

## **ROAD SAFETY ORGANIZATION**

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The organization of road traffic is today an important component of the functioning of modern society. Every year there are more and more cars, every young person dreams of a car, this leads to increased traffic on the roads. Along with the increase in traffic, the need to improve road safety also increases, and this system must be made more efficient, which can ensure the lives of other people. That is why the issue of organizing road safety is becoming particularly relevant in most countries of the world. Road safety encompasses a large set of actions aimed at preventing traffic accidents, reducing the number of injuries and deaths on the roads, and ensuring comfortable, and most importantly SAFE, travel for people in vehicles. The complex of these actions encompasses a very large number of aspects and nuances, the main ones being: technical, organizational, legal and educational. These aspects also include the improvement and repair of cars, the development of road infrastructure, the installation of clear and visible road signs and traffic lights, as well as the establishment of control over drivers' compliance with traffic rules, as well as the training of drivers and the increase of responsibility, behavior, culture and manners on the road.

One of the major problems of road accidents is the irresponsible attitude of drivers to the road, or the human factor. Violation of traffic rules, speeding, driving while tired or intoxicated, inattention of drivers and pedestrians - all this leads to terrible events and consequences, but all this can be avoided if each person is a little more responsible, this applies not only to the driver but also to the pedestrian, because the pedestrian also creates traffic accidents by crossing the road in an unnecessary place, in order to shorten the path to get onto the road, this is all a big problem. To break this endless circle, it is necessary to teach children to be responsible from an early age look at the road, it is the parents who show behavior and their experience that pass on a part of themselves to the child. Therefore, I believe that not only the technical condition of vehicles and roads is important, but also the level of responsibility of each road user.

Road safety also involves continuous improvement of the transportation system. Modern cars are equipped with electronic driver assistance systems, such as anti-lock braking systems, stability control systems, adaptive cruise control, automatic emergency braking systems, and other technologies that significantly reduce the risk of accidents. I would like to tell you a little about these systems, as I said, the most common is the anti-lock brake system, which prevents the wheels from locking during sudden braking and allows the driver to maintain control of the car. Also, an equally important system that plays a significant role is the stability control system, which helps to avoid skidding of the vehicle during difficult road conditions or sharp maneuvers. More modern cars actively use blind spot monitoring systems, parking sensors and rear view cameras. Such capabilities greatly facilitate driving and reduce the risk of collisions during maneuvering. Special attention is paid to automatic emergency braking systems, which can independently stop the car in case of danger if the driver does not have time to react.

One of the main parts of the road is the surface and condition of the road infrastructure. High-quality, reliable and perfect road surface, correct road markings, sufficient and comfortable street lighting and the installation of modern equipment, all this helps to reduce road accidents. In addition, an important component of road traffic organization is the installation of warning signs, pedestrian crossings and speed limiters in dangerous places. No less important role is played by driver training, upbringing, culture of behavior, traffic participants must be aware of responsibility for their own actions and follow the established rules. Drivers must be attentive, disciplined and courteous to each other, and pedestrians must cross the formation of correct behavior on the road should begin from childhood through teaching the basics of safety. Future drivers must not only know the rules of the road, but also be able to quickly react to dangerous situations, assess the road situation and make the right decisions while driving.

Thus, the organization of road safety is an extremely important direction in the development of modern society, since it is on the level of road safety that people's lives and health depend. Every year the number of vehicles is constantly growing, which leads to an increase in traffic intensity, a complication of the traffic situation in cities and an

increase in the risk of road accidents. That is why the issue of ensuring road safety requires special attention from both the state and each road user. Safe road traffic is possible only if many components work together effectively. These include the quality of roads, the correct organization of traffic flows, the availability of modern technical means of traffic regulation, the proper technical condition of vehicles, as well as a high level of driver training and a conscious attitude of pedestrians to compliance with traffic rules. The development of modern technologies that help reduce the number of accidents and increase the level of safety when driving is also important. One of the main causes of road accidents remains the human factor. Failure to comply with traffic rules, speeding, using a mobile phone while driving, driving while tired or under the influence of alcohol often lead to dangerous situations on the road. That is why the discipline and responsibility of drivers, their attentiveness and ability to quickly respond to changes in the road situation play a special role. In addition to drivers, pedestrians also bear an important responsibility, who must also strictly follow traffic rules and be attentive when crossing the roadway. An important direction for improving road safety is the improvement of transport infrastructure. High-quality road surfaces, modern road markings, good street lighting, the installation of traffic lights, road signs and special fences help to significantly reduce the risk of accidents. In addition, the correct design of intersections, pedestrian crossings, traffic junctions and public transport stops plays an important role. Modern cars are also equipped with a large number of active and passive safety systems. Such systems include anti-lock braking systems, stability control systems, airbags, distance control systems, and automatic braking. All of these technologies help the driver avoid accidents or reduce the severity of the consequences of a traffic accident. However, even the most advanced technical means cannot completely guarantee safety if the driver violates traffic rules or neglects the requirements of safe driving. No less important is the conduct of preventive and educational work among the population. The formation of a culture of behavior on the roads should begin from childhood. Conducting thematic classes in schools, information campaigns, social advertising and other events contributes to increasing the level of knowledge about traffic rules and the formation of a responsible attitude to safety. Of

particular importance is also the professional training of future drivers, during which they should not only study traffic rules, but also acquire practical skills for safe driving. Thus, the organization of road safety is a complex and multifaceted process that requires constant improvement and an integrated approach. To ensure road safety, it is necessary to combine the development of transport infrastructure, the use of modern technologies, monitoring compliance with traffic rules and educating responsible behavior among all road users. Only through joint efforts of the state, drivers, pedestrians and other road users can a significant reduction in accidents be achieved and safe travel conditions be created for all people.

Kharkiv is one of the largest and most beautiful cities in Ukraine, with a rich history, developed infrastructure and a special atmosphere. This city combines modernity and cultural heritage, large avenues and cozy parks, active student life and important industrial importance. Kharkiv is often called the city of youth and science, as it is home to a large number of universities, educational institutions, libraries and cultural centers. The city has always been distinguished by its energy, fast pace of life and a large number of people and transport. This city is very comfortable for the life of ordinary people, I love it very much and it is my most favorite city in Ukraine. The beauty of Kharkiv is given by its wide streets, squares, architectural buildings and green areas. The central part of the city attracts with its architecture, evening lighting and the atmosphere of a large modern metropolis. A large number of cars, public transport and pedestrians are constantly moving in the city, as Kharkiv is an important transport hub of Ukraine. Every day, thousands of people move through the streets of the city on business, to work, study or relax.

However, along with the development of the city and the increase in the number of vehicles, a serious problem arises - road accidents. Road accidents are one of the main problems of road traffic today, not only in Kharkiv, but also in all of Ukraine. High traffic intensity, congested roads, inattention of drivers and violation of traffic rules often become the causes of emergency situations. Every year, a large number of accidents occur on the roads, as a result of which people are injured or even lose their lives. One of the most common causes of road accidents is speeding. Many drivers

ignore traffic rules and do not observe a safe speed limit, especially on wide city avenues. Due to high speed, the driver does not always have time to react to danger, which leads to collisions, pedestrians being hit, and other dangerous situations. Accidents in the evening and at night are especially dangerous, when the risk of a road accident increases significantly due to poor visibility. There are also very steep climbs in Kharkiv, and because the driver may not see a pedestrian over a hump, he may simply hit him, which is a big problem. I recently attended a workshop where we looked at the problem of traffic from the perspective of a pedestrian and came to the conclusion that there is no pedestrian zone in Kharkiv. What is a pedestrian zone? This is a separate part of the road, area or street that is completely allocated for people, that is, without cars, bicycles and scooters, this is a very good solution both for safety and for the general comfort of residents, many cities in Europe have these pedestrian zones, which is a big plus, but there is none in the city of Kharkiv, and this is very bad, Kharkiv has many parks and green areas where you can relax from cars, but if you need to get to the shopping mall or to such zones where cars come and go are a big problem. For example, we have a small section between the metro and the shopping mall, where there is a constant flow of people and cars, and drivers who drive are usually not in a very good mood from the crowd of pedestrians, so they try to drive as fast as possible, but many pedestrians simply sometimes do not even look around and this leads to accidents and violation of traffic rules, so these pedestrian zones should be there, it would be much better and safer with them.

Another important problem is the use of mobile phones or players while driving, and this also applies to pedestrians. Driver inattention, even for a few seconds, can lead to a serious accident. Often, the cause of a traffic accident is also driving while tired or under the influence of alcohol. In such a state, a person's reaction is significantly impaired, which makes it impossible for the driver to quickly assess the road situation and react correctly to danger.

The state of road infrastructure also has a significant impact on the accident rate. In some areas of the city, the road surface needs repair, and insufficient lighting or worn road markings make traffic difficult. Some intersections and pedestrian crossings remain

dangerous, where accidents often occur due to heavy traffic. In addition, a large number of cars creates traffic jams, which makes drivers more nervous and inattentive. Also, in some areas of the city, sidewalks need to be extended, because due to the large flow of people, they are forced to go out onto the road to get to the next intersection, park or other destination.

An equally important problem is the low culture of behavior of some road users. Often, drivers do not let pedestrians pass, violate the rules of overtaking, drive at a prohibited traffic light signal or do not keep the distance between cars. Pedestrians also sometimes cross the road in undesignated places or ignore traffic light signals, which creates additional danger on the roads. Pedestrians are sometimes in a hurry, ignoring many rules of behavior, some drivers, as I said, do not intend to let them pass, so they drive on, and the pedestrian, ignoring them, simply walks on and here again a dangerous situation for both parties.

The problem of road accidents is particularly acute because each accident has serious consequences not only for drivers, but also for their families and society as a whole. Road accidents lead to damage to vehicles, material losses, injuries and psychological distress. In many cases, the consequences of accidents remain with people for life. After these events, a person can receive various psychological injuries, most often this is related to the brain and this carries with it major consequences from which it is very difficult to get rid of. Every day, accidents of varying severity occur on the roads, leading to significant material damage, personal injury and even death. Road accidents have a negative impact not only on the direct participants in the accident, but also on their families, their environment and society as a whole. That is why the problem of the consequences of road accidents requires special attention and constant monitoring. The most terrible consequence of a road accident is the death of people. Due to traffic violations, speeding or inattention of drivers, a large number of people lose their lives on the roads every year. Accidents in which children or young people die are especially painful. Each such tragedy becomes a great grief for families and loved ones, because a person's life cannot be returned or replaced. In addition, many people after serious accidents remain disabled and require long-term treatment and rehabilitation. No less

serious are the physical injuries that participants in road accidents receive. Even after a relatively minor accident, people can suffer fractures, damage to internal organs, head or spine injuries. In some cases, treatment lasts for months or even years. Often, after a road accident, people cannot return to their usual lifestyle, lose their ability to work or the ability to move normally. Such consequences negatively affect not only a person's physical condition, but also their psychological health. The psychological consequences of a road accident are also very serious. People who have experienced an accident often experience severe stress, fear or nervous tension. Some drivers are afraid to get behind the wheel of a car again after serious accidents, and pedestrians may lose their sense of safety on the roads. Psychological trauma can stay with a person for many years and affect their daily life, work and communication with other people. Road accidents also cause significant damage to the economy. Damage to cars, road infrastructure, traffic lights, road signs and other objects requires significant financial costs for repair and restoration. In addition, accidents often cause large traffic jams on the roads, which leads to loss of time and reduced efficiency of transport. The state also spends significant funds on medical care for victims, the work of rescue services and law enforcement agencies. If this seems like a small amount of money, it is approximately 4-5 billion in annual expenses.

One of the most important areas of ensuring road safety is the implementation of effective measures to reduce the number of road accidents. The problem of road accidents remains very relevant today for both large cities and small settlements. Every year a large number of people die and are injured on the roads, and the most common causes of accidents are violations of traffic rules, driver inattention, speeding, and insufficient level of road behavior. That is why, to improve the situation, it is necessary to apply comprehensive measures aimed at increasing the level of safety for all road users. First of all, an important measure is to strengthen control over compliance with traffic rules. Many accidents occur because drivers deliberately violate the established rules, exceed the speed limit or ignore road signs and traffic lights. To reduce the number of such violations, it is necessary to increase the number of road checks, use modern automatic violation recording systems and install speed cameras. When drivers know

that a violation will be recorded, they are more responsible about traffic rules. But personally, I think cameras that record violations are cool, but very often the driver slows down, drives on, or speeds up higher than they can. Or there are people who don't care, they violate the cameras, pay fines, and continue to violate, or in general, when stopped by police officers, they still get into trouble and try to avoid a fine. It is also important to improve the level of driver training. Future drivers should not only learn the rules of the road, but also gain sufficient practical skills in driving in different road conditions. It is important to teach drivers to react correctly in dangerous situations, control their own emotional state and maintain a safe distance. Particular attention should be paid to young drivers who do not yet have sufficient driving experience. Gaining practical skills will really help the driver to cope better on the road, but if the driver fully knows how to drive, how to maneuver, how to take sharp turns, and so on, the driver will start doing something more interesting than just getting emotions. Another solution to improve road safety is to reduce the average speed by 5%, which can reduce the number of fatal accidents by 30%. Because according to statistics, if a pedestrian is hit at a speed of 50 km/h, he has an 80% chance of survival, and if he is hit at a speed of 70 km/h, he has a 20% chance of survival. Ukraine needs to pass a bill that provides for: 1) reducing the “unpenalized” threshold to 10 km/h, 2) introducing a gradation of responsibility for speeding.

Another violation and the most serious consequences in the event of an accident is maneuvering into the oncoming lane, which is extremely risky. Moving into the oncoming lane is one of the most dangerous maneuvers, which usually leads to the most serious consequences in the event of an accident. However, if such a maneuver is absolutely necessary, it should be carried out exclusively on straight and well-visible sections of the road, where you can control a large distance.

Driving while intoxicated is one of the most dangerous and severely punished mistakes of a driver. Alcohol affects the reaction, concentration of attention and coordination of movements, which significantly increases the risk of an accident. That is why the law provides for strict liability for such a violation - from large fines to deprivation of rights and even criminal liability.

What is the penalty for driving while intoxicated? Ukrainian legislation treats drunk drivers as strictly as possible, since they are the cause of many fatal accidents.

First violation - a fine of 17,000 UAH and deprivation of the right to drive for 1 year;

repeated violation within a year - a fine of 34,000 UAH, deprivation of rights for 3 years and possible confiscation of the car;

third violation - a fine of 51,000 UAH, deprivation of rights for 10 years or confiscation of the car;

if an accident with victims is committed while intoxicated - criminal liability, which may include imprisonment.

Many drivers do not realize that even after a small amount of alcohol their body can react inadequately to road situations. That is why the law is so strict - it is not just a punishment, but a way to prevent tragedies on the roads.

If a police officer suspects that a driver may be intoxicated, he has the right to stop the car and offer to undergo a check. Such a check is carried out in accordance with Article 130 of the Code of Administrative Offenses and has a clear algorithm.

Some other solutions to the problem:

Truck drivers get very tired and there is a solution to prevent this. A driver who has been transporting goods abroad for 2 years. And he says that he has never violated. After all, he has the same tachograph installed, which fully controls his work. A tachograph is a device that controls the speed of the car, the number of hours of work and rest of the driver. It allows you to prevent an accident if the driver is tired or falls asleep at the wheel. In addition, with the help of a tachograph, owners of transport enterprises can monitor the work of their subordinates and ensure that they comply with the work regime. The truck driver said that every car going to Europe has a digital tachograph installed. A special chip card is inserted into it and after that the device starts recording the driver's mode. In Europe, they punish a lot if you break the rules and do not stand for the required number of hours.

In addition, Ukrainians lack a driving culture. Drivers very often do not keep distances, cut off and overtake.

Thus, the problem of road safety is one of the most important problems of modern society. Every year the number of vehicles is constantly increasing, which leads to an increase in the intensity of traffic on the roads and an increase in the number of road accidents. This problem is especially acute in large cities, in particular in Kharkiv, where due to a significant number of cars, public transport and pedestrians, road traffic becomes very complicated and dangerous. Despite the development of transport infrastructure, the use of modern technologies and the improvement of cars, the problem of road accidents remains relevant and requires constant attention. The study found that the main causes of road accidents are traffic violations, speeding, driving under the influence of alcohol, using a mobile phone while driving, and insufficient driver attention. The human factor also plays an important role, because road safety depends on the driver's behavior and responsibility. Often, accidents are caused by haste, aggressive driving, or neglect of basic safety rules.

No less important are the problems associated with the condition of the road infrastructure. The presence of damaged road surfaces, insufficient lighting, faded road markings and dangerous intersections significantly increase the risk of accidents. In some cases, even minor shortcomings in road traffic management can lead to serious consequences. That is why improving the condition of roads and improving the transport infrastructure are important conditions for ensuring road safety.

Particular attention should be paid to the consequences of road accidents. Road accidents lead not only to damage to vehicles, but also to injury and death of people. Many victims after accidents undergo long-term treatment, rehabilitation and face psychological difficulties. Each road accident has a negative impact not only on the participants in the accident, but also on their families and society as a whole. In addition to human casualties, road accidents cause significant economic losses to the state due to the costs of medical care, vehicle repairs and road infrastructure restoration.

An important aspect of ensuring road safety is the formation of a culture of behavior on the roads. Each road user must be aware of their own responsibility and follow the established rules. Drivers must be attentive, disciplined and respect other road users. Pedestrians must also follow the rules of crossing the road and be careful when driving near vehicles. Only mutual respect and a responsible attitude can help reduce the number of accidents.

To solve the problem of road accidents, it is necessary to apply comprehensive measures. One of the most important areas is to strengthen control over compliance with traffic rules. The installation of modern systems for automatic recording of violations, the use of speed cameras and an increase in the number of road checks help reduce the number of violations. It is also important to improve the driver training system, increase the level of their practical skills and form a responsible attitude to safety.

No less important is the use of modern technologies in the field of motor transport. Modern cars are equipped with active and passive safety systems that help to avoid accidents or reduce the severity of their consequences. Such systems include anti-lock braking systems, stability control systems, airbags, distance control systems and automatic braking. The use of such technologies significantly increases the level of road safety.

Of great importance is also the implementation of preventive and information work among the population. Social advertising, educational events, thematic lectures and teaching children the rules of the road help to form a culture of safe behavior on the roads. It is especially important to cultivate a responsible attitude to safety in the younger generation, because it is on this that the future level of road culture in the country depends.

Thus, road safety is a complex and multifaceted problem, the solution of which requires joint efforts of the state, law enforcement agencies, drivers, pedestrians and the whole society. To reduce the number of road accidents, it is necessary to constantly improve the road infrastructure, increase the level of driver training, use modern technologies and form a responsible attitude to traffic rules. Only a comprehensive

approach and a conscious attitude of each road user will make roads safer and save people's lives and health.

## **FREIGHT TRANSPORTATION AND ITS IMPLEMENTATION IN THE EU AND THE USA**

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The modern global economy depends on the efficiency of logistics for transporting various types of cargo. Despite their shared goal – ensuring the fast and safe movement of goods – the European Union and the United States have different approaches to this sector. The EU places a strong emphasis on environmental sustainability, size limits, and the protection of drivers' rights. The U.S. focuses on maximizing capacity, large-scale truck-trailer combinations, and the flexibility of the domestic market.

The purpose of this article is to examine and compare freight transport systems in the United States and the European Union, as well as to analyze their technical and regulatory development in this sector.

An analysis of the scientific literature and regulatory framework, as well as articles, and a comparison of key aspects of the EU and U.S. approaches to the logistics system in freight transport.

### **The European Union**

#### ***The Single Market and Environmental Sustainability***

Logistics in the EU is based on the principles of liberalization (the free movement of goods) and strict compliance with environmental standards.

#### **1. The Basics of the Free Movement of Goods**

The free movement of goods is the cornerstone of the EU's internal market and the first of the Union's four fundamental freedoms. The basic principle is that a product that has been legally manufactured and sold in one EU country automatically gains the right to be sold in all other member states.

#### **2. The Role of the Customs Union and the Removal of Barriers**