

## STUDYING THE CAUSES OF ROAD TRAFFIC ACCIDENTS IN THE FERGANA VALLEY.

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### ARTICLE INFO

### ABSTRACT:

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*studying the causes of road traffic accidents in the fergana valley conditions on road safety.*

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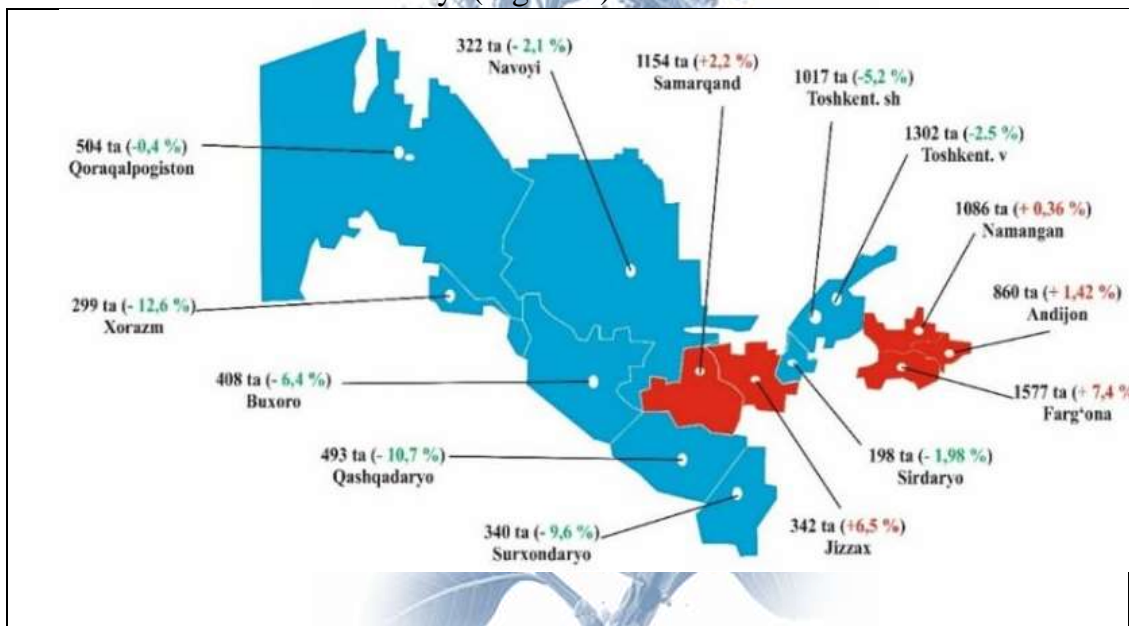
**INTRODUCTION.** In the world, special attention is paid to improving road infrastructure, ensuring safe and comfortable traffic conditions for road users, the widespread use of intelligent systems in organizing and managing road traffic, and sharply reducing the number of deaths on the roads. Currently, according to the World Health Organization, "...1.19 million people die in road accidents (RAs) worldwide every year, 3,200 people every day, or 2 people every minute, and 50 million people (including 240,000 children) are injured as a result of RAs every year, many of whom remain disabled for life." In this regard, special attention is being paid to improving road safety, including by assessing the impact of road conditions on the occurrence of road accidents, using digital technologies in recording road accidents and creating rapid recording methods, and assessing and modeling factors affecting road accidents.

Currently, issues such as increasing road safety, sharply reducing the number of road accidents and fatalities, improving road infrastructure, and creating favorable conditions for road users are among the pressing issues being addressed at the state level.

More than 10,000 road accidents occur in the Republic of Uzbekistan every year, of which about 2.5 thousand people die each year and about 10,000 people receive injuries of varying degrees.

The Fergana Valley, consisting of the Fergana, Namangan, and Andijan regions, is a region with a small area, a dense population, a high density of road networks, a high volume of traffic on highways, a high number of road accidents, and a low level of road safety compared to the rest of the republic.

In 2022, 9902 (2356 fatalities, 9606 injuries) and 9843 (2282 fatalities, 9209 injuries) road accidents occurred in the Republic, of which 3468 (35%) in 2022 and 3057 (31%) in 2023 occurred in the Fergana Valley regions. The Fergana Valley is classified as a “red” or dangerous area in terms of road safety. (Figure 1).

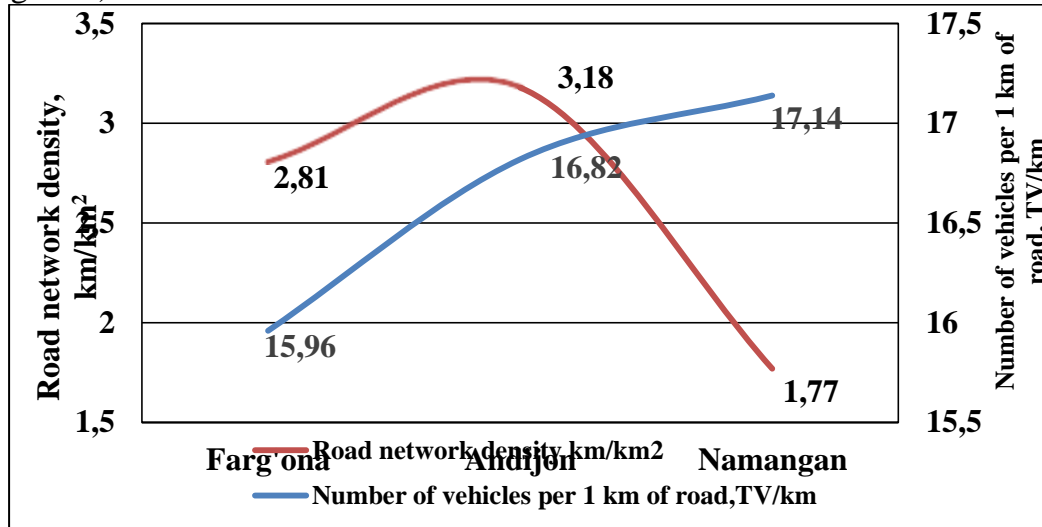


**Figure 1.** Distribution of traffic accidents across the republic by region in 2022.

The increasing percentage of passenger cars in the transport flow is leading to an increase in the average speed of the flow and, as a result, a sharp increase in the number of accidents in areas with unsatisfactory road conditions. As a result of the research, the condition of public roads and traffic accidents in the Fergana Valley were analyzed.

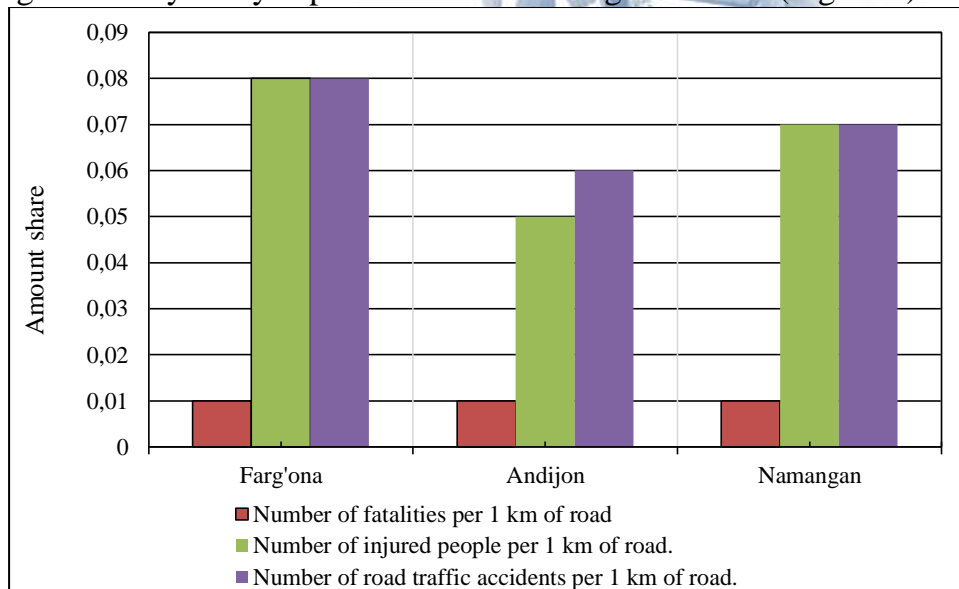
The total number of vehicles in the Fergana Valley is 995,821, of which 86.4% are passenger cars, 11.4% are trucks, 0.06% are special vehicles, 0.84% are buses, and 1.3% are motorcycles. Based on the above data, it was determined that the number of vehicles (TV)

per 1 km of road in the Fergana Valley is 21.05 TV/km. The figure below analyzes the distribution of vehicles and the density of the road network by region in the Fergana Valley (Figure 2).



**Figure 2.** Analysis of vehicle distribution and road network density by region of the Fergana Valley.

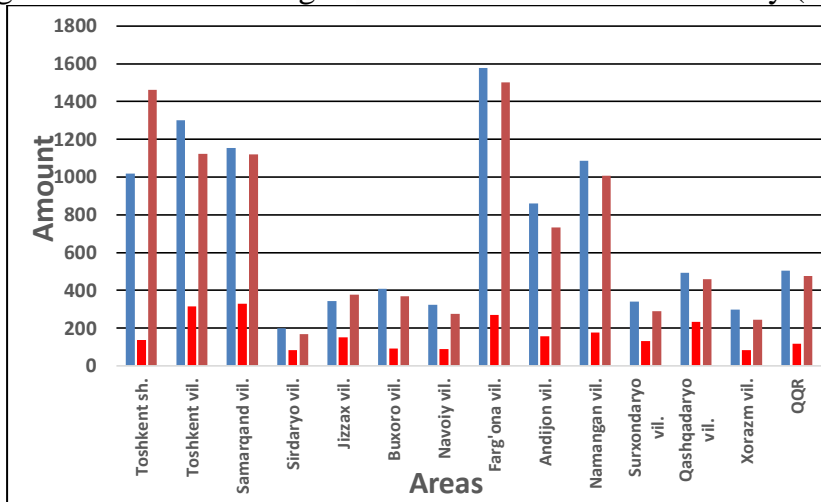
An analysis of the number of accidents, fatalities, and injuries per 1 km of road in the Fergana Valley today is presented in the histogram below (Figure 3).



**Figure 3.** Histogram of the number of accidents, fatalities, and injuries per 1 km of road in the Fergana Valley.

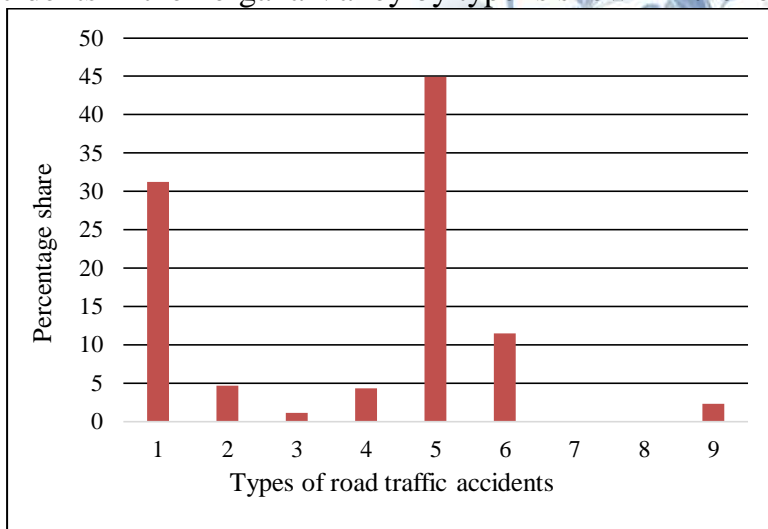
Analysis shows that Fergana region has the highest total number of road accidents, fatalities, and injuries per 1 km of road in the Fergana Valley (Figure 3).

When analyzing the number of road accidents, fatalities, and injuries that have occurred across the republic in recent years, the following histogram shows that the Fergana Valley regions fall into the dangerous zone in terms of road safety (Figure 4).



**Figure 4.** Histogram of the number of road accidents, fatalities, and injuries across the republic.

When analyzing the last 10 years of traffic accidents in the Fergana Valley, the most common types of traffic accidents are Type 5 “Pedestrian Hit” (44.9%), Type 1 “Collision” (31.2%), and Type 6 “Cyclist Hit” (11.5%) [10]. The analysis of the occurrence of traffic accidents in the Fergana Valley by type is shown in the following histogram (Figure 5).



**Figure 5.** Distribution of traffic accidents by type in the Fergana Valley.

When analyzing the causes of traffic accidents, 14% were due to the lack of road barriers, 10% to the lack of installation of group 2 pedestrian barriers, 9% to the lack of road lighting, 4.1% to unsatisfactory road conditions, 1% to the lack of bicycle lanes, 6% to the lack of traffic lights or road signs, 3.3% to other objective reasons, 14% to failure to comply with the established speed limit, 3% to driver inexperience, 1% to failure to comply with traffic lights or road signs, 17% to failure to yield to pedestrians, 8% to violation of the overtaking rule, 5% to failure to maintain a safe distance, and 5.5% to other subjective reasons.

To ensure traffic safety on the Fergana Valley roads, urgent tasks include increasing traffic safety and comfort on the roads, drastically reducing road fatalities, improving road infrastructure, creating favorable conditions for road users, and reducing traffic accidents through the use of modern digital technologies and the implementation of advanced methods of organizing traffic on the roads.

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