

THE ROLE OF ROAD CONDITIONS IN ENSURING TRAFFIC SAFETY

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ABSTRACT

According to official statistics, the direct role of road conditions in the occurrence of accidents is small. They explain from 2 to 20% of the total number of accidents in different countries. In Russia, various sources in recent years have indicated that the road is the cause of every fifth or seventh accident. The seemingly small influence of the road is due to the fact that traffic police officers investigate incidents without using equipment that could objectively record the size and condition of road elements, as well as weather conditions at the time of the incident.

Keyword: road conditions, road deformation, traffic accidents, pavement, movement speed.

INTRODUCTION

Road traffic accidents can only rarely be attributed to a single cause. Usually they are the result of the interaction of a number of factors, of which one is decisive. Meanwhile, when analyzing statistical data, only one reason is usually indicated, most often the fault of the driver who incorrectly chose the mode of movement, especially since for any incident you can always indicate the speed of movement of one of the participants at which it would not have happened.

A serious clarification was made to this issue by clause 11.1 of the Rules of the Road (1987), according to which the driver is obliged to slow down or stop the vehicle in cases where he is "able to detect an obstacle or danger to traffic." This eliminates the fault of drivers and increases the responsibility of road conditions in accidents at unmarked places of increased slipperiness or as a result of driving into a deep pothole filled with water or powdered with snow.

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incidents without using equipment that could objectively record the size and condition of road elements, as well as weather conditions at the time of the incident. Among those caused by adverse road conditions, only incidents related to clearly conspicuous failures of the road or road structures are included - poor condition of roadsides and bridges (10-12%), lack of fences, unevenness (25%) or obvious slipperiness of coatings - ice (40 %).

MATERIALS AND METHODS

The underestimation by official statistics of the role of the road in the occurrence of road traffic accidents creates a mood of complacency among road workers and contributes to their formal and sometimes indifferent approach to participation in the fight for traffic safety. It is especially dangerous in that it gives grounds when developing projects for new construction or reconstruction of existing roads to exclude, in search of ways to reduce the cost of work that increases every year, among others, measures directly aimed at improving traffic safety (for example, the installation of sidewalks and lighting in populated areas, referring them to the work of the second stage, performed during operation, or believing that they should be performed by other organizations).

In cases where detailed analysis was carried out with an inspection of the scene of accidents and taking into account the specific features of their occurrence, it turned out that road conditions significantly contributed to the occurrence of these accidents, unexpectedly making driving more difficult compared to previous sites.

Influence of road conditions on traffic safety About 8% of traffic accidents are related to road conditions, the most important of which are slipperiness and evenness of the road. Slipperiness can be caused by various reasons. The road may be slippery due to water, snow or pavement conditions.

When road conditions worsen due to weather changes, the number of accidents with serious consequences decreases, but the number of minor ones increases. Irregularities have a similar effect on traffic safety. On the one hand, an increase in bumps contributes to the vibrations of the car; at high speed, the wheels can be lifted off the road; overturning is possible when driving around an obstacle. On the other hand, on rough roads, drivers reduce their speed, and therefore the danger.

The longitudinal and transverse profiles of the road have a psychological impact on the driver. On a narrow road with sharp turns, the driver is constantly in suspense, so he gets tired faster. On a wide, flat road with large curvature radii, the driver's sense of speed is dulled; from relative inactivity, he loses activity and attentiveness. In this case, the onset of a state of parahypnosis is possible.

The main elements of active, passive, post-accident and environmental safety of the road Road safety is understood as its properties that ensure the safe movement of vehicles on it and the absence of a negative impact on the environment. Like 25 vehicle safety, road safety is made up of active, passive, post-crash and environmental safety. Active road safety is its properties that prevent the occurrence of a traffic accident. The main requirement for the road is good traction, which determines the dynamics of vehicles, the ability to stop in front of an obstacle, and safely maneuver. To ensure good traction, the road surface must be rough.

For this purpose, small fractions of road building materials are introduced into the composition of pavements, which, protruding above the road surface, provide good adhesion of tires to the coating. Water reduces tire traction, and large deep puddles are a serious obstacle when driving at high speed. The streams of water raised into the air pollute the windows of cars and impair visibility. To drain water, roads are always made with a slope in the transverse profile. Water, flowing down from the carriageway, falls on the side of the road, the right of way and is absorbed into the ground. The element of active road safety is the shoulder. Vehicles stop on it and thus do not interfere with other road users. In a dangerous situation, you can use the side of the road to avoid a sudden obstacle. To do this, the shoulder should be wide enough, even, and not wet. The active safety of the road is affected by its geometric parameters: the width of the carriageway and traffic lanes, slope, | radii of curvature, width of the dividing strip.

RESULT AND DISCUSSION

Good fixed lighting of the road at night provides good visibility. Sometimes, near the intersection, the road surface is made wavy. When the car enters this area, it starts to shake, and the driver is forced to slow down. Such an element of the road is called a shaking lane. On suburban roads, buttons (protrusions) are sometimes installed along the marking line between adjacent lanes. If the driver falls asleep on such a road and the car starts to move out of the lane, he runs into buttons that either start shaking him or go down and make different sounds at the same time. The number of traffic accidents at dusk and at night is disproportionately high, especially in settlements without artificial lighting. There are a number of methods to improve the orientation of drivers during night traffic: road lighting; arrangement of road surfaces from light materials (“lightened pavements”); center line marking, laying of light edge stripes; installation of road signs with a reflective or illuminated surface; installation of guide devices on the road, barriers on the median strip to protect against blinding. And: of all these activities, artificial lighting is especially active in reducing the number of accidents. Its introduction reduces the number of accidents by 25-35%. On the roundings of country roads that run in an open area, where it is difficult to perceive a

turn at night, columns with retroreflectors are installed along the roadside: on the right - red, on the left - white. In traffic lights, luminous reflectors on posts clearly indicate the route. The elements of active road safety include road signs, traffic lights, as well as other devices and structural elements that support a safe driving mode. Under the passive safety of the road understand its properties that reduce the severity of the consequences of a traffic accident, if it happened. One of the elements of passive safety are fences, which are installed on dangerous sections of roads with curves, with steep and high slopes.

They prevent the vehicle from falling off the road. On mountain roads, so-called emergency dead ends are used, into which cars with failed brakes can drive. (the inscription for 100 m "emergency dead end") The state of the adjacent territory refers to the passive safety of the road (separation strip m / y sidewalk and FC).

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