ASSESSMENT OF POLLUTION OF THE ATMOSPHERIC STORAGE URBOECOSYSTEM of CHERNIVTS IN THE ZONES OF CAR TRANSPORT LOADS AND GENERATOR OPERATION

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Relevance of the research topic

- A large number of environmental factors affect the quality and safety of life and the level of environmental safety of the population in cities.
- One of the main sources of noise pollution and pollution of the city's atmosphere is motor vehicles and the operation of generators, which produce up to 70% of all toxic emissions into the atmosphere.
- Air pollution and noise pollution are dangerous for human health.
- The most common harmful admixture of the air environment is carbon monoxide and other toxic compounds.

The purpose and objectives of the research

The purpose of the work is to study the noise load on the environment, to conduct a comparative analysis of air parameters in conditions of non-constant operation of generators.

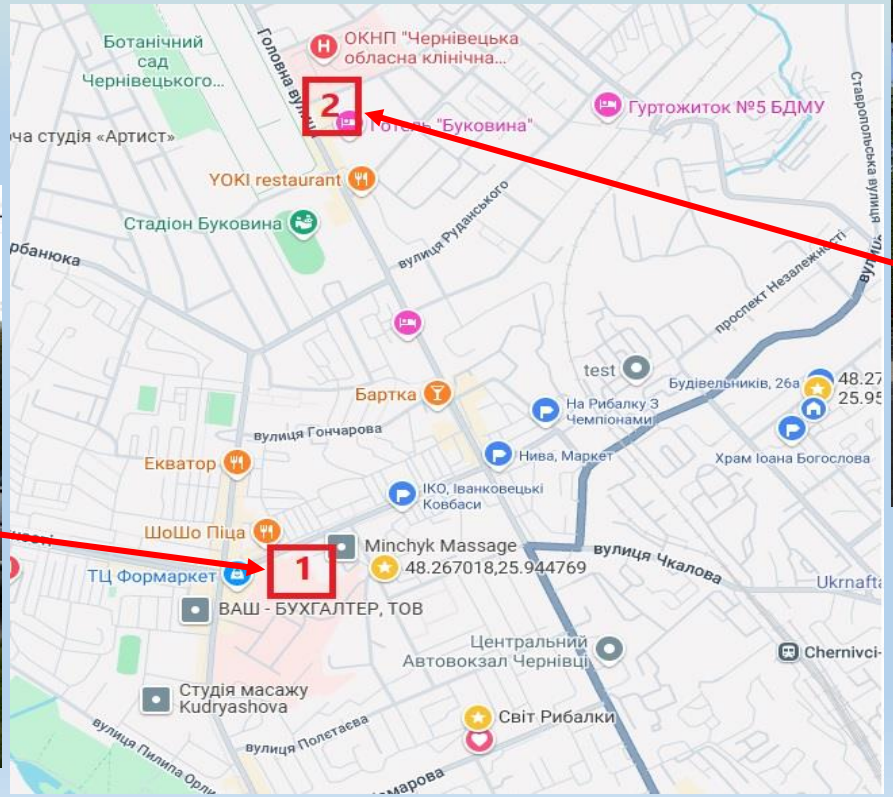
Research objectives:

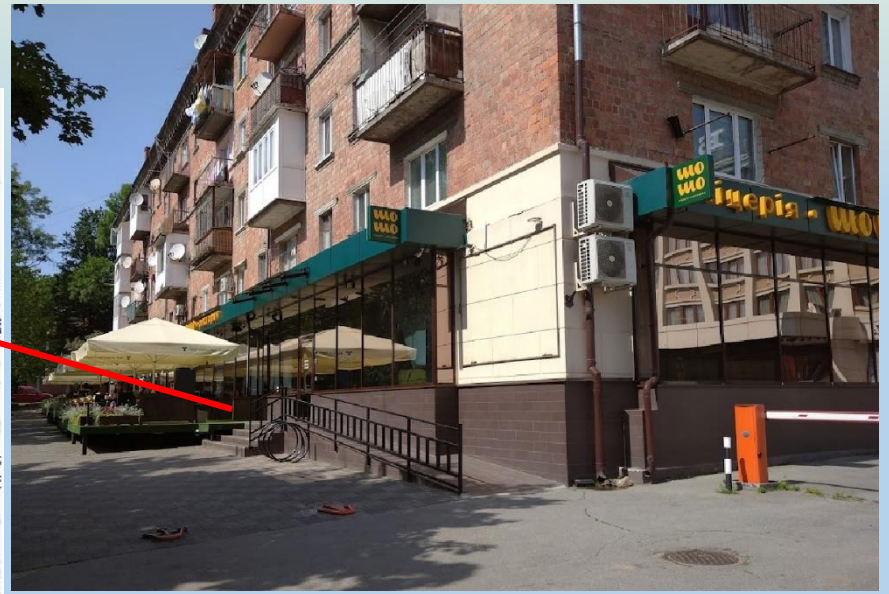
- to investigate the state of the problem of ensuring environmental safety in case of noise pollution;
- calculate noise load levels on the territory of residential buildings;
- the possibility of environmental risk from the use of generators for the purpose of forming a database for making management decisions in the field of noise protection;
- to conduct a study of compliance of the levels of acoustic pollution of the city with the established standards;
- conduct a comparative analysis of air indicators in conditions of non-permanent operation of generators;
- provide recommendations on possible ways to reduce noise pollution levels in order to increase the environmental safety of urboecosystems

- **The object of the research** is acoustic and chemical pollution of the environment under the conditions of operation of generators on the example of a residential area of the city of Chernivtsi.
- **The subject of the study** is the levels of acoustic and chemical air pollution in the city of Chernivtsi and their compliance with established standards.

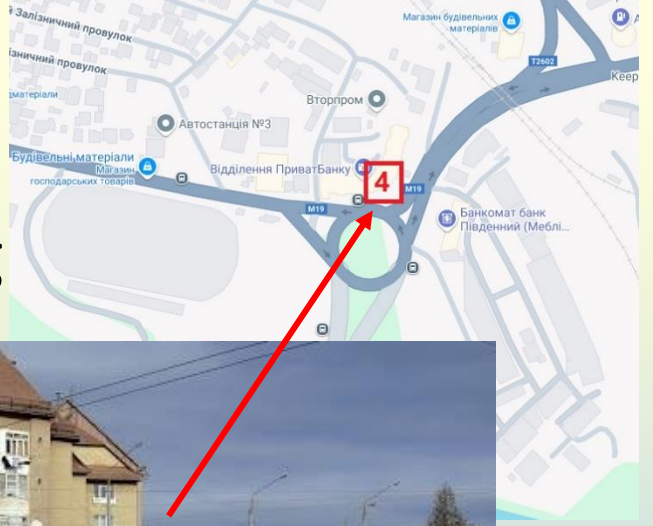
The studied areas in Chernivtsi

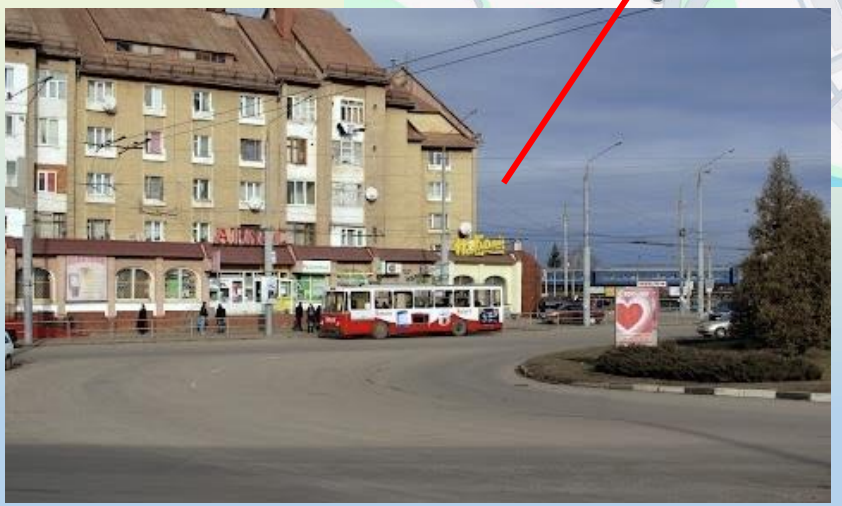
- point No. 1 (residential zone) - the area near the City Children's Polyclinic in Chernivtsi (Nezalezhnosti Ave., 109a);
- point No. 2 (recreational zone) - the area bordering the park named after T.G. Shevchenko (near the Sho Sho pizzeria (Trepka St., 2), along which there is a park area and residential buildings;

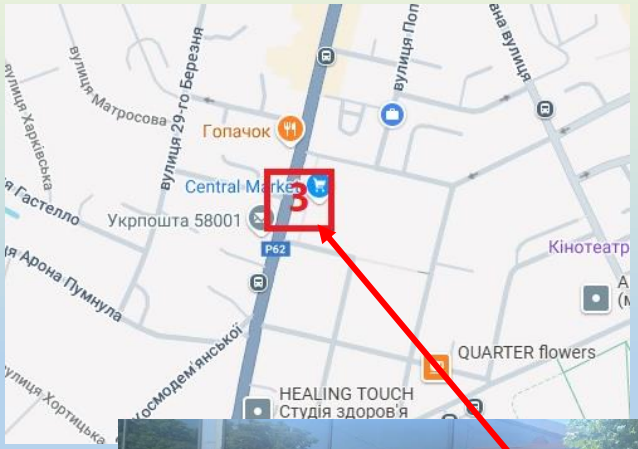


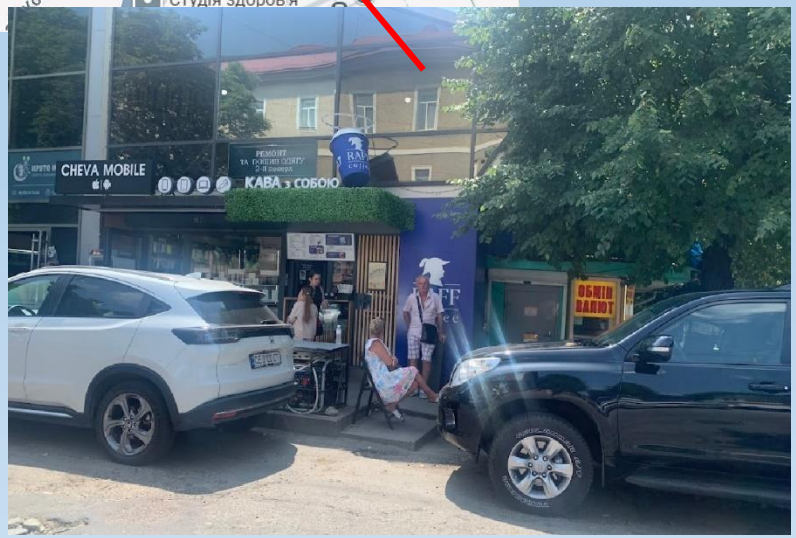


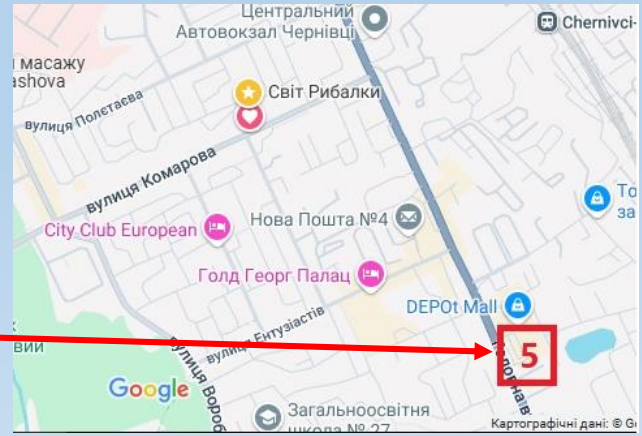
- point No. 3 (trade zone) – the area next to the Central Market;
- point No. 4 (industrial zone) – ring road along St. Factory;
- point No. 5 (residential zone) – the area next to the shopping and entertainment center "Depot"



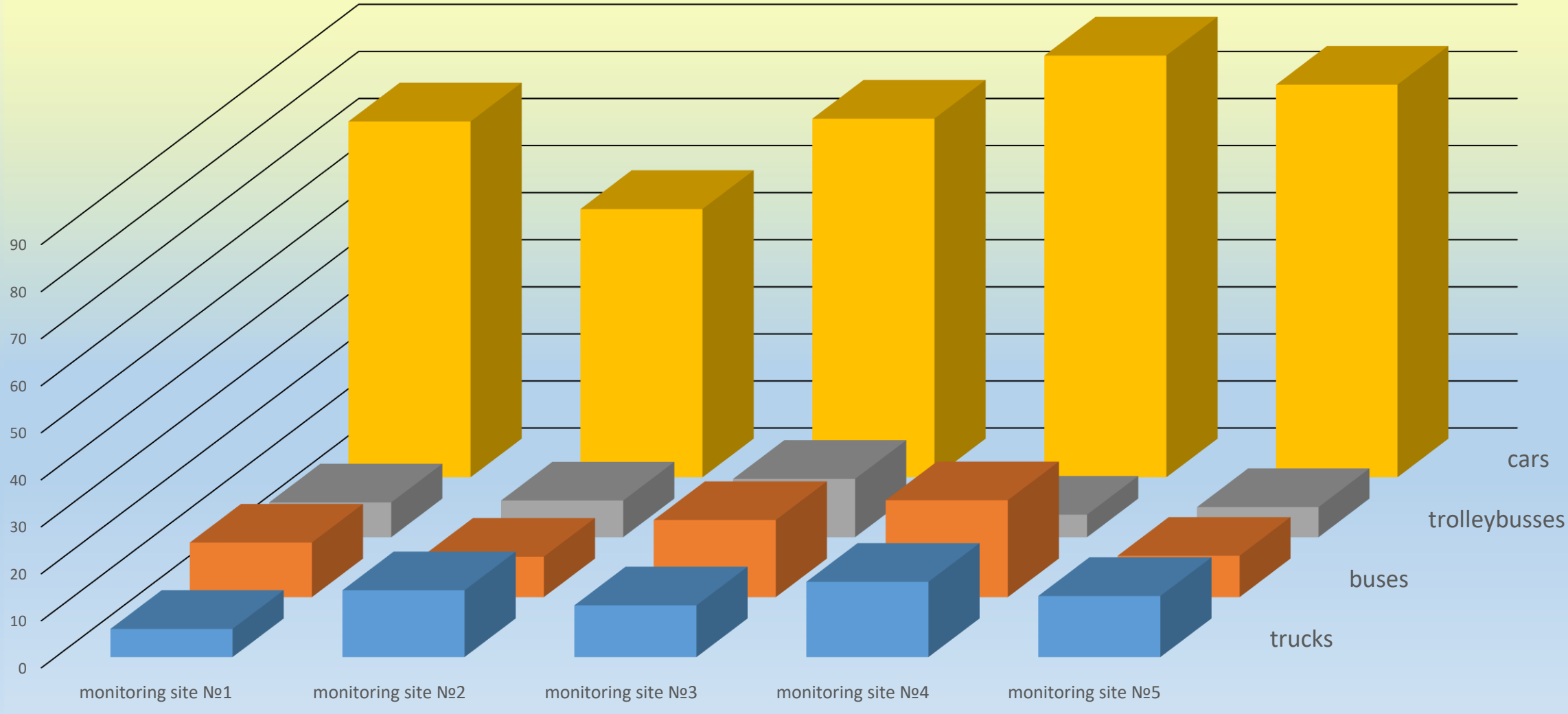








Hourly traffic intensity at monitoring points (average indicator)



The results of measuring the noise level (dB) at the monitoring sites

	Indicator №1	Exceeding the MPC	Indicator №2	Exceeding the MPC	Indicator №3	Exceeding the MPC
Monitoring site №1	66,54	-	75,94	+5,94	86,0	+16,0
Monitoring site №2	57,02	-	62,72	-	70,12	+0,12
Monitoring site №3	72,40	+2,40	74,68	+4,68	86,60	+16,60
Monitoring site №4	79,54	+9,54	85,70	+15,7	82,02	+12,02
Monitoring site №5	66,74	-	73,54	+3,54	69,54	-

Indicator No. 1 - sound level at a distance of 7.5 meters from the axis of the first traffic lane.
Indicator No. 2 - indicators of the noise of car engines and generators during work on working days from 14:00 to 17:00.
Indicator No. 3 - the noise level of generators directly during their operation near residential buildings.

The composition and content of pollutants in the atmospheric air of the city. Chernivtsi

The name of the pollutant	Maximum permissible concentrations of harmful substances (MPC), mg/m^3		**Number of observations**	The number of maximum one-time MPC exceedances (time)	Mid-month concentration, **on observation posts** in multiples of GDC		
	Mid-day GDK	A maximum of one-time MPCs			Plot 4	Plot 5	Plot 2
Dust	0,150	0,500	140	0	0,3	0,2	0,2
Sulfur dioxide	0,050	0,500	277	0	0,04	0,04	0,04
Carbon monoxide	3,000	5,000	140	0	0,06	0,06	0
Nitrogen dioxide	0,040	0,200	277	0	0,2	0,4	0,4
Nitrous oxide	0,060	0,400	30	0	0,1	-	-
Phenol	0,003	0,010	30	0	0,3	-	-
Hydrogen fluoride	0,005	0,020	247	0	-	0,2	0,2
Chloride hydrogen	0,200	0,200	111	**17**	-	0,3	-
Formaldehyde	0,003	0,035	166	**1**	0,7	-	1,7


Thank you for attention!!!