IMPROVEMENT OF THE METHOD OF STUDYING THE PARAMETERS OF TRAFFIC

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In the present situation, in most cases, the collection of information on the parameters of transport and pedestrian flows is carried out by the method of field observations, which involves the involvement of a number of accountants. However, with the development of the latest technologies, the possibility of their application in various areas of human activity raises the question of the feasibility of attracting a large number of people to conduct transport research. Therefore, the issue of maximizing the automation of such activities with the involvement of a minimum number of researchers looks urgent. The information thus obtained may be useful for solving various problems, one of which is to reduce the time of movement of special vehicles to the place of call [1-3].

Studies were initiated in the foreground [4, 5], however, they mainly concerned the analysis of the current state of the problem and the coverage of promising directions for studying the parameters of traffic. In work [6] the existing methods of studying the parameters of traffic and their main disadvantages are analyzed. Therefore, it is necessary to develop a method for studying the parameters of traffic, which would ensure the efficiency of research of parameters of transport and pedestrian streams to solve problems in the field of road traffic organization and other related areas of activity.

The task is solved by the fact that the proposed method of studying the parameters of traffic involves the use of aerial vehicle with a video camera. An unmanned aerial vehicle rises, flies and hangs over the necessary sections of the street-road network to receive video recording of traffic and then there is a study of the parameters of traffic.

In order to implement the proposed method of studying the parameters of the traffic with the use of an unmanned aerial vehicle, an algorithm for carrying out research on transport and pedestrian flow parameters presented in [6] is proposed.

As we see, the use of unmanned aerial vehicles for transport research will make it possible to substantially facilitate the work of researchers and increase the efficiency of their work, and the resulting video material will also be useful during the educational process to improve the quality of student perception of material.

References:

1. Pasnak, I., Prydatko O., Gavrilyk A., Kolesnikova A. and Y. Gangyr. Analiz chynnykiv vplyvu na tryvalist sliduvannia pozhezhnoho avtomobilia do mistsia vyklyku. Scientific Journal of National Forestry University of Ukraine 26, no. 1 (2016): 286-291.
2. Hulida E.M. Methodology for Reducing the Duration of the Free Development of Fire / E.M. Hulida, I.V. Pasnak, E.E. Vasilyeva // BiTP Vol. 48 Issue 4, 2017, pp. 80–87.
3. Pasnak I.V. The influence of factors on the process of getting of special vehicles to the place of an emergency call / I.V. Pasnak // International research and practice conference "Modern methods, innovations, and experience of practical application in the field of technical sciences": Conference proceeding, December 27-28, 2017. Radom: Izevnieciba "Baltija Publishing". – P. 155-156.
4. Pasnak I. (2017) Zastosuvannya kvadrokopteriv dlya doslidzhennya parametriv dorozhn`ogo ruxu [The use of drones to study the parameters of traffic]. Proceedings of the Problemy z transportnymy potokamy i napriamy yikh rozviazannia (Ukraine, Lviv, March 16-18, 2017), Lviv: Publisher Lviv Polytechnic, pp. 15-17.
5. Pasnak I. Justification possibility of using drones to study the parameters of traffic / I.V. Pasnak // Globalization of scientific and educational space. Innovations of transport. Problems, experience, prospects: thesis, 3-12 May 2017, Dresden (Germany) – Paris (France) / Executive editor: Chernetska-Biletska N. – Severodonetsk: Volodymyr Dahl East Ukrainian National University, 2017. – P. 156-158.
6. Pasnak I.V. The method of studying traffic parameters / I.V. Pasnak, S.A. Hrytsiuk, D.V. Hrytsai // Scientific Bulletin of UNFU, 2017, no. 27.9, pp. 124-127.