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Traffic Crash Trends in Iceland 2002–2023 and the Rise of E-Scooters

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Introduction, research aim and objectives: This research considers major traffic crash trends in Iceland and the rise of e-scooters. In 2019 e-scooters were introduced in Iceland and had become a regular occurrence in traffic a year later, especially in the capital area. In this research, the term e-scooter refers to a two-wheeled micromobility device, powered by electric motor(s), where the rider stands on a deck and holds onto handlebars on a steering column, like a kick scooter. The e-scooters are frequently rented on short-term timescales, by the minute, using a smartphone app or individually owned. E-scooters have become a popular addition to the transport field in the capital area of Iceland and their use has risen quickly. The aim is to identify the major crash trends in Iceland and provide suggestions for further research.

Research methods: Traffic crash trends in Iceland are investigated by using the national traffic crash database for injury crashes reported to police in the period 2002–2023. The focus is on serious and fatal injuries in combination since the number of fatalities is low.

Results: Several selected policy-relevant traffic crash trends were plotted in Figure 1.

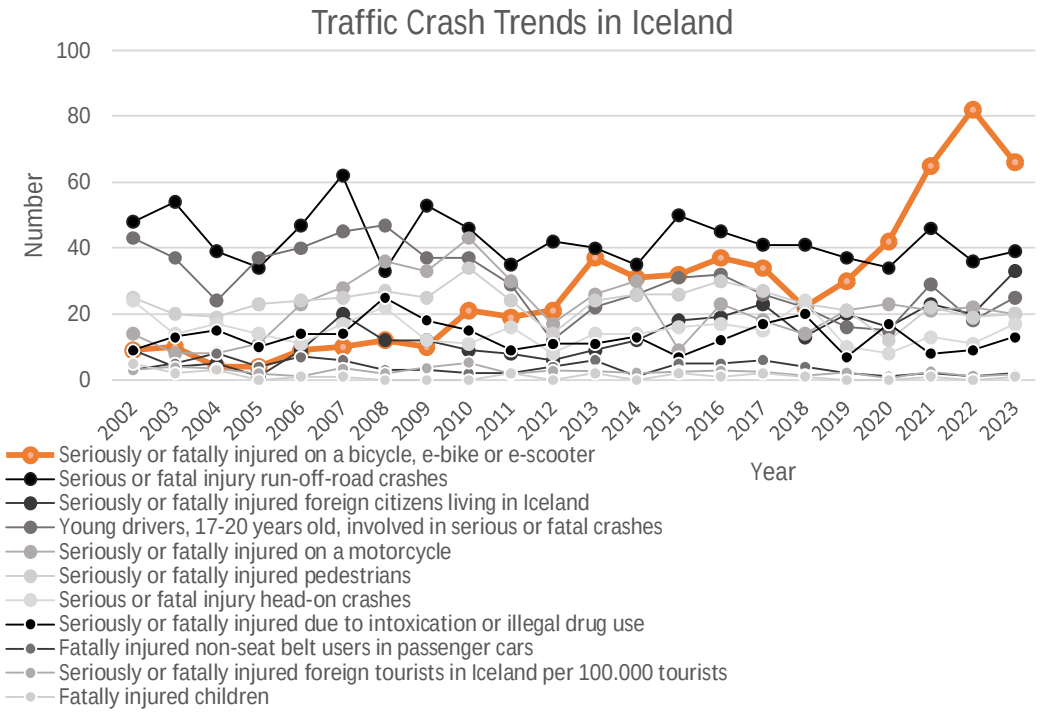

Figure 1. Selected traffic crash trends observed in Iceland 2002–2023.

During 2002–2023 the number of registered vehicles increased from 179,564 vehicles to 357,155 vehicles according to Statistics Iceland, and traffic volumes have increased. Yet, Figure 1 shows that all trendlines are either holding relatively steady or decreasing, except for one trendline, the one for bicycles, e-bikes and e-scooters. This line starts to rise in 2019 and has increased greatly year by year. It has strongly separated itself from the other metrics. E-bikes and e-scooters are presently considered as bicycles and recorded jointly. It is possible to separate these in data from 2011 and the result is shown in Figure 2 (omitting e-bikes which are less than 10 recorded crashes per year).

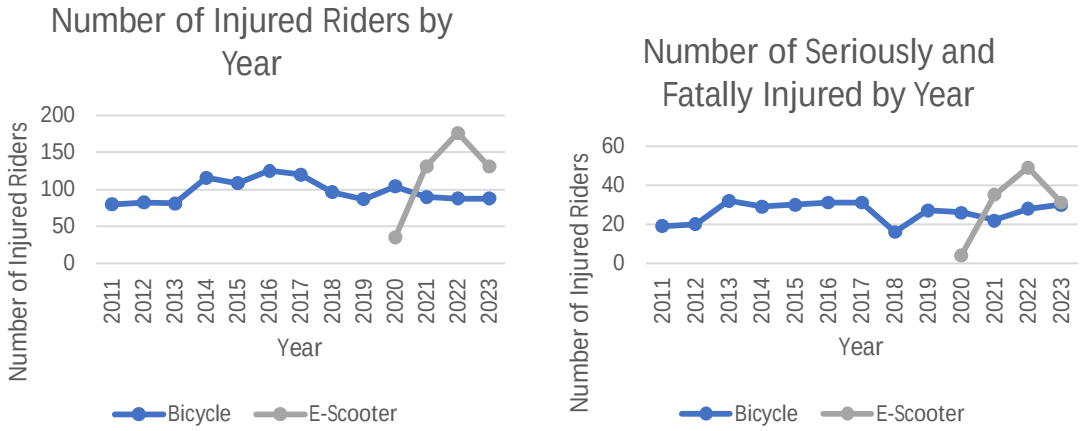

Figure 2. The total number of all injured riders, and seriously and fatally injured, on bicycles and e-scooters in the years 2011 to 2023 in Iceland.

There are no recorded traffic crashes for e-scooters prior to 2020, when they appear and are less than half the number of bicycle crashes. However, in 2021 and 2022 the situation changed for the worse and reported e-scooter crashes rose dramatically each year. There was a slight reduction in 2023 down to the same level as in 2021.

Discussion and conclusions: E-scooters have entered the traffic scene in Iceland as a popular and increasingly used micromobility vehicle. E-scooters are especially popular as a short-term rental using a smartphone app. The number of crashes with injuries has risen dramatically as the use of e-scooters has increased. There is no usage data available, and it is therefore not possible to determine crash risk. In terms of shares of injury crashes, about one third of the crashes is serious (includes few fatal crashes), which is the same general distribution as seen for bicycles. However, based on the overall trendlines, it can be reasoned that the e-scooter crashes are new and additional crashes that would not have otherwise occurred. There is no reduction in other types of crashes to account for the increase in e-scooter crashes. A new group of people is being injured. It has been reported that many of the e-scooter crashes lead to serious injuries to the upper body and face. It appears that bicycle helmets provide less safety for e-scooter riders than for bicycle riders. A deeper investigation of the e-scooter crashes is warranted and is presently under way.

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