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PAPER

THE ORGANIZATION OF THE MOVEMENT STATUS AND ANALYSIS

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Abstract

In recent years, our country has carried out extensive organizational and practical work to improve the road safety system. At the same time, despite the measures taken, the number of fatal road accidents is still high, which indicates the need for a radical reform of the road safety system. In particular, it is necessary to fully align the 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: road transport , intersection, pedestrian, passenger, transport, movement, area, approach, safety island.

Analysis and results

An intersection is a place where roads meet, intersect, and diverge at the same level . The boundary of an intersection is determined by imaginary lines drawn from its center connecting the furthest turning points of opposite sides at the ends of the carriageways. Exits and arrivals from adjacent areas are not considered intersections. Must yield to pedestrians crossing the carriageway of the intersecting road and to road users crossing the road from the bicycle lane.

A driver is prohibited from entering an intersection if he/she is forced to stop due to traffic congestion and obstructs the movement of vehicles in the opposite direction. A driver is strictly prohibited from entering an intersection of carriageways after crossing the stop line or road sign 5.33.

Vehicles moving at a roundabout have priority (privilege) over vehicles entering the roundabout.

Intersections are divided into two types:

1. Arranged.
2. Not regulated.

We are considering determining the level of roadway hazard based on the occurrence of traffic accidents .

Using the conflicting situation method, to determine the level of danger of a road section, it is necessary to draw a graph of the change in speed and direction on all road sections using the flow of vehicle traffic in real street conditions . In this method, the level of danger of a road section is measured by the value of the longitudinal and transverse negative acceleration of the vehicle in a particular position.

The number of conflicting situations is determined based on the results of observations for existing roads, and mathematical models are developed when building new roads. The number of conflicting situations that reach a critical state is determined as follows .

$$K_t = 0.44K_1 + 0.83K_2 + K_3$$

here:

K_1 - Number of conflict situations per hour on a 1/km road segment;

K_2 - average number of conflict situations;

K_3 - critical conflict situations;

The relative lethality coefficient is found as follows:

$$И = 0.1 + 0.001K$$

here:

K Number of incidents per 1 million vehicles/km ;

$$K = \frac{K^I \cdot 10^6}{N \cdot L}$$

N - traffic volume, cars/day,

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L - length of the road section, unit of measurement km.

In real moving conditions, the values of the coefficients K_1 , K_2 , K_3 are determined using the indicators of transverse negative accelerations (given in Table 1. 1).

In new road construction projects, it is necessary to ensure that the number of conflicting situations does not exceed 210. In road repair and improvement projects, it is necessary to redesign road sections with a number of conflicting situations exceeding 310. 49 percent of the causes of road traffic accidents are due to objective and 51 percent to subjective causes. The percentage of objective causes is as follows:

1. Lack of pedestrian crossings 10.3
2. No barriers dividing the road into two 13.1
3. Lack of barriers and fences restricting pedestrian movement 11.6
4. No traffic lights or road signs installed 2.2
5. Lack of bicycle lanes 3.6
6. Road surface defects 4.1
7. Other objective reasons 4.6

Traffic channeling in intersection areas is designed to reduce the number and risk of conflict points by directing the flow of vehicles and pedestrians along the most convenient and safe trajectory. Channeling routes facilitates the movement of drivers at complex intersections and intersections. This creates the necessary conditions for reducing conflict points and situations of chaotic traffic.

Intersections should be designed to allow safe and efficient transitions from one mode of operation to another. In this regard, the placement and separation of routes dependent on the function of the intersection should be designed with particular care.

movement , a distinction should be made between lines with a fixed and variable direction of movement. Alternate sections should not be marked with directional arrows.

In residential areas and on road sections leading to them, if the estimated traffic volume is 4,000 or more units per day, pedestrian walkways should be constructed beyond the boundaries of the roadbed. The walkways should be designed in accordance with the requirements of "SNiP 2.07.01-89" .

When a road passes through a settlement, a pedestrian walkway is provided. The width of the walkway is determined based on the level of the street, the nature of the construction, the number of passengers, as well as the presence of mast supports and trees on the walkway. When calculating the width of the walkway, it is assumed that a 0.75 m strip is required for passenger movement .

city streets , sidewalks can be located as follows: next to the carriageway, between green belts, separated from the carriageway and buildings, next to buildings, separated from the carriageway by green belts, etc.

The width of the aisles is calculated based on the level of the streets and roads, but should not be less than that specified in Table 3.2.

The width of the aisle, if necessary , can be calculated using the following formula;

$$V_{TR} = V_{Yu} + v_1 + v_2;\ m \qquad (5.1)$$

where : V_Yu - the part of the sidewalk where pedestrians walk, m; v_1 - the width of the reserve strip to the building, m; v_2 - the width of the reserve strip to the edge of the roadway, m; in the calculations, $v_1 + v_2$ = 0.5 - 1.2 m is taken. V_Yu is determined by the following formula.

where : p - number of lanes; V_Yu -width of one lane for pedestrians

$$V_{Yu} = p \cdot V_{Yu}$$

$$v_{Yu} = 0.75m.$$

$$p = N_P/R_P$$

The number of lanes is determined based on the expected amount of pedestrian traffic N_P in pedestrians/hour and the capacity of one lane R_P (pedestrians/hour) in the calculation period. In order to fully ensure the safety of pedestrians in the centers of large and megacities, separate streets are allocated for pedestrians.

To organize traffic in populated areas and ensure safety, as well as to prevent road accidents involving children recommends installing a pedestrian barrier.

Conclusion and suggestions

The main goal of improving the organization of road traffic is to distribute and pass through the streets correctly and efficiently. This is to ensure the fast and smooth movement of traffic, ensure safety and increase the capacity of the roads. A number of data on the organization of road traffic are implemented in the classification of measures . This includes the analysis of the general requirements for the designation of roads and streets, turns and clearing. Then the process of determining and implementing the procedure for clearing the streets can begin .

Factors influencing the work of service personnel at the intersection are very important. Before starting work, it is very important to familiarize yourself with the technical safety instructions and safety rules. Attention should be paid to physical hazards and the necessary instructions should be given to protect against technical means used in the work process. This helps to protect human health. These factors help to regulate people's behavior, arrange machines, construction structures and equipment, and ensure safety from pressure points.

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