

Absolutely Need But Hopefully Will Not Use. – USA: CRS Press, 1998. – 191 p.

9. CarSim – Mechanical Simulator [Электронный ресурс]. – Режим доступа: <https://www.carsim.com/> – Дата доступа: 18.03.2023.

10. Dean Karnopp. Vehicle Dynamics, Stability, and Control. – Prime Deals, USA, 2013. – 326 p.

11. Cybid V-SIM – компьютерная программа для моделирования и реконструкции ДТП [Электронный ресурс]. – Режим доступа: <http://soft.ekc-vector.ru> – Дата доступа: 18.03.2023.

UDK 656.08

KHODOSKIN D. P., Senior lecturer,
Department «Management of road transport and traffic»¹
E-mail: dlya_moih_studentov@mail.ru

DUBOVIK K. V., Undergraduate,
Department «Management of road transport and traffic»²
E-mail: a779865@gmail.com

Belarusian State University of Transport, Gomel, Republic of Belarus

Received 19 July 2023

ANALYSIS OF EXPERIENCE IN APPLICATION OF PROGRAMS FOR SIMULATION OF ROAD ACCIDENTS

The growing motorization of society is a necessary condition for economic growth, innovative development and cohesion of the country. Unfortunately, this process also has negative side effects, for example, road traffic accidents due to existing deficiencies in the organization of traffic, driver errors, vehicle breakdowns or problems in road infrastructure that lead to financial costs – of various types. losses and, in the worst case, human casualties. Therefore, reliable, based on scientific conclusions, reconstruction of accidents is needed. Specially developed computer software is the latest technology that allows such a reconstruction to be carried out objectively. It is proposed to consider the experience of various countries, which is primarily aimed at improving the safety of all road users by analyzing and modeling accidents using software products, and then comparing them with each other based on an analysis of advantages and disadvantages. However, it is possible to obtain reliable and reliable calculation results only if the actual numerical values of the corresponding initial calculated data (measurement results, parameters and coefficients) are substituted into the formulas. This circumstance is connected with the validity, objectivity and reliability of the expert's conclusions. Therefore, an urgent task is to increase the reliability of expert studies and reduce the time for their production. The use of special software can significantly increase the efficiency of the work performed to solve the tasks in three aspects: 1) the calculation process is accelerated; 2) in qualitative terms, the use of computer programs reduces the likelihood of arithmetic errors; 3) it is possible to visualize the results of the study.

Keywords: *software, modeling of the mechanism of an accident, examination of an accident, collision of vehicles, modeling of the movement of a car.*

References

1. Izosimov, S. V. Actual problems of road traffic safety at the present stage / S. V. Izosimov, A. P. Kuznetsov, N. N. Marshakova // Transport law. – 2006. – No. 1. – P. 20–29.

2. Ilarionov, V. A. Examination of road accidents: textbook. for universities / V. A. Ilarionov. – M. : Transport, 1989. – 255 p.

3. Application of differentiated values of the driver's reaction time in expert practice: method.

recommendations. – Minsk : Ministry of Justice, Research Institute of Problems of Criminology, Forensic Science and Forensic Examinations, Ministry of Internal Affairs, State. forensic center, 1997. – 15 p.

4. Application in expert practice of experimental and calculated values of the braking parameters of vehicles in different mass states on roads with different grip qualities: method. recommendations. – Minsk : Ministry of Justice, Research Institute of Problems of Criminology, Forensic Science and Forensic Expertise, Ministry of Internal Affairs, State. forensic center, 1995. – 12 p.

5. Bekmagambetov, M. M. Analysis of modern software for transport modeling / M. M. Bekmagambetov, A. V. Kochetkov // Journal of Automotive Engineers. – 2012. – No. 6 (77). – P. 25–34.

6. Auto-graf 1.1 – Graphical editor for accident simulation [Electronic resource]. – Access mode: https://studbooks.net/2259756/informatika/auto_graf – Access date: 03/18/2023.

7. PC CRASH – Computer program for the analysis and modeling of traffic accidents [Electronic resource]. – Access mode: <http://www.expertiza-center.ru/node/61> – Access date: 03/18/2023.

8. Richard P. The Traffic Accident Manual – The Only Step-by-Step, How-To Book That You Absolutely Need But Hopefully Will Not Use. – USA: CRS Press, 1998. – 191 p.

9. CarSim – Mechanical Simulator [Electronic resource]. – Access mode: <https://www.carsim.com/> – Access date: 03/18/2023.

10. Dean Karnopp. Vehicle Dynamics, Stability, and Control. – Prime Deals, USA, 2013. – 326 p.

11. Cybid V-SIM – a computer program for modeling and reconstruction of road accidents [Electronic resource]. – Access mode: <http://soft.ekc-vector.ru> – Access date: 03/18/2023.