021	0.42	0.29	1.07	n/a	3.51
2022	0.46	0.36	1.55	0.19	0.60
2023	0.75	0.36	1.22	0.20	0.00
<b>Average</b>	<b>0.55</b>	<b>0.34</b>	<b>1.29</b>	<b>0.20</b>	<b>0.94</b>

# Wider Context – Comparing Trial and private e-scooter collisions and casualties in London

The analysis in this section is of people killed or seriously injured as riders and passengers of e-scooters as reported to or by the police using the same free text search of STATS19 data. This analysis includes data covering both privately owned and Trial e-scooters. It should be noted that the data for the Trial represents a limited geography of London where the Trial operates, whereas the data for private e-scooters represents the whole of London. Furthermore, the use of private e-scooters on the public highway is illegal and therefore these figures are likely to be an under-estimate.

During the Phase 1 time period, there were six e-scooter rider fatalities and 179 e-scooter rider/passengers seriously injured across the whole of London. Of these, 11 related to people seriously injured riding Trial e-scooters, making up six per cent of all people killed or seriously injured whilst using e-scooters in London (Figure 10).

Over this same time period, there were 71 people killed or seriously injured by e-scooters. Figure 10 shows that people walking were the most affected (53), followed by people riding pedal cycles (14), and lesser impacts on other vehicles users and people riding motorcycles (2 each). Three of those people walking were injured by people riding Trial e-scooters, accounting for four per cent of people killed or seriously injured by people riding e-scooters during this period.

Figure 10: All e-scooter related fatalities and serious injuries during Phase 1

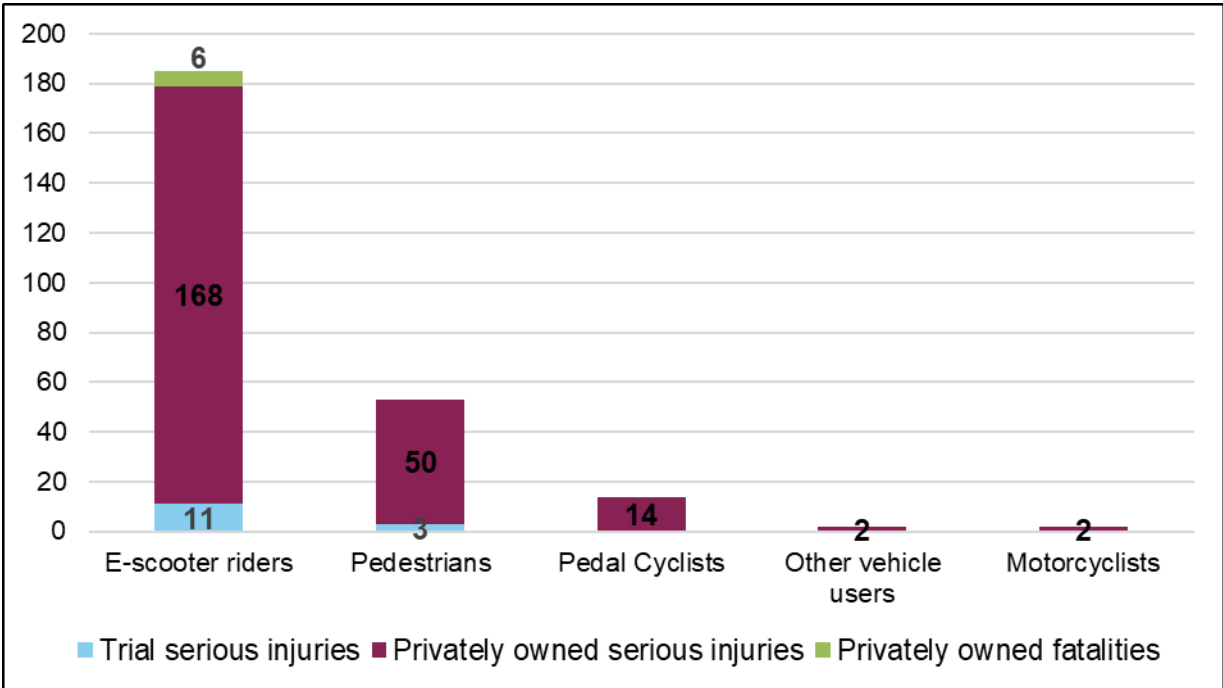
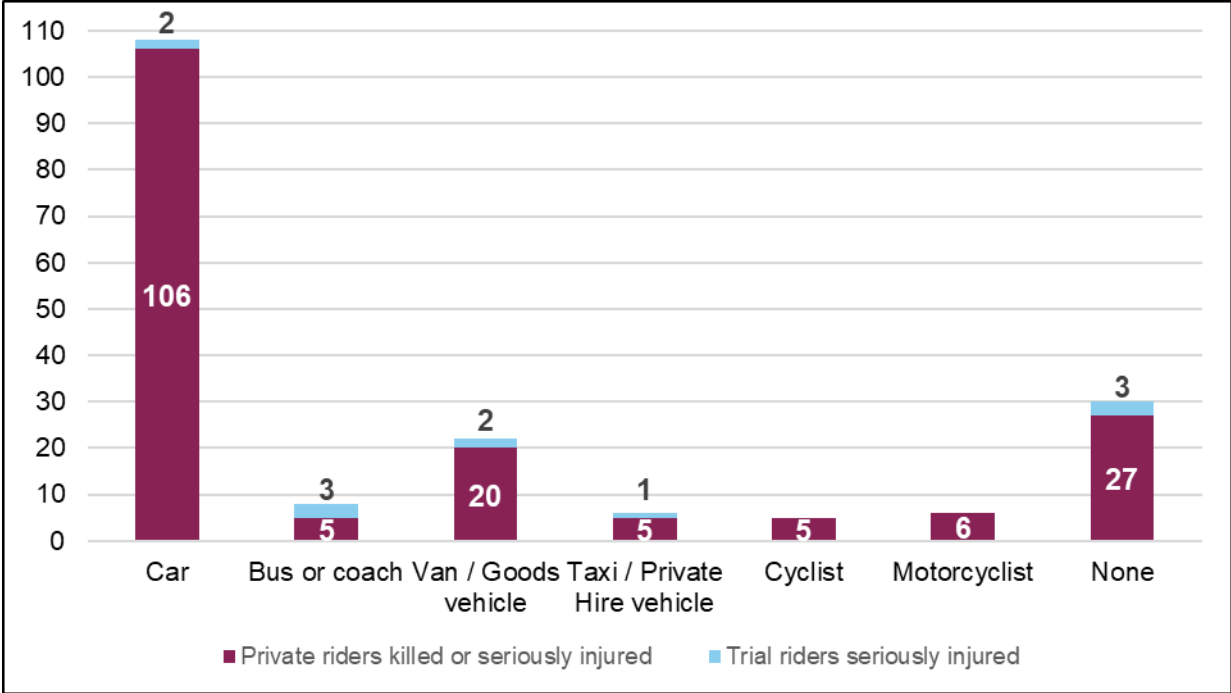


Figure 11 shows that of the 185 e-scooter riders that were killed or seriously injured during Phase 1, 155 involved another vehicle (involvement does not mean the other vehicle was at fault for the collision). Note that there may be more collisions that did not involve another vehicle than illustrated in Figure 11 because some of the collisions may have involved more than one other vehicle.

Figure 11. People killed or seriously injured in a collision involving an e-scooter during Phase 1, broken down by other vehicles involved



## Conclusion

Based on the STATS19 dataset used for all road collision and casualty reporting in London, the data from Phase 1 of the Trial shows a reduction in KSI risk rate over time. In 2023, people riding a Trial e-scooter had a comparable risk of being injured as if they had been riding a pedal cycle. A similar trend is shown for the KSI risk rate to those being injured by people riding a Trial e-scooter while walking, whereby the rate reduced over time to a rate comparable to being injured by people riding a pedal cycle in 2023. This reduction in risk rate over time could suggest that within the Trial area, Trial e-scooters as new mode of travel became more normalised as riders became proficient in their use and general traffic became more aware of them.

Privately owned e-scooters and Trial e-scooters have significantly different safety outcomes: there was a much higher number of people killed or seriously injured in a collision involving a private e-scooter when compared to Trial e-scooters (six per cent for Trial e-scooters compared to 94 per cent for private e-scooters). As there is no available journey data for private e-scooters, which remain illegal on public highways and are not subject to any build standards, a KSI rate cannot be calculated in order to make a direct injury risk rate comparison with Trial e-scooters. This data contributes to the continued need to introduce minimum build safety standards for privately owned e-scooters as part of any legislation on Low Speed Zero Emission Vehicles by Government.

It is important to note that there are limitations to the data analysed in this factsheet as outlined in the 'data limitations' section. In particular, the journey and police reported collision data analysed for the Trial represents a limited sample and therefore the trends are indicative only. The recommendation is that further journey data is collected and monitored through Phase 2 of the Trial before coming to any definitive conclusions.