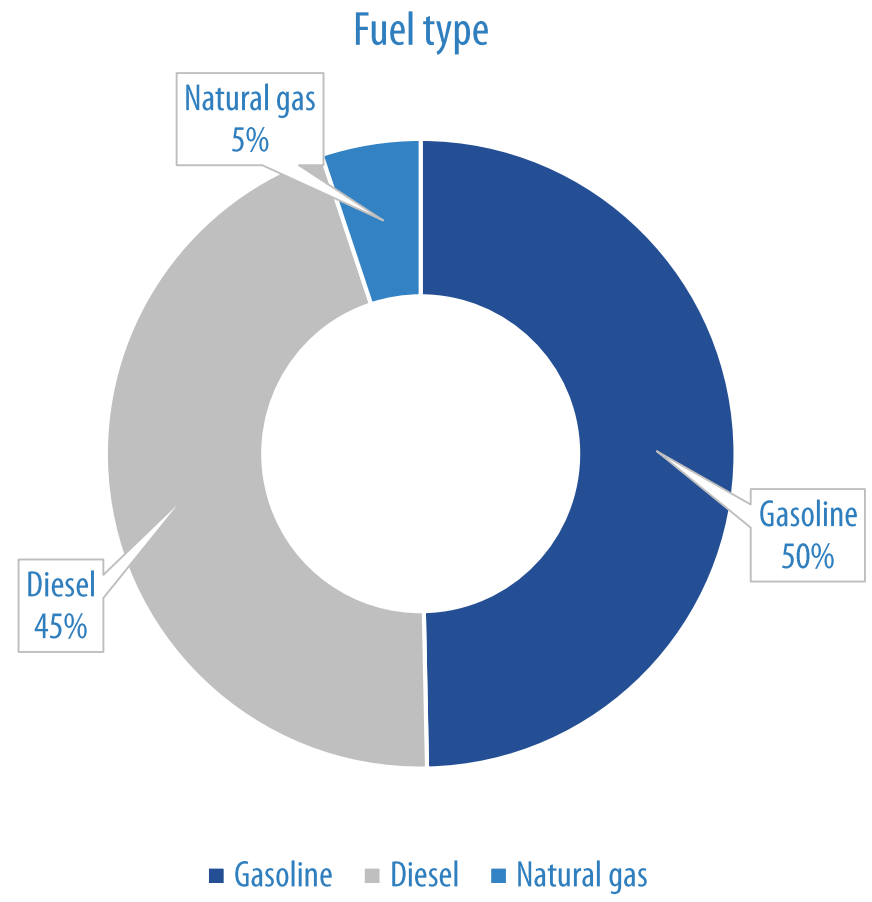
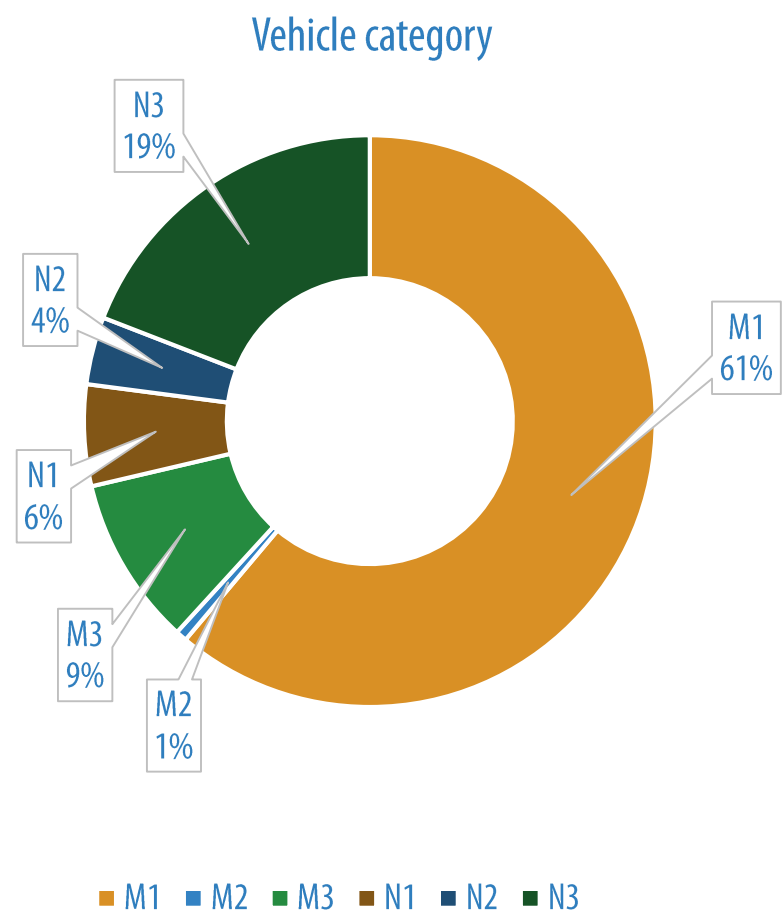


Statistics of vehicle tests regarding the VIAQ requirements in Russia

Zinaida BULYCHEVA
Andrey KOZLOV



Vehicle tested during 2018 regarding interior air quality requirements (GOST 33554-2015)

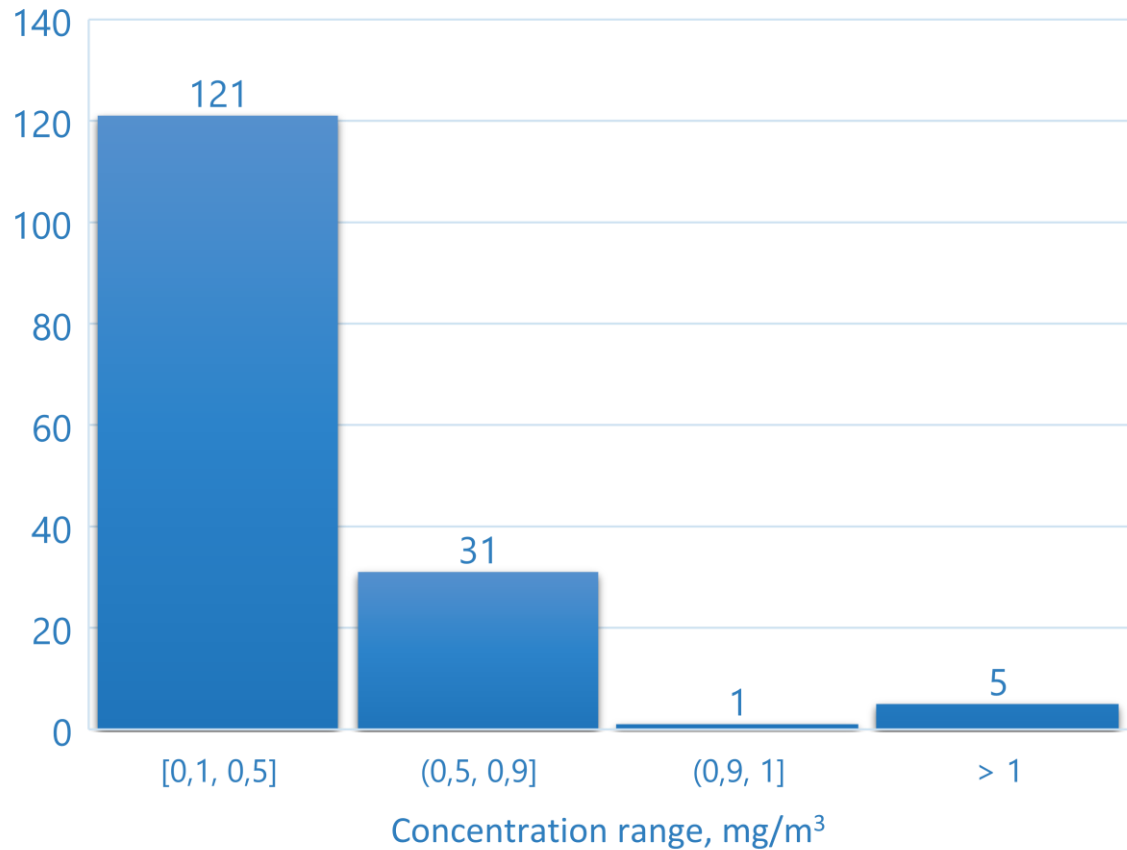


157 vehicles were tested
2 vehicles did not meet the requirements (both N3 category)

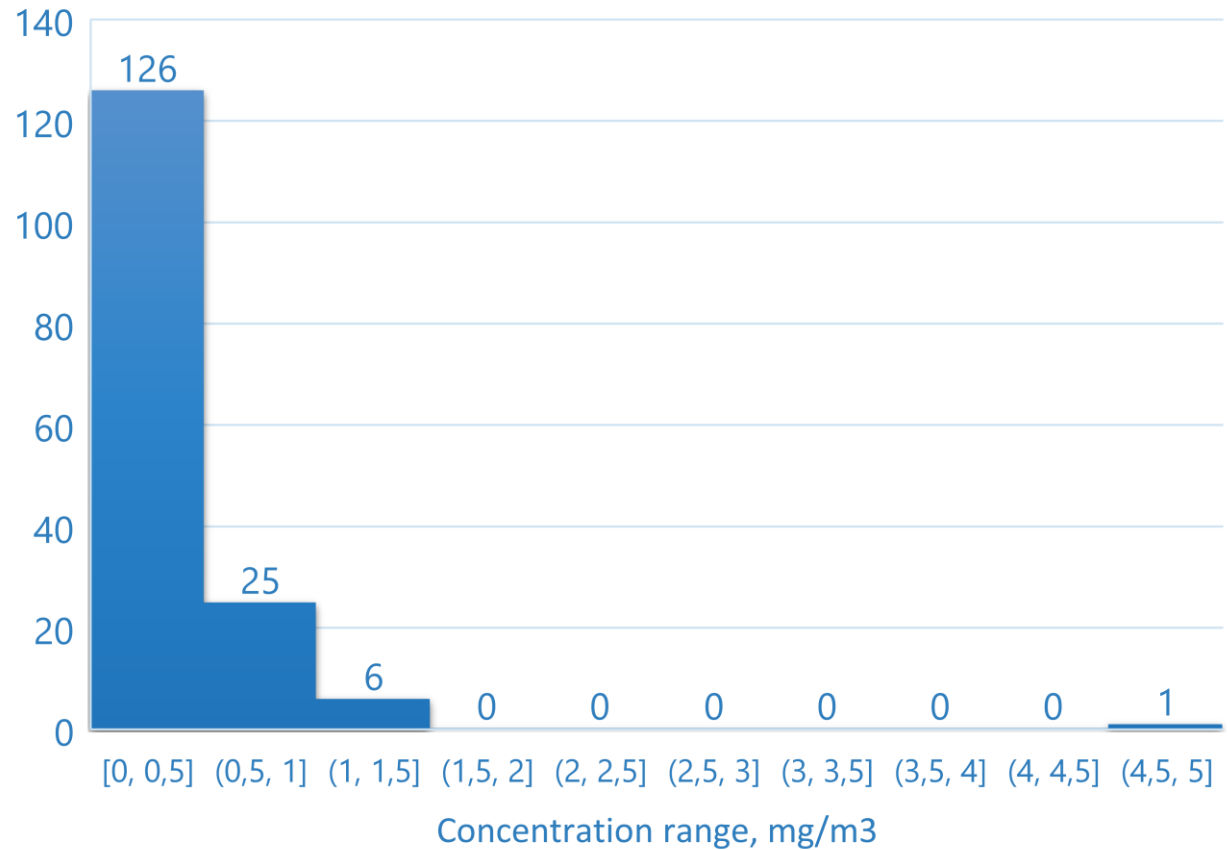


Histogram of distribution number of cases depend on CO concentration

CO idle test

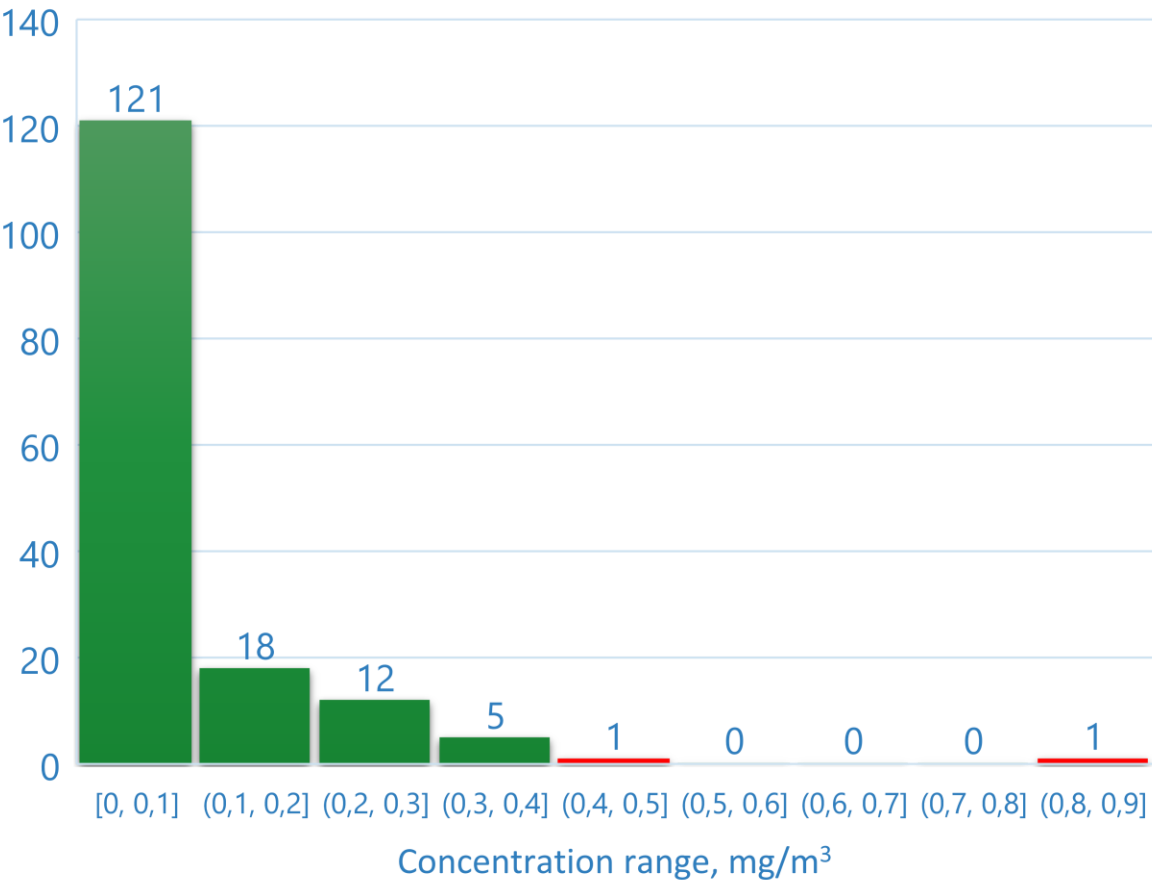


CO constant speed test

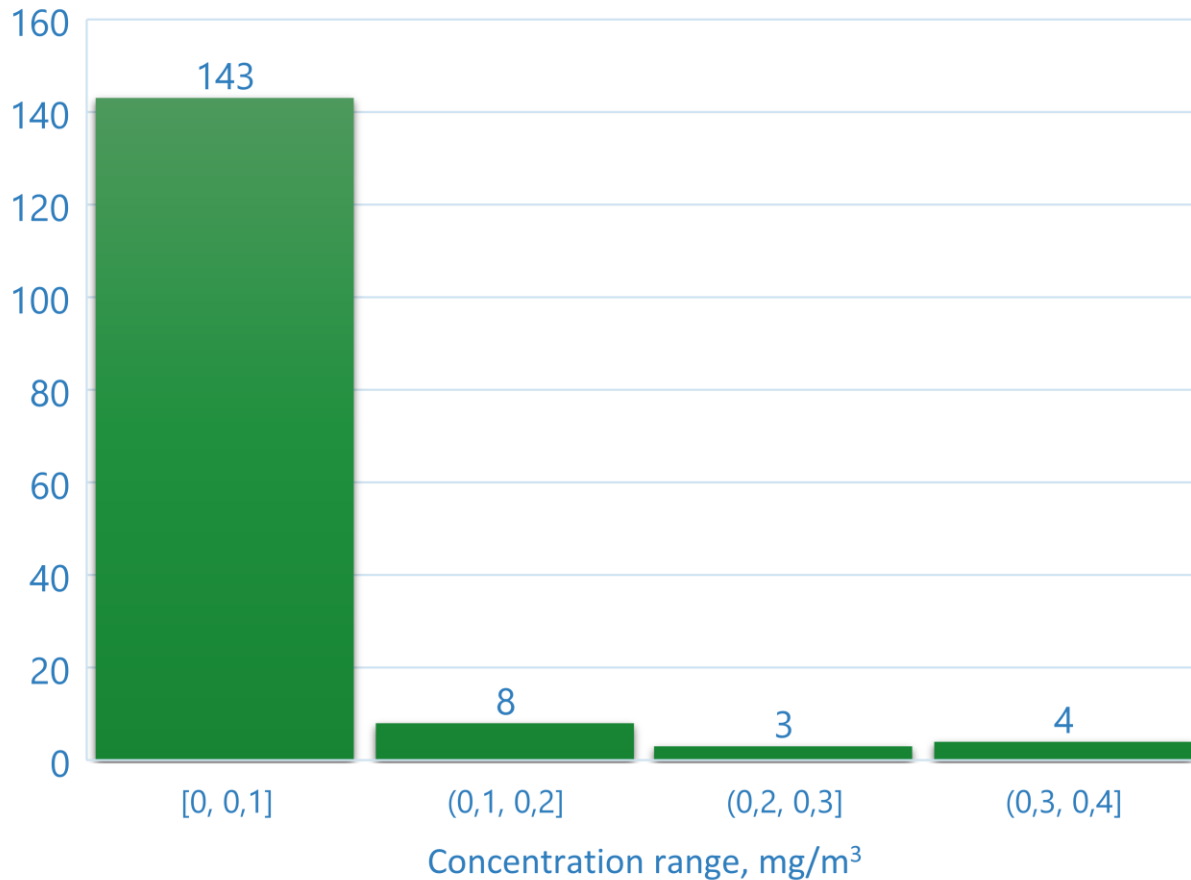


Histogram of distribution number of cases depend on NO concentration

NO idle test

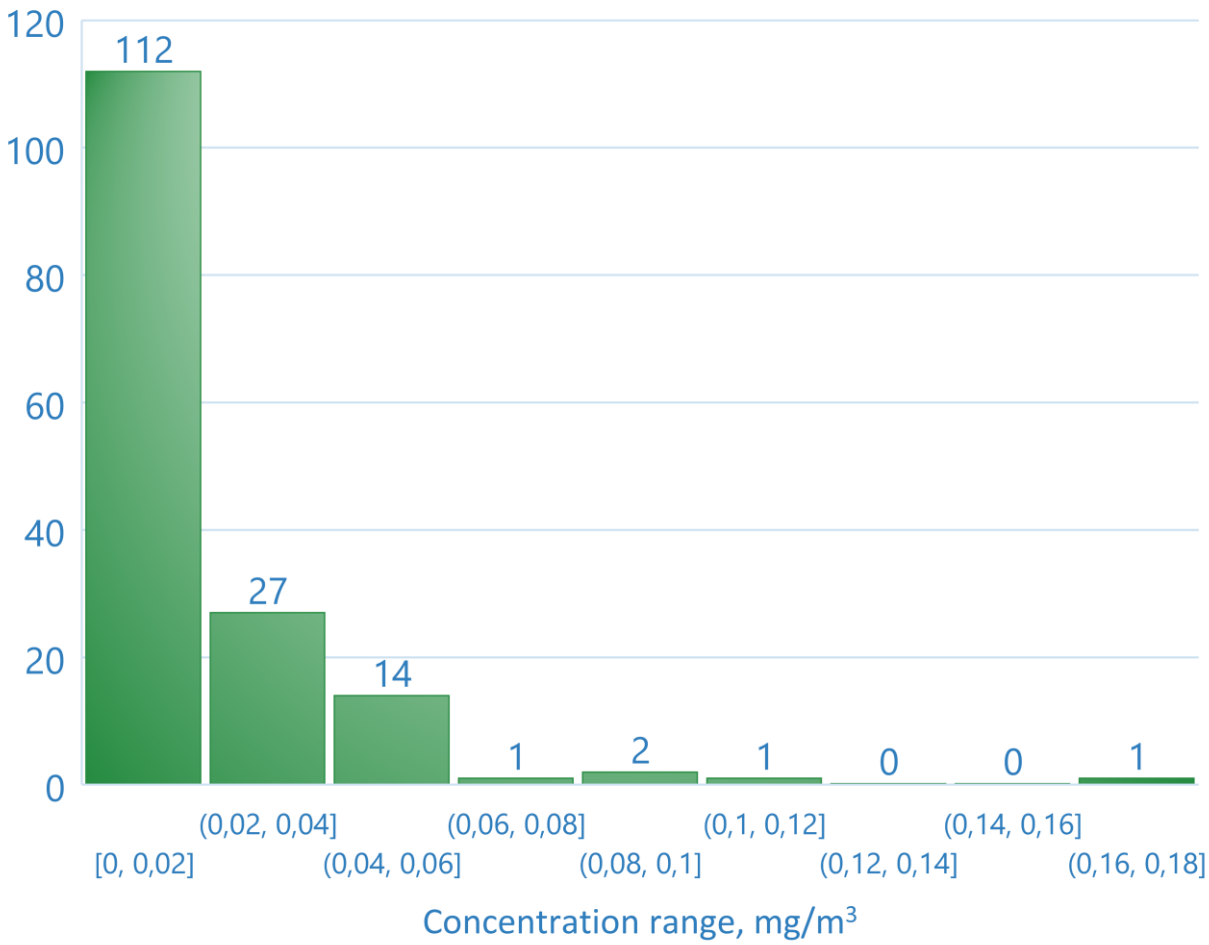


NO constant speed test

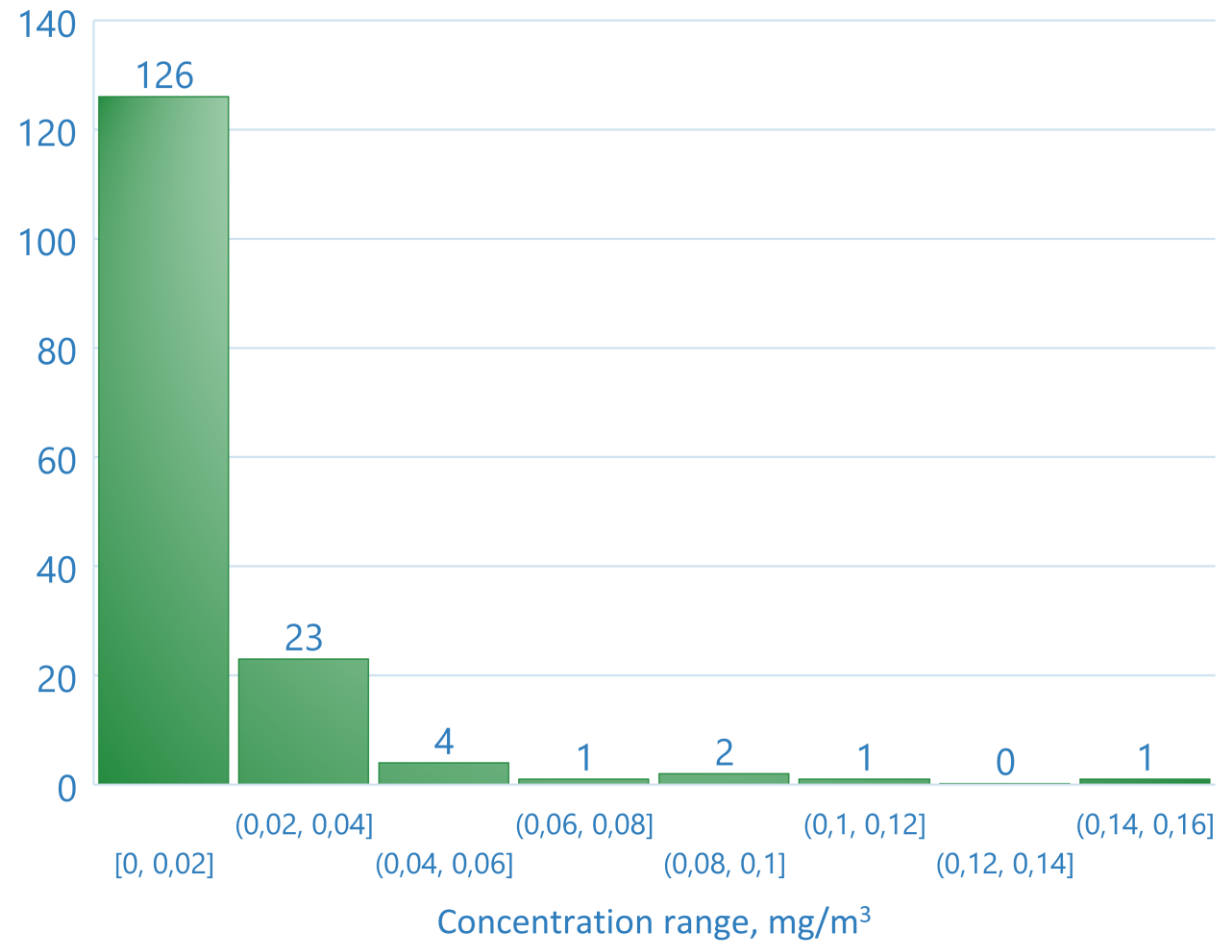


Histogram of distribution number of cases depend on NO₂ concentration

NO₂ idle test

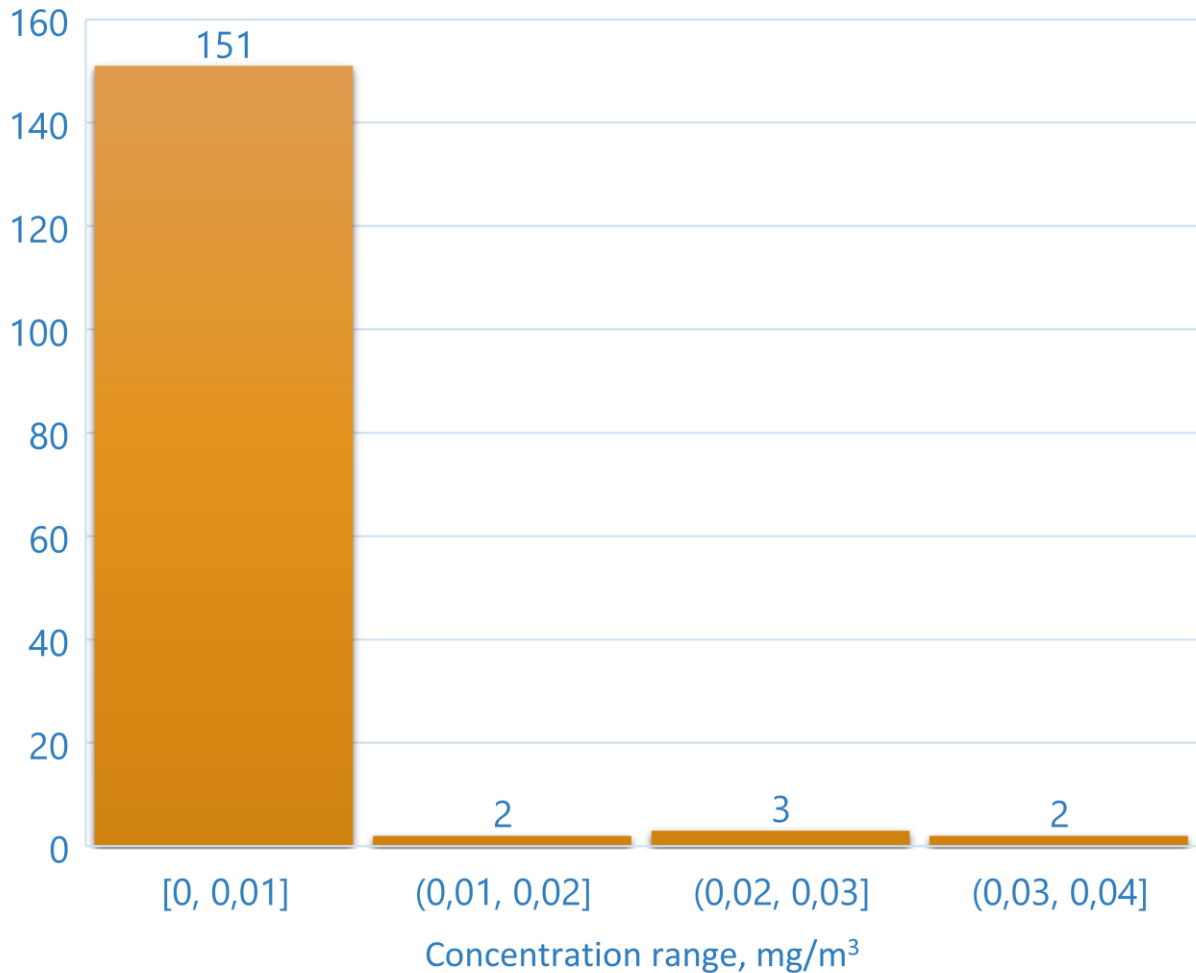


NO₂ constant speed test

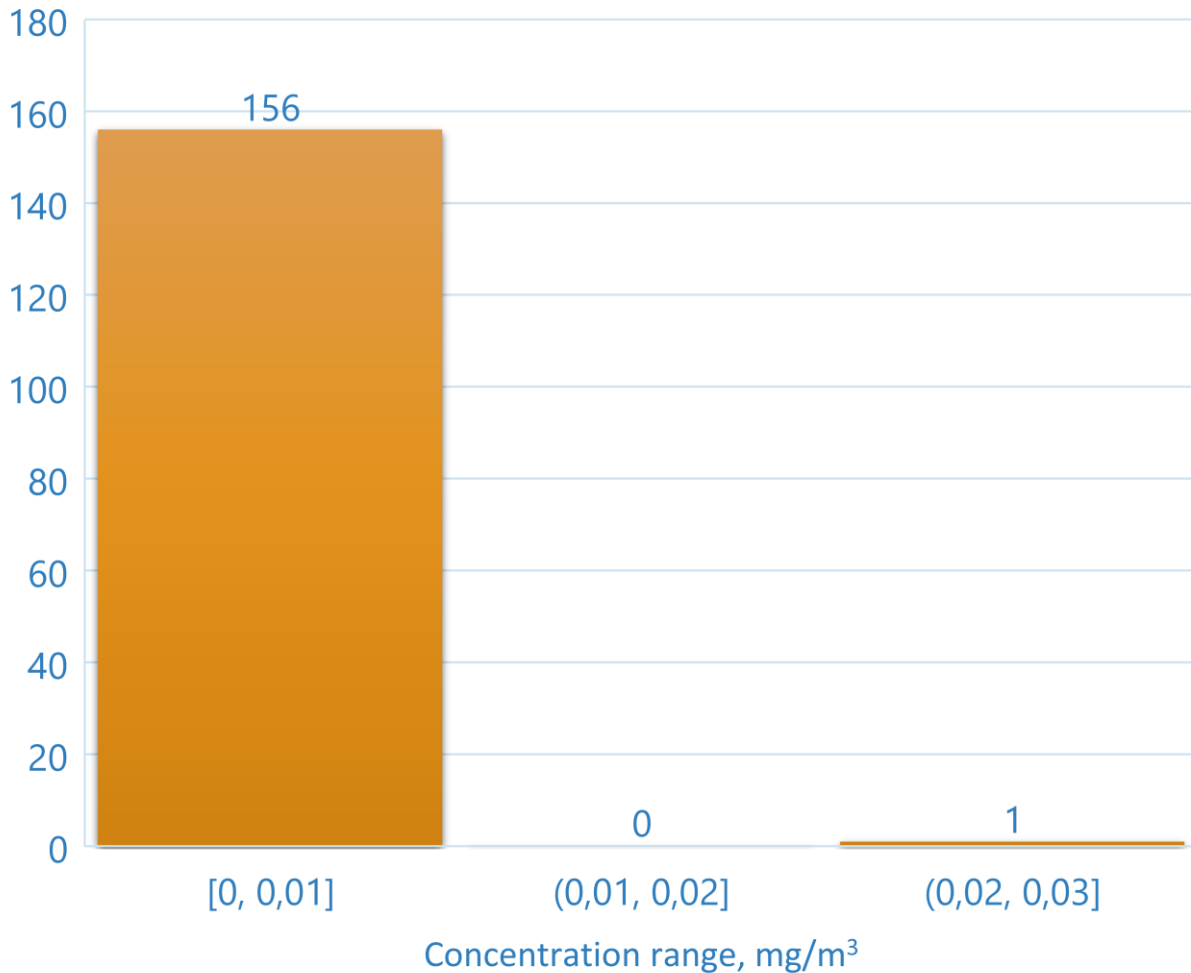


Histogram of distribution number of cases depend on CH₂O concentration

CH₂O idle test

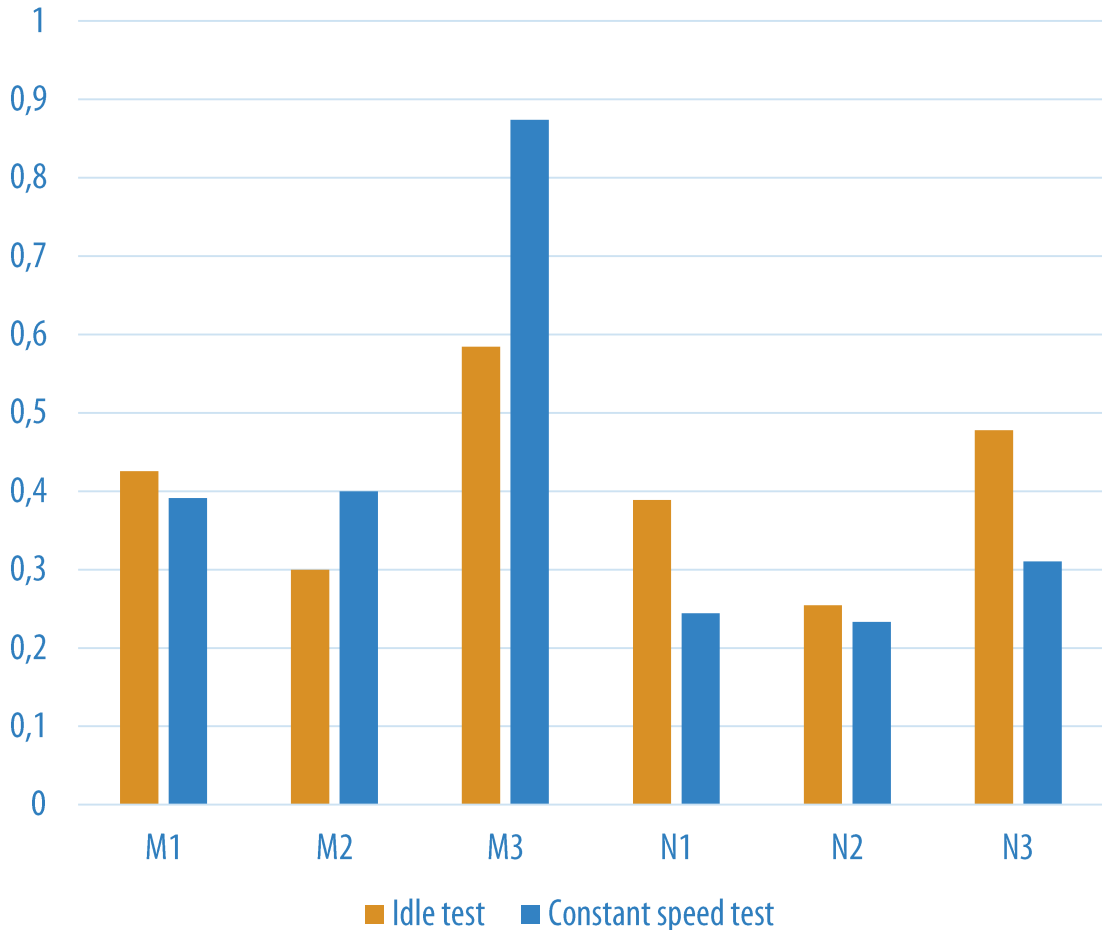


CH₂O constant speed test

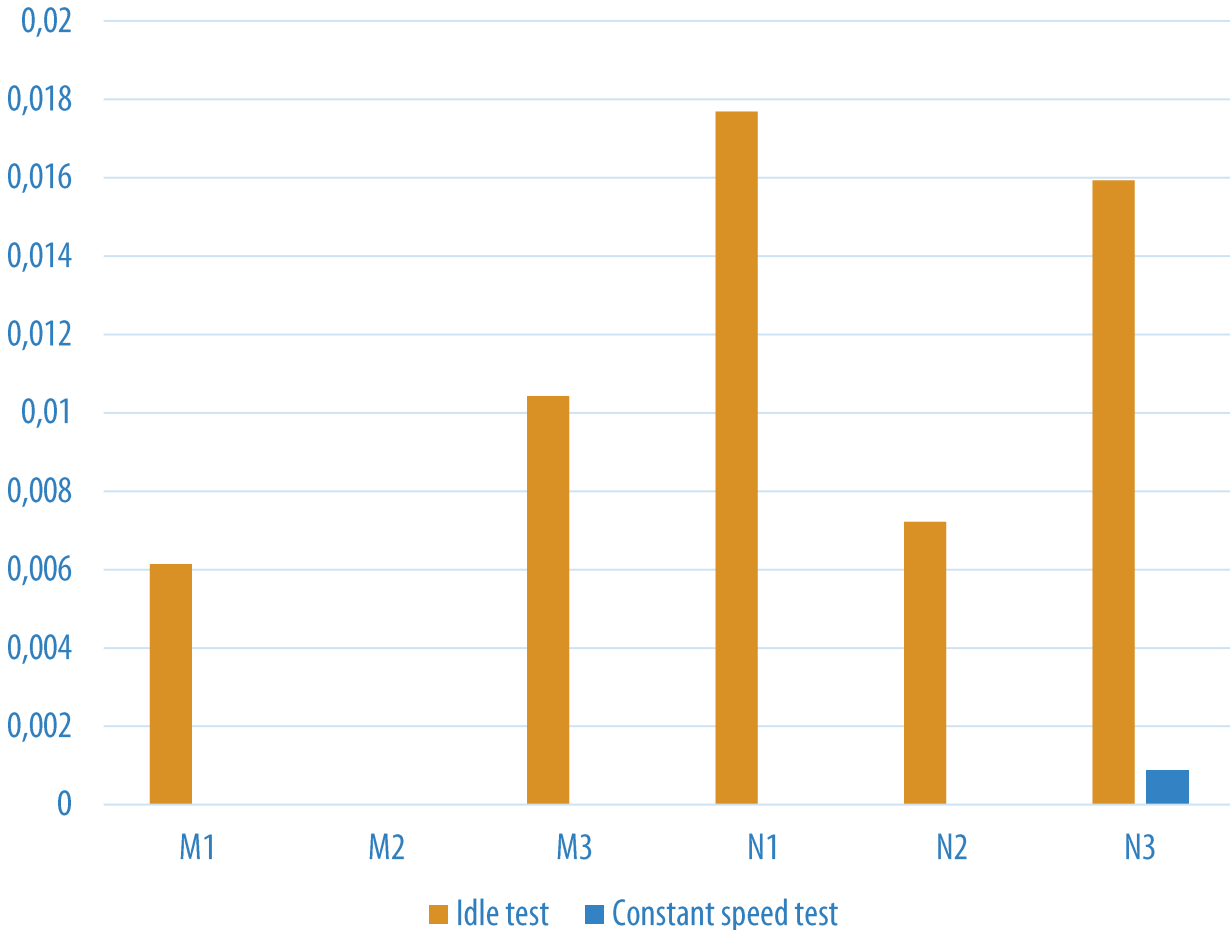


Average concentrations of substances in interior air of different vehicle categories

Average CO concentration, mg/m³

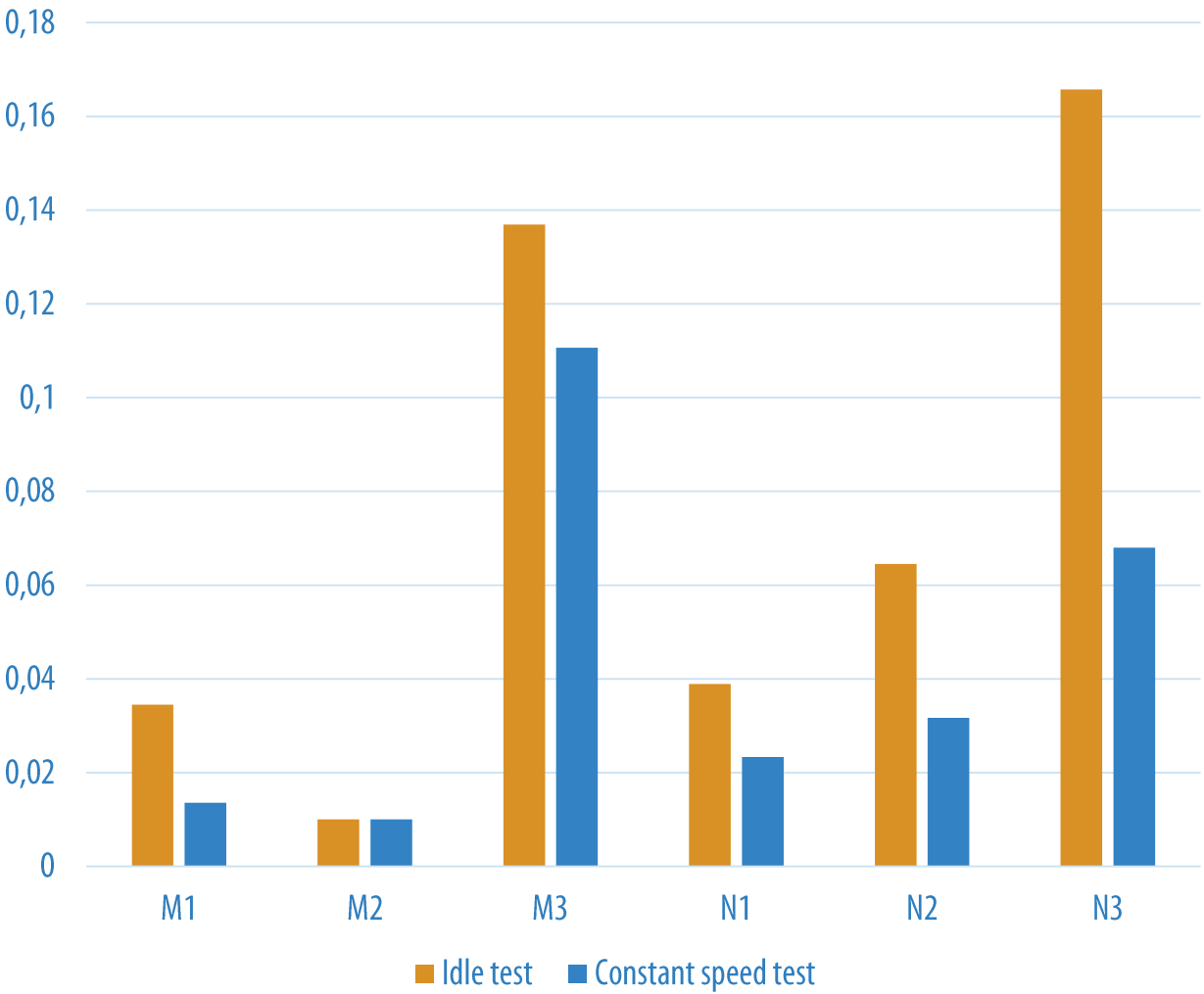


Average CH₂O concentration, mg/m³

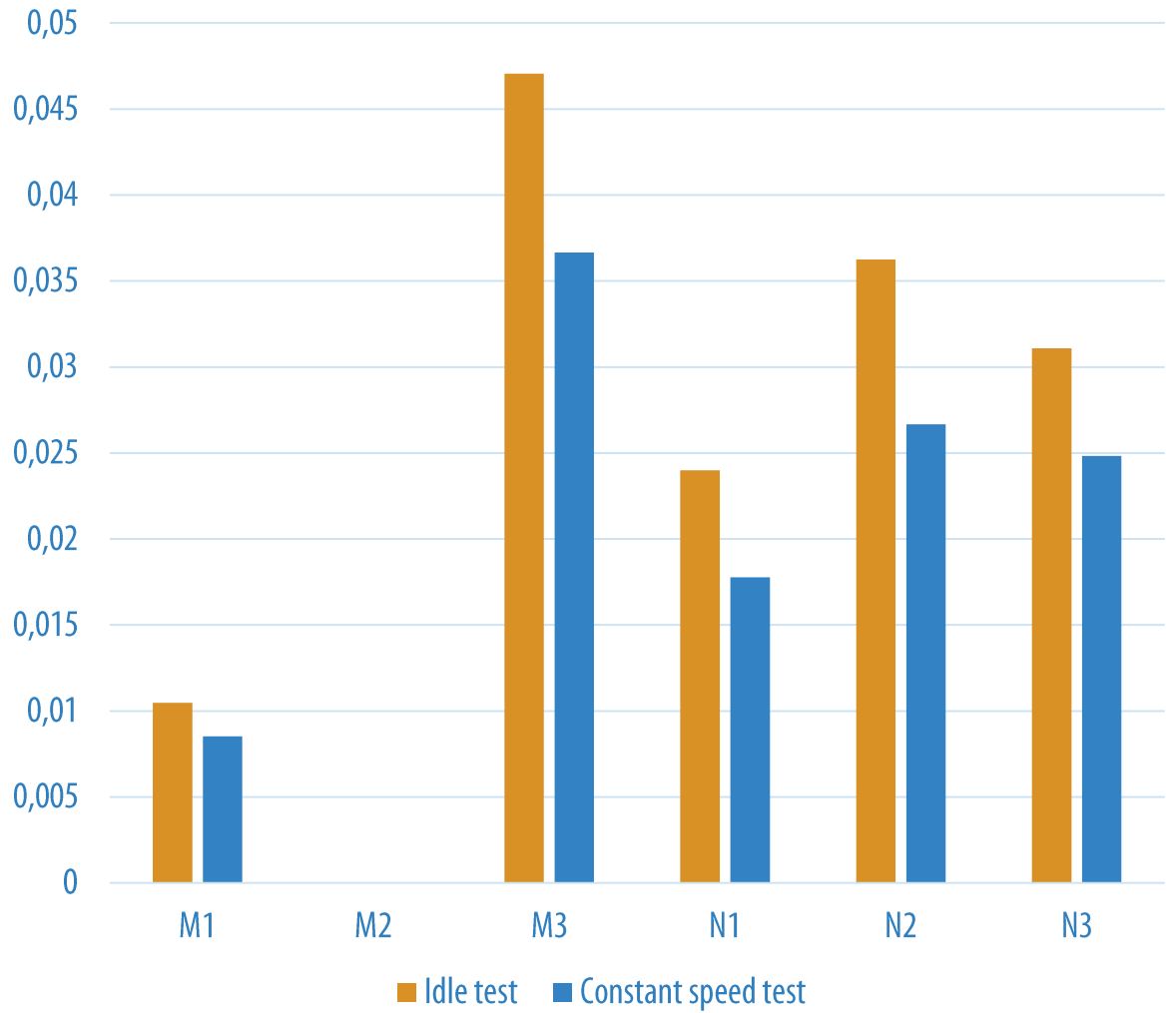


Average concentrations of substances in interior air of different vehicle categories

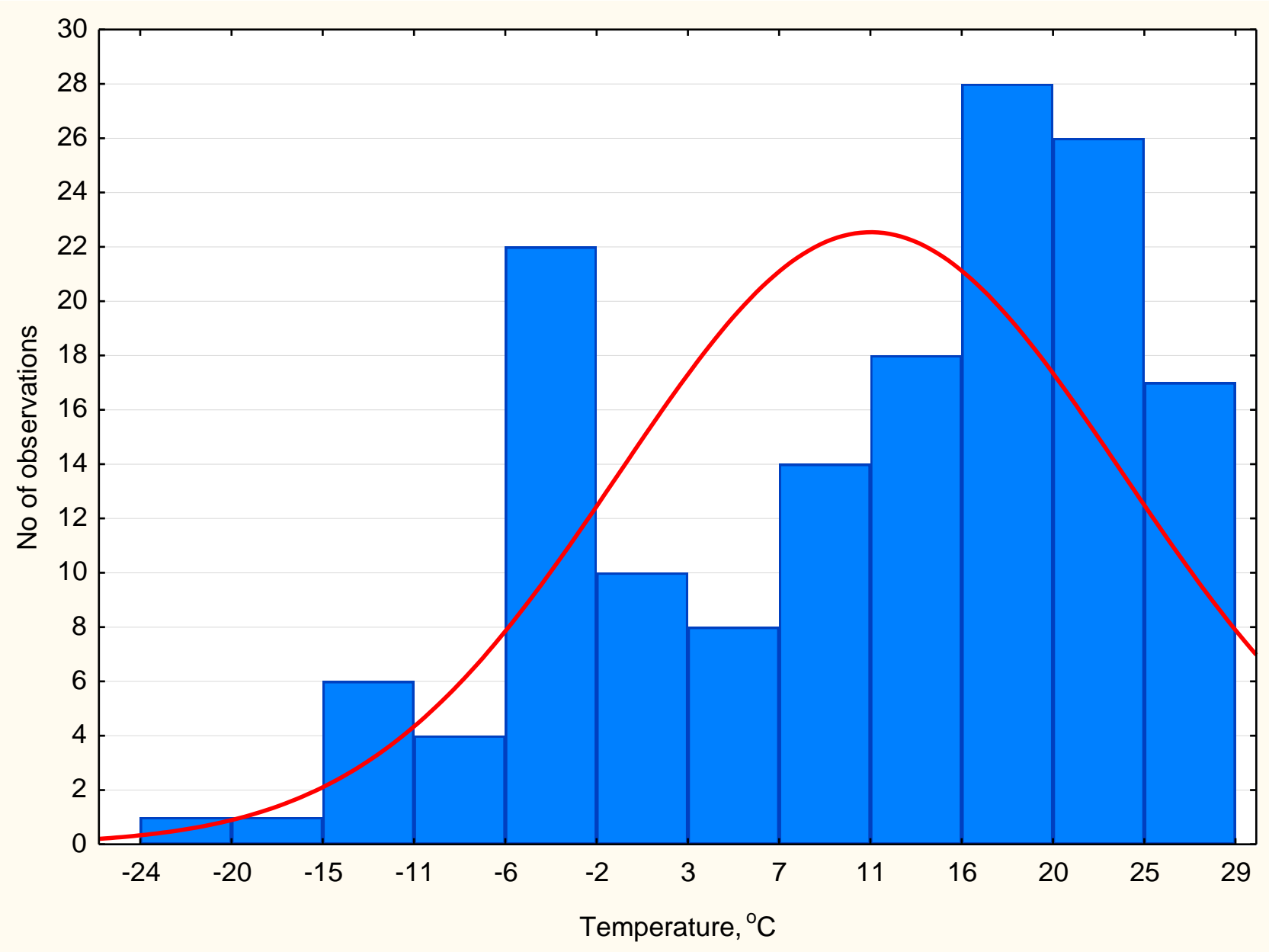
Average NO concentration, mg/m³



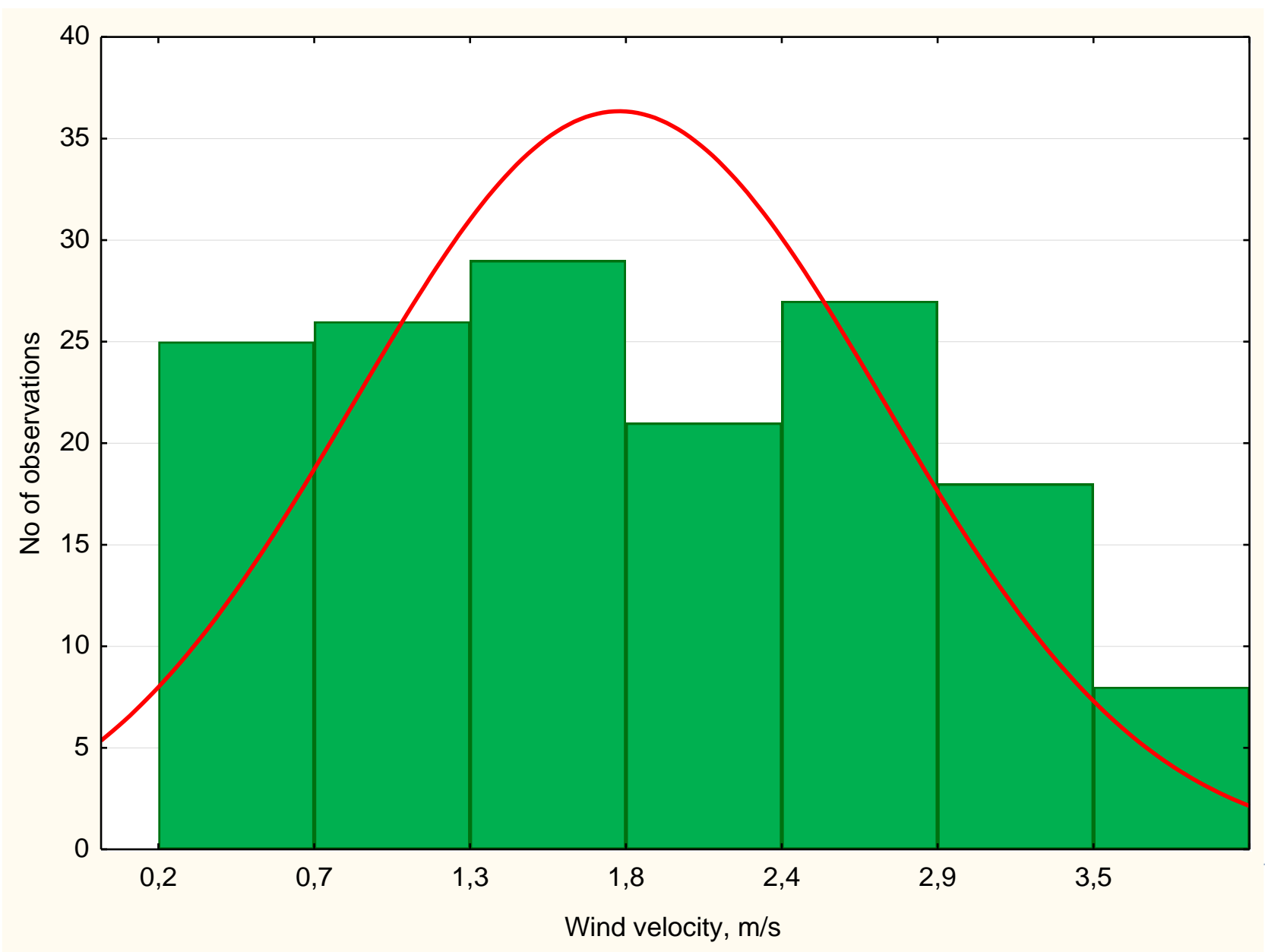
Average NO₂ concentration, mg/m³



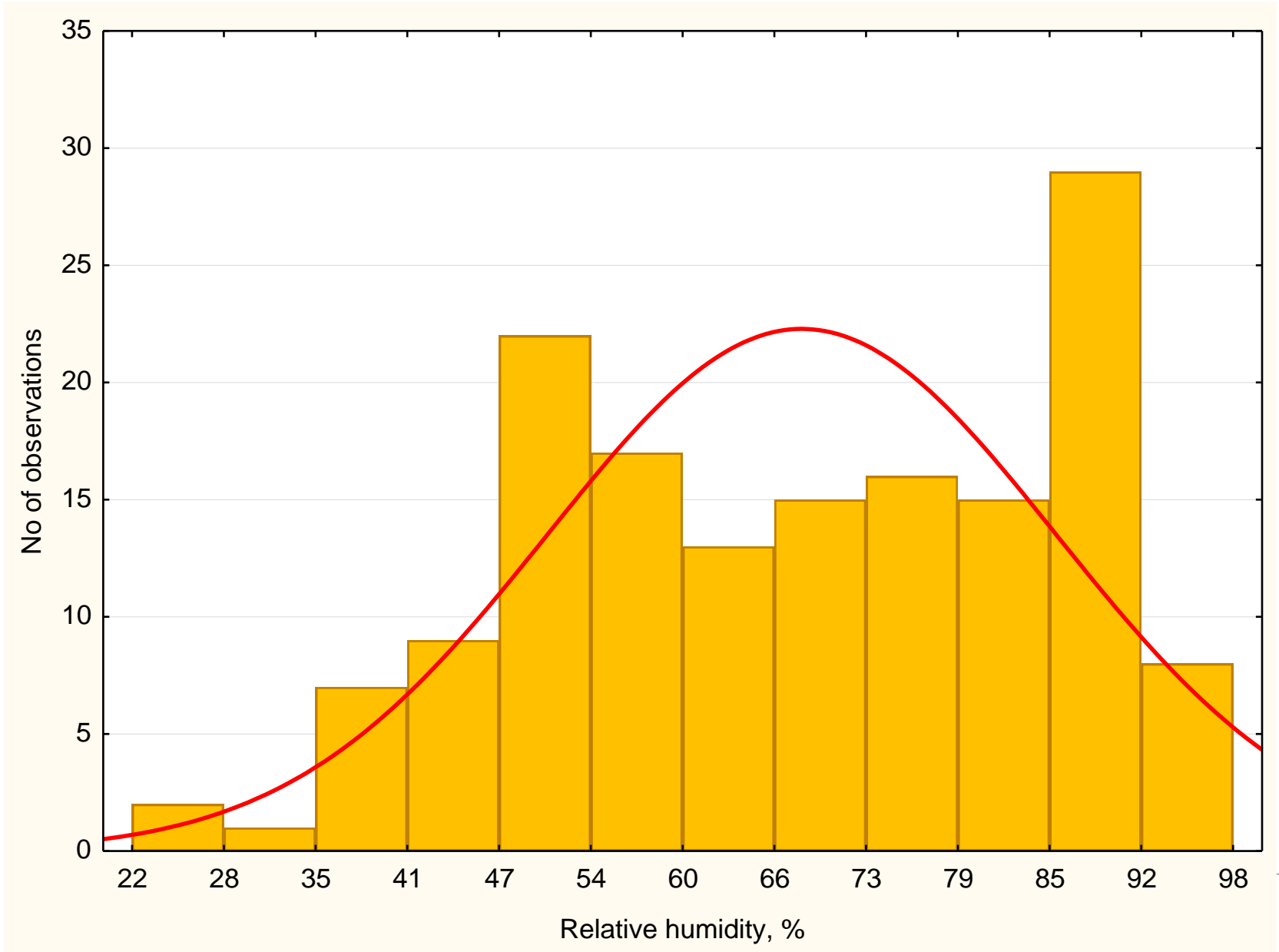
Histogram of temperature distribution among all tests



Histogram of wind velocity distribution among all tests



Histogram of relative humidity distribution among all tests



Conclusions

1. 157 vehicles of categories M1, M2, M3, N1, N2, N3 were tested for compliance with the requirements of technical regulation of Custom Unions on safety of wheel vehicles (018/2011). (Appendix 3, Clause 3), with regard to the content of pollutants in the air of the inhabited space of vehicle's passenger compartment and cabs in 2018.
2. The tests were carried out in accordance with the method regulated by the standard GOST 33554-2015, active in Russia and the countries of the Customs Union.
3. The main purpose of the test - certification of vehicles of domestic and foreign production in order to obtain "type approval".
4. It was founded that two vehicles did not meet the requirements of Technical Regulation with regard to the content of nitric oxide during tests .

Conclusions

5. The main volume of testing was fulfilled during in the summer- autumn period.
6. The external atmospheric conditions did not affect on the test results practically (histograms 9-11).
7. The presence of sufficient amounts of normalized pollutants in the air of the test vehicles while testing both at idling mode and at a constant speed indicates that a certain part of the exhaust gases of the vehicle itself penetrate to the airspace of the test vehicles and affect on the health of passengers and drivers.
8. In cases of inconsistencies of tested vehicle, the task of the designers of this one is to optimize the ventilation system, to pay attention to ensuring the sealing of doors and body windows, optimal position of exhaust pipe with respect to vehicle's body.

Thank you for your attention!

