

Requirements for Organizing Traffic in Difficult Traffic Conditions

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Abstract: Today, ensuring traffic safety on city streets and roads remains one of the main problems. According to statistics, on average, about 10 thousand road accidents occur in the Republic of Uzbekistan every year, resulting in the deaths of two thousand three hundred people and injuries of 9-10 thousand people.

In particular, it is necessary to fully align road infrastructure with modern requirements for ensuring traffic safety, establish an effective system aimed at early prevention of violations in this area, as well as widely introduce digital technologies that eliminate the human factor.

Key words: transport, dangerous, driver, movement, event, car, wheel, condition, pedestrian.



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Introduction; The above-mentioned complex conditions affect the movement of vehicles and increase the likelihood of accidents. Such situations indicate the urgency of developing necessary measures to ensure road safety. In such cases, warning drivers helps to ensure traffic safety.

Heavy snowfall reduces visibility and impedes the movement of vehicles, can lead to side skids due to the formation of ice on the road surface. Snowfall not only reduces visibility, but also causes the wheels to spin. This change is also dangerous, because the driver, having adapted to a certain braking method, may not notice and take into account the sudden change in road conditions during snowfall, which can lead to a road accident. Experienced drivers avoid sudden braking during snowfall. This is because they may not notice snow-covered ice and icy areas.

Methods; In addition, here are a few other dangerous situations that can arise as a result of snowfall:

- as a result of the softening of the roadbed (temperature 0 ° when above level) there is a risk of falling as a result of climbing onto it;
- Imperfections may become covered with snow and cause the car to slide;
- the vehicle's windshield, headlights, taillights, and side windows are covered with ice, which prevents it from providing sufficient information to other road users and the driver;

- Vehicles with studded tires must be marked with distinctive signs. This is because the braking distance of such vehicles is 1.5-1.6 times shorter. It is better to maintain a greater distance when following such vehicles ;

snowfall , traffic light signals, road signs, and road markings become invisible as a result of tree branches covered with snow hanging down ;

- The main danger is the inability to maintain a safe following distance and speed in snowy conditions. Much attention is paid to heating the cabin and cleaning the windows.



Figure 1. Limited visibility during snowfall

Heavy rain reduces visibility and can cause traffic jams. Let's look at the main dangers that arise during rain. Fogging of windows occurs even during light rain. This impairs visibility , and the driver is distracted to wipe the windows. In the dark, the driver may not notice fogging of the windows in time. At this time, drivers often drive with the side windows partially open. This can cause water splashed from the wheels of vehicles coming from the opposite direction to hit the driver's face . Inadvertent splashing of water can distract the driver. During rain, the dirtiness of car windows and headlights increases due to the dirty water rising from the wheels of the car . This is mainly caused by the splashing of water mixed with mud from the wheels of the "leading" car in front. This happens more often after it rains , and the driver turns on the windshield wipers, which causes dirt to be swept away from the windshield, making the windshield appear dirtier than it would be during the rain.



Figure 2. Windshield getting dirty due to mud thrown up by a car in front

Rain during windows, headlights, side lights, brake lights cars from the wheels into the air raised water-mud It is polluted with a mixture of rain and when lit, driver window cleaners It won't start. After the rain immediately The mud stuck to the windows dries and turns into a hard substance that is difficult to remove. Driver headlight and other lights, dirty brake lights appearance almost completely to cause to be limited possible in mind to hold condition. From the rain then The driver stopped and turned on the headlights. and the lights must clean the surface. Otherwise they will dry up, headlights, almost in other signs transparent not been shell is covered with. Therefore , the light gestures other There is a risk of not being noticed by drivers .

Tires slip when it rains. coating adhesion coefficient decreases. Such water-mud The mixture forms a thin layer on the surface of the coating. Especially This is when it suddenly rains after not raining for a long time. on the road The mixture of dust and water turns into a thin film. In such cases, when braking sharply or turning the steering wheel sharply, a sideslip situation may occur and the car may go off the road. The car acceleration of the leading wheels or while moving slowly road same as straight line when it has a slope the movement provides. But slippery in the coating often leading wheels (right and left) of the coating differences due to slippage may appear . This in cases Side slippage occurs due to different friction forces. will be , that is the car will slide to the side.



Figure 3. The occurrence of sideslip when the friction between the wheels is different

Aquaplaning is dangerous . event is , it is a wheel and "water" between the pavement "shell" due to the occurrence The quality of the wheels' grip on the pavement deteriorates. The short life of the aquaplana time inside to cause the car to lose its direction take This will be enough to get the car off the road . Another example of Aquaplan appearances braking efficiency short- term loss and the most dangerous - previous of the arrow sideslip with derailment possible.

Aquaplaning relatively less occurs , mainly light of cars speed 90 km / h or from it more when to the surface arrival probability It will be . With this together, "Water" when driving with tires that are unusable (tread wear) "pillow" appears even at low speeds to be possible. In addition, the pressure in the tire amount also affects.

On tires, pressure Low pressure increases the risk of aquaplaning . Basically , the driver of an accident due to aquaplaning on the road to the pond high at speed entrance because of occurs . He felt the car slipping . driver involuntarily turns the steering wheel in the direction of skidding . However , often steerable front the wheels will aquaplan, so turn the steering wheel twist positive does not affect - but of wheels recovery by road during dangerous due to sudden change of direction of the car situation may occur. In such a case, it is reliable movement - this release the gas pedal , not to turn the steering wheel and Avoid sudden braking .

Other dangerous meteorological conditions include snowstorms , dust storm, fog, strong Shamil is also an example.

Snowstorm - The wind is blowing snowflakes . with almost the same movements horizontal This fills in the potholes and the driver does not notice them.



Figure 4. Snow storm

Dust storm - atmosphere sand and dry dust wind because of blurring and appearance noticeable at the level decrease to the surface This leads to dangerous situations due to limited visibility .



Figure 5. Dust storm

Dust forest or peat from fires dust, smoke, burning of air with particles permanent blurring. Objects gray color will be visible and sun, especially on the horizon, It turns red and yellow . Dust turns into fog. than is more dangerous, because it has different densities will have .



Figure 6. Forest or peat dust from fires

Strong stormy wind-20 m/s at speed a little on devices causes harm . Tree branches fragile, light-weight things Sometimes, when these winds blow from the side of vehicles, they can cause them to swerve or overturn .

Results and Discussion; The main goal of organizing safe movement in the dark is that, firstly, the driver should be able to easily see the road and its directions, and secondly, he should be able to notice objects in the field of vision that hinder movement in time. At the same time, it is also advisable to find solutions to the problems of reducing glare for the driver's eyes. Although much research has been conducted on solutions to these problems, complete solutions have not yet been found. Therefore, artificial lighting of roads is envisaged in residential areas and on highways with high traffic intensity. This, in turn, can be considered a good solution to prevent glare from vehicle headlights. Drivers, especially those planning to travel long distances, should pay special attention to the technical condition of their cars. You should stock up on warm clothes and food in advance. Before you set off, you should inform your family, neighbors, and friends of your exact destination and return time. If you have trouble on the road, use modern means of communication - this will significantly speed up the response time of rescue units. When contacting rescuers, you should indicate the location, special features of the area, the composition of the group (number of people, age, whether there are sick people, children), and do not forget to indicate the contact phone numbers of yourself and your loved ones. Take measures to save battery power.

Several things to consider when driving at night dangerous There are factors . The most from the main ones One is glare from headlights . This causes the driver to be dazzled and lose vision for a short period of time . This problem by solution one row There are instructions.

- Sometimes drivers complain that approaching cars often drive with their high beams on. Check the headlight adjustment, halogen, xenon or LED bulbs are adjusted in such a way that the direction of the headlight beam does not fall into the eyes of the driver of the car coming from the opposite direction. It also does not fall into the eyes of the driver of the car in front through the mirror.

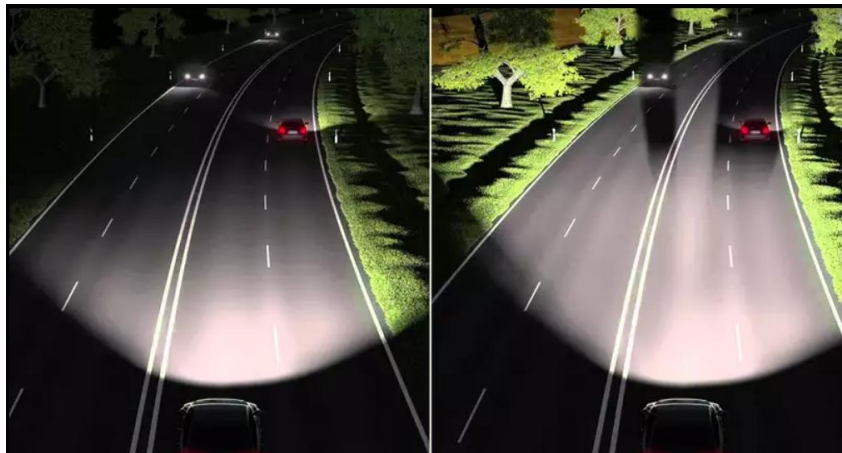


Figure 7. Automatic headlight range adjustment

- curtains , toning and the use of automatic dimming windows. However, the low light of other cars does not eliminate the problem 100%. There are several possible solutions for road cars . The first is that all modern cars, without exception, are equipped with day-night or automatic devices for the interior windows , etc. You can also tint the rear window or hang curtains on it. The rules do not prohibit this. Self-dimming mirror coatings also give a good effect.
- approaching coming car before it appears also (to protect from headlights) , you one your eyes You can close it and open it after the oncoming car has passed . This in a way , it eye from being dazzled It is possible to protect yourself . When the current intensity is high , closing your eyes is not effective. Other from the side, this sleep prevents it from coming.

Conclusion; In conclusion, the research underscores the critical need for effective traffic management in challenging weather conditions such as snowfall, rain, and fog, which significantly impair visibility and road safety. Key findings highlight the increased risks of vehicle skidding, aquaplaning, and decreased braking efficiency in these conditions. The study emphasizes the importance of implementing modern road infrastructure, digital technologies, and safety measures, such as improved vehicle lighting, to mitigate human error and enhance driver awareness. The findings also point to the necessity of further research in the areas of advanced vehicle safety technologies, weather-responsive traffic systems, and the development of more effective solutions for glare reduction during nighttime driving. Future studies should focus on creating predictive models for hazardous road conditions and exploring innovative solutions to enhance driver safety in extreme weather events.

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