



"Decarbonization of Transport in Azerbaijan" project

Measures to reduce carbon dioxide CO₂ emissions in the field of transport

February 9-10, 2023

Baku, 09.02.2023



**Anar Mammadov
Ministry of Digital Development and
Transport**



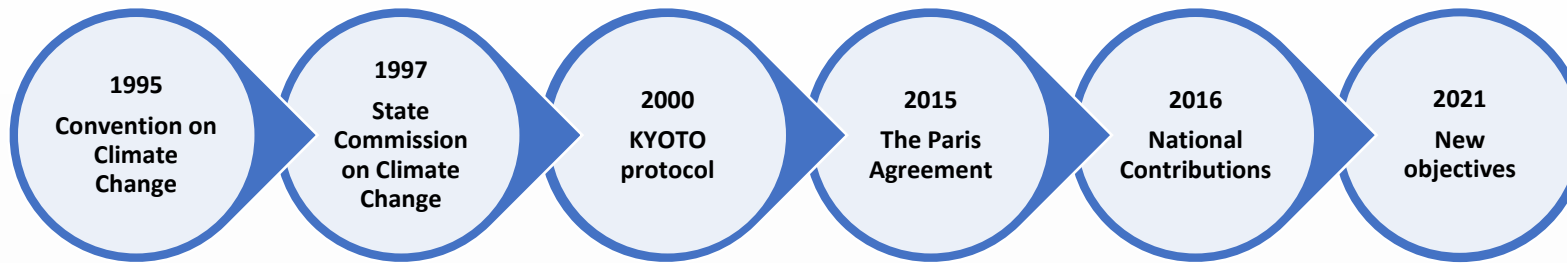
As a result of activities carried out in all areas of the transport-road complex, emissions of gases that cause climate changes are generated. The volume and structure of these wastes differ depending on the type of transport used in passenger and cargo transportation.

The main areas that generate CO2 emissions in the transport-road complex:

- Car transport;
- Railway;
- Water transport;
- Air transport;
- Construction and maintenance of transport infrastructure facilities.



The application of relevant normative legal provisions, which include ecological requirements in the normative legal acts regulating this field, has an exceptional role in minimizing environmental damage as a result of the activity of the complex and in combating the conditions that cause climate changes.



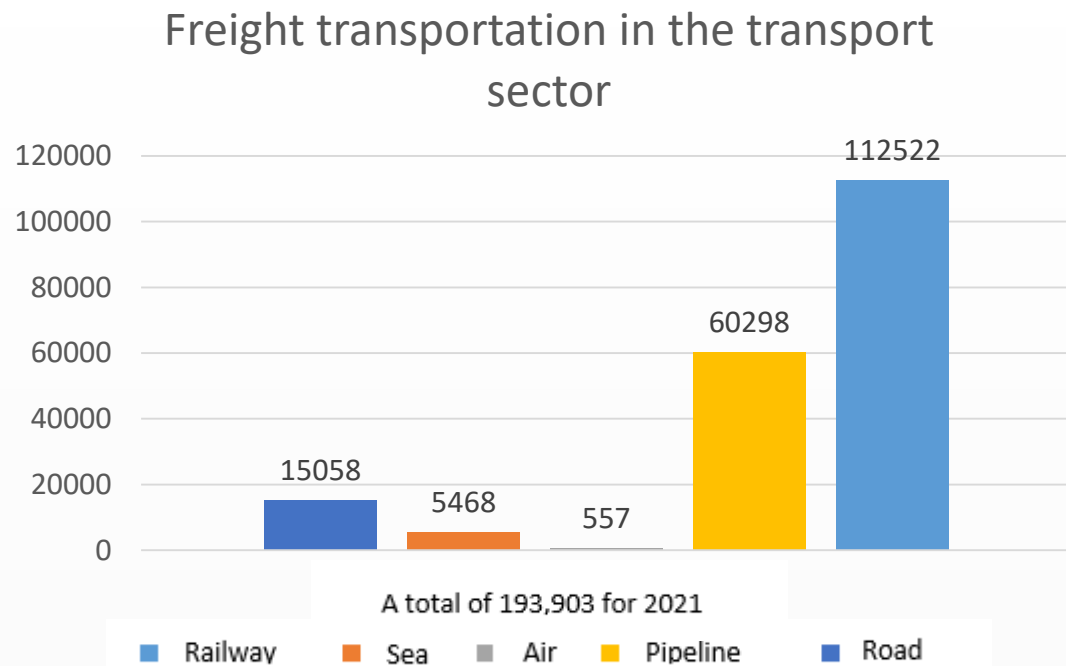
The Republic of Azerbaijan has made its contribution to global climate change prevention initiatives and has set a target of 35% reduction in greenhouse gas emissions by 2030 compared to the base year of 1990. ← 2016

2021 → Within the framework of the Paris Agreement, Azerbaijan declared a new intention, i.e. providing access to modern technologies and the goal of reducing emissions by 40% by 2050, if supported by the relevant mechanisms of the Convention and financial institutions.



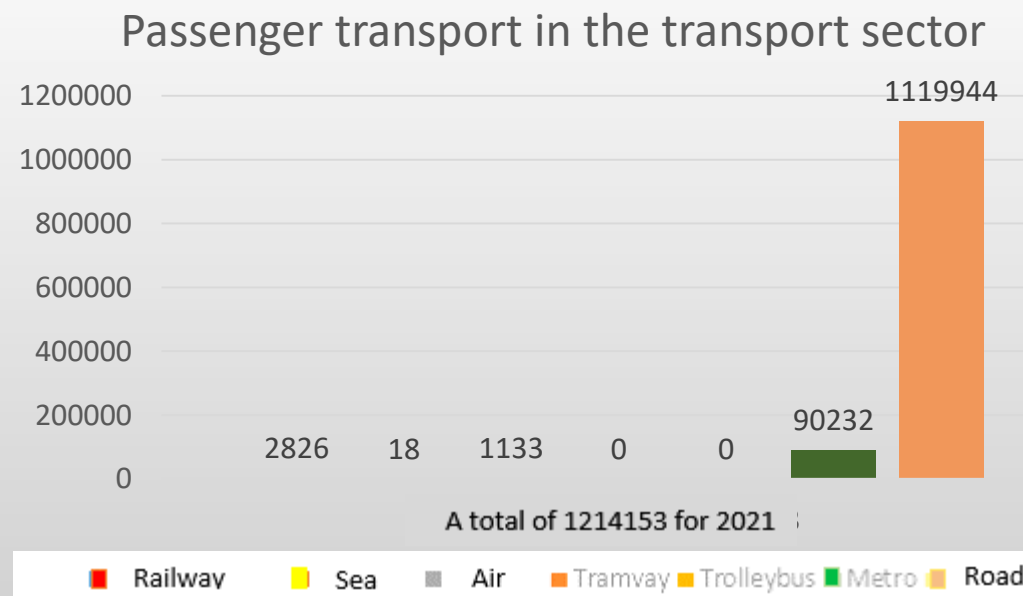
Freight transportation in the transport sector, 1000 tons

	2015	2016	2017	2018	2019	2020	2021
Total	222.373	222.461	226.419	230.144	235.288	188.629	193.903
Rail way	17.090	15.479	14.558	13.954	15.222	14.631	15.058
Maritime Transportation	6.626	5.807	8.344	8.236	5.969	5.982	5.468
Air	129	160	173	208	183	458	557
Pipeline	60.923	59.556	58.490	58.402	58.596	56.040	60.298
Automobil	137.605	141.459	144.854	149.344	155.318	111.518	112.522



Passenger transportation in the transport sector, 1000 passengers

	2015	2016	2017	2018	2019	2020	2021
Total	1.891.905	1.929.685	1.973.440	2.002.836	2.056.516	1.177.632	1.214.153
Rail way	1.883	1.978	2.490	2.841	3.850	2.124	2.826
Maritime Transportation	9	20	17	16	22	20	18
Air	1.818	1.980	2.359	2.399	2.704	578	1.133
Tram	-	-	-	-	-	-	-
Trolleybus	-	-	-	-	-	-	-
Metro	222.040	217.516	228.848	231.016	236.682	74.709	90.232
Automobil	1.666.155	1.708.191	1.739.726	1.766.564	1.813.258	1.100.201	1.119.944





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Road transport infrastructure facilities:

- highways
- bus stations
- parking lots
- car parks
- maintenance stations
- intelligent transport management system
- gas stations and so on





Public road network

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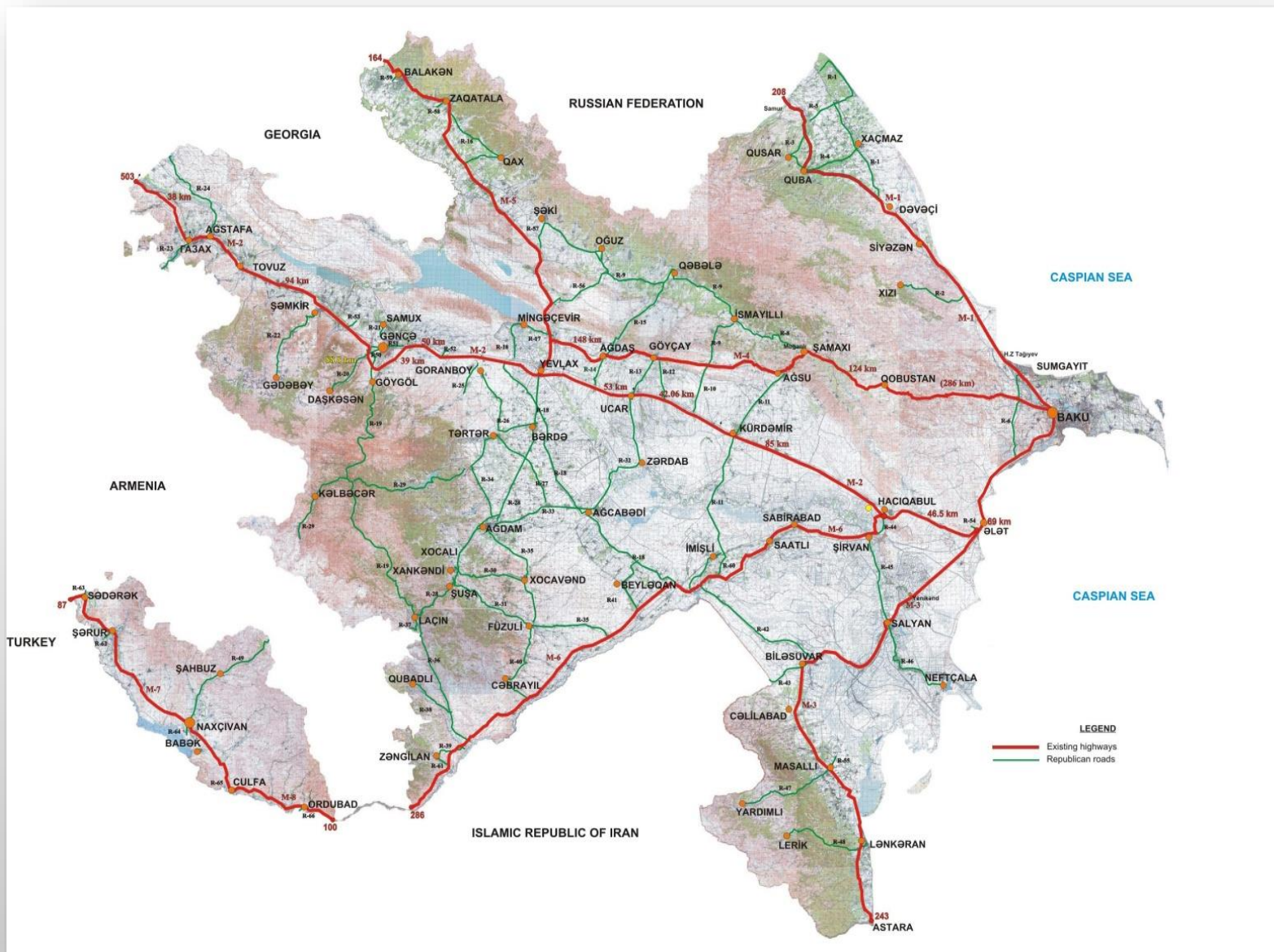


Main indicators of highways

	Unit of measurement	Total	(by the end of 2021) including:	
			of national importance	of local importance
Length of roads, total	km	19.228,0	4.811,9	14.416,1
According to the technical level of the roads:				
I Class	km	935,5	907,5	28,0
II Class	km	1.311,3	1.162,3	149,0
III Class	km	5.036,7	2.716,1	2.320,6
IV Class	km	10.765,3	26,0	10.739,3
V Class	km	1.179,2		1.179,2

European highways E-60,
E-119 və E-002

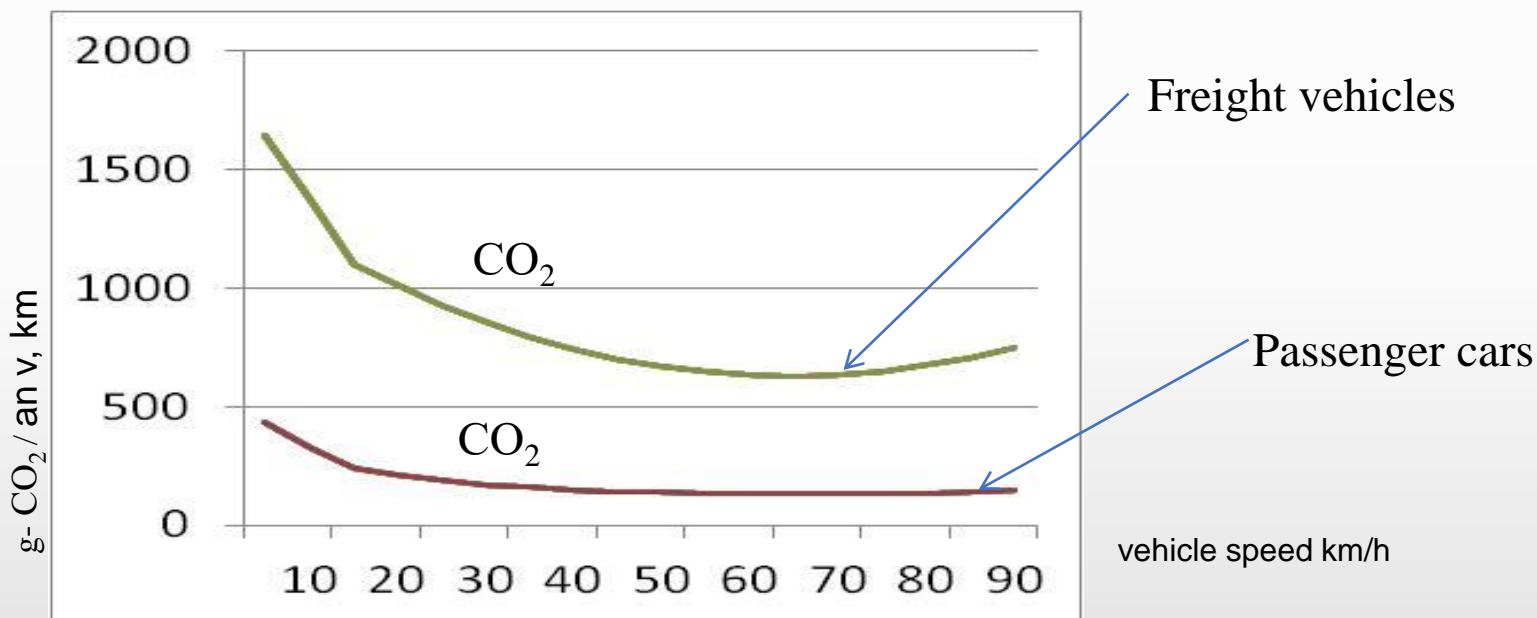
Asian highway network AH-5, AH-8, AH-81 və AH-83





On the road industry:

Graph of the dependence of the amount of CO₂ emissions on the speed of motor vehicles



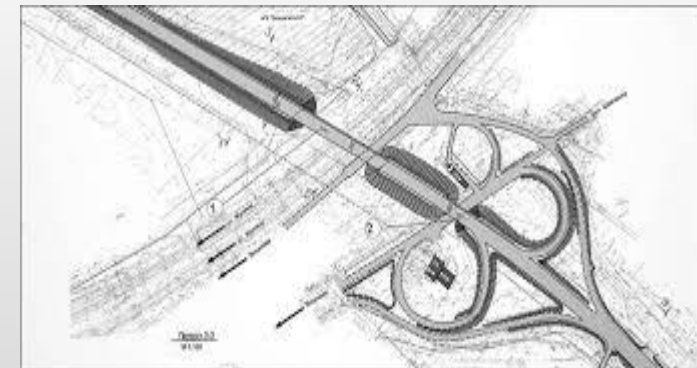
**The Road Design,
Construction,
Reconstruction and
Repair Regulations
and Highways**

When the speed of vehicles decreases, the amount of CO₂ emissions increases, as a result of traffic optimization measures, the elimination of traffic jams and increasing the speed of vehicles lead to a decrease in harmful emissions as a whole.



"Rules for the design, construction, reconstruction and repair of highways" approved by the decision of the Cabinet of Ministers of the Republic of Azerbaijan dated February 7, 2000 No. 16 and 02.05.85* "Roads" Construction Norms and Regulations

- During the design and construction of roads, the plan and longitudinal profile are selected in such a way that vehicles move at a constant speed
- To ensure fast, comfortable and safe movement of vehicles
- It is considered possible to reduce the emission of harmful gases emitted by vehicles by up to 35% as a result of increasing the traffic and operational indicators of the highway.
- The geometric parameters of the road (transverse and longitudinal profiles, height of the bed, radii of curves, width of the carriageway and shoulders, dimensions of artificial structures) must comply with the norms established for the grade of the road





- During the construction and operation of the road, the degree of its impact on the environment is determined, the compatibility of the road with the landscape is taken into account, and the project solution with the least impact on the environment is preferred.
- In order to protect the land belonging to highways from negative natural, anthropogenic and man-made conditions, trees and shrubs are planted in these areas and green belts are laid, which ultimately serves to reduce harmful waste in the atmosphere.
- The use of industrial waste located in the construction zone and suitable for construction, as well as recycled asphalt concrete during the construction of highways, not only saves raw material resources, but also saves energy used for the production of materials.



At the same time, there are other requirements aimed at environmental protection in these technical normative legal acts



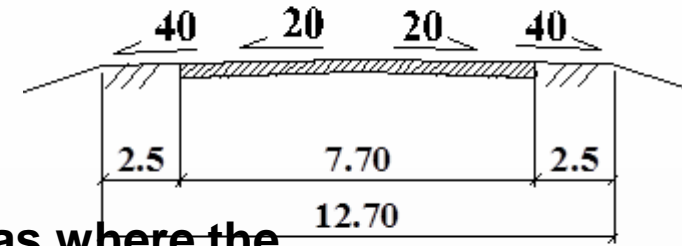
In some parts of the Country, it is observed that the rains that have fallen in the recent period are more than the precipitation norm. Amount of precipitation:

- 4% in Gadabay;
- It increased by 16% in Baku and the Absheron Peninsula.



According to the Order No. 2432 of the President of the Republic of Azerbaijan dated 11.11.2016, a working group was established in connection with the improvement of the rain sewerage system in Baku. In order to prevent the consequences caused by rainfall, the Working Group was given relevant tasks. The head of the working group is the First Deputy Prime Minister of the Republic of Azerbaijan, and the group includes senior officials of 9 relevant state institutions. This measure can be attributed to the step of adaptation to climate changes in the road industry.





Transverse slopes of the traffic section (except for road areas where the construction of curves is planned)

Before

Yolun dərəcəsi	Eninə maillik, %				
	Yol-iqlim zonaları				
	I	II	III	IV	V
I dərəcəli:					
a) hərəkət hissəsinin eninə profili ikimailli olduqda	20	20	25	20	15
b) birmayillik profil olduqda:					
ayırıcı zolağın yanında birinci və ikinci zolaqlar;	20	20	20	15	15
üçüncü və sonrakı zolaqlar;	25	25	25	20	20
II—IV dərəcəli	20	20	20	15	15

After

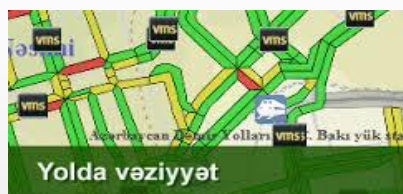
Road Level	Transverse slope (%)				
	road climate zones				
	I	II	III	IV	V
I class:					
a) when the transverse profile of the running part is bisloped	20	20	25	25	25
b) in the case of a monoclinic profile:					
first and second lanes next to the divider lane	20	20	20	25	25
third and subsequent lanes	25	25	25	25	25
II - IV class	20	20	20	25	25

The mentioned variability can be noted as a measure of adaptation to climate changes, although the current technical requirements serve to remove atmospheric precipitation from the moving part faster.



Center for Intelligent Transport Management

According to the Decree No. 2469 of the President of the Republic of Azerbaijan dated 26.10.2007 "On the creation of an intelligent management system of transport operations in Baku city", an intelligent management system of transport operations was established in Baku city.



The Intelligent Transport Management Center, which was created on the basis of modern information technologies and has been operating in Baku since December 29, 2011, was built on the basis of the Intelligent Transport System technology, which ensures safety, comfort, efficiency, flexibility and environmental protection.

As a result of the implementation of the system, besides achieving an increase in the average speed of the traffic flow by 8-10 km/h, by solving a number of problems in passenger transportation by bus, the preference of citizens to use public transport instead of private transport to meet their needs, in turn, served to protect the environment.



An increase in the average speed of movement at 8-10 km/h

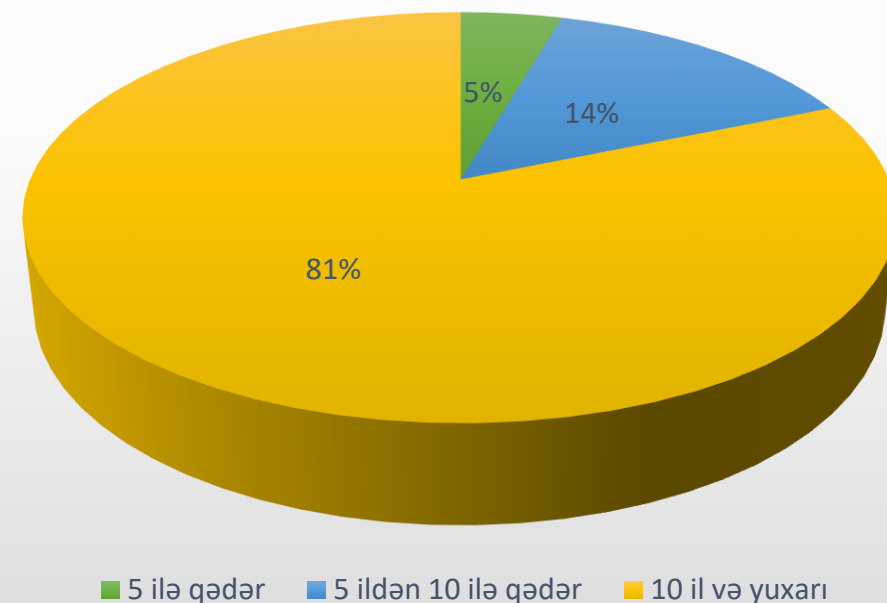




The age structure of the vehicles parking

	2015	2016	2017	2018	2019	2020	2021
Passenger cars - total	1.129.596	1.136.983	1.147.437	1.170.672	1.214.093	1.264.542	1.349.307
including:							
up to 5 years	175.634	141.601	102.876	72.266	51.170	51.048	63.193
5 to 10 years	212.821	237.740	213.830	202.099	223.890	220.129	204.332
10 years and above	741.141	757.642	830.731	896.307	939.033	993.365	1.081.782
Buses - total	31.057	30.958	30.788	30.704	30.783	30.757	30.815
including:							
up to 5 years	2.943	2.854	1.826	1.660	1.756	1.296	1.451
5 to 10 years	3.444	5.092	5.376	4.424	3.584	3.632	2.974
10 years and above	24.670	23.012	23.586	24.620	25.443	25.829	26.390
Trucks - total	141.273	141.525	142.857	147.343	150.547	154.659	161.279
o cümlədən:							
up to 5 years	12.406	9.269	5.810	3.883	3.057	3.198	4.137
5 to 10 years	24.135	22.589	20.592	16.170	16.708	15.724	12.114
10 years and above	104.732	109.667	116.455	127.290	130.782	135.737	145.028
Special purpose vehicles - total	11.063	11.158	11.024	11.232	11.924	11.613	12.233
o cümlədən:							
up to 5 years	2.010	1.570	1.141	709	555	591	661
5 to 10 years	3.324	3.278	2.752	2.278	2.489	2.245	1.791
10 years and above	5.729	6.310	7.131	8.245	8.880	8.777	9.781
Total	1.312.989	1.320.624	1.332.106	1.359.951	1.407.347	1.461.571	1.553.634

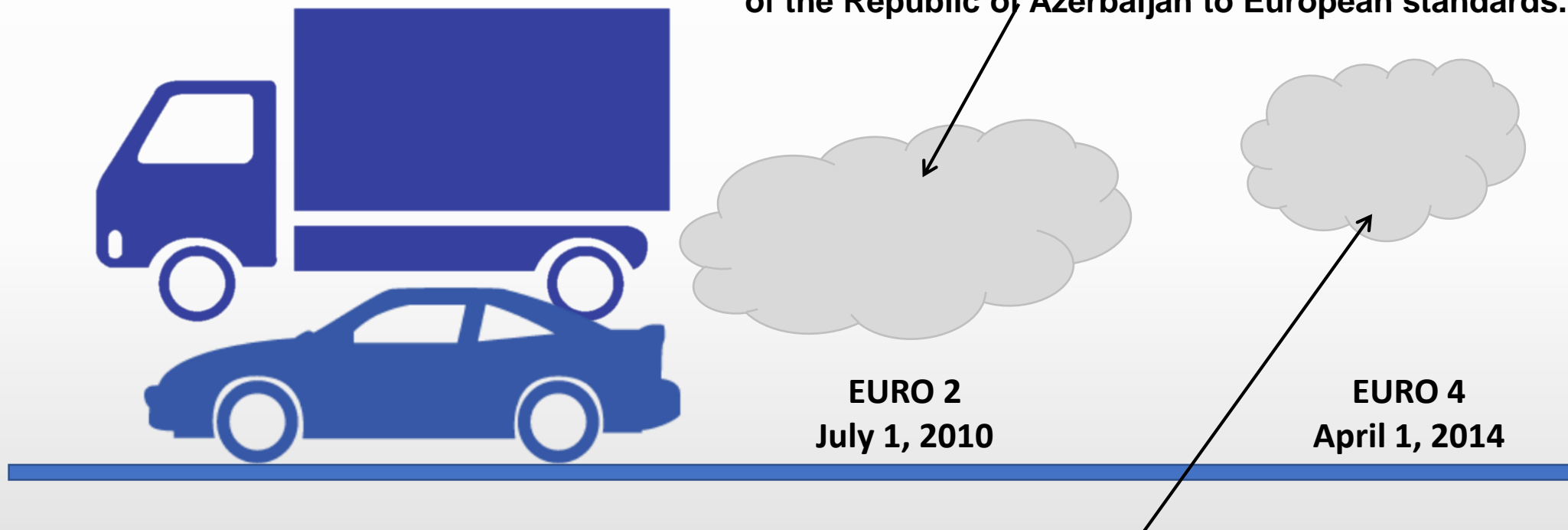
Cars Total for 2021 is 1553634





On road transport

Decision of Cabinet of Ministers of the Republic of Azerbaijan dated 06.03.2010, No. 45 "On measures to adapt the requirements for harmful substances released into the atmosphere from vehicles (imported and produced in the Republic of Azerbaijan)" put into circulation in the territory of the Republic of Azerbaijan to European standards.



Decision of Cabinet of Ministers of the Republic of Azerbaijan dated 14.01.2014, No. 2 "On adapting the requirements for harmful substances released into the atmosphere from vehicles (imported and produced in the Republic of Azerbaijan) put into circulation in the territory of the Republic of Azerbaijan to Euro-4 environmental norms"



Tax Code of the Republic of Azerbaijan

<i>Name of the object of taxation</i>	<i>Excise rate</i>
<i>Passenger cars:</i>	
<i>- when the volume of the engine is up to 2000 cubic centimeters</i>	<i>For each cubic centimeter of engine volume - 0.30 manats</i>
<i>- when the volume of the engine is up to 3000 cubic centimeters</i>	<i>600 manats + 5 manats per cubic centimeter for the part of the engine volume between 2001 and 3000 cubic centimeters</i>
<i>- when the volume of the engine is up to 4000 cubic centimeters</i>	<i>5,600 manats + 13 manats per cubic centimeter for 3,001-4,000 cubic centimeters of engine volume</i>
<i>- when the volume of the engine is up to 5000 cubic centimeters</i>	<i>18,600 manats + 35 manats per cubic centimeter for 4,001-5,000 cubic centimeters of engine volume</i>
<i>- when the engine volume is more than 5000 cubic centimeters</i>	<i>53,600 manats + 70 manats per cubic centimeter for engine volume over 5,000 cubic centimeters</i>

No. 1356-VQD dated November 30, 2018, on amendments to the Tax Code of the Republic of Azerbaijan, from January 1, 2019, vehicles with an electric motor and more than 10 passengers, including the driver, for a period of five years from January 1, 2020 Compressed natural gas (CNG) buses designed to transport were exempted from value added tax on importation. **18 %**

According to the Law No. 406-VIQD of the Republic of Azerbaijan dated December 3, 2021 "On Amendments to the Tax Code of the Republic of Azerbaijan", import and sale of hybrid cars with a production date of 3 years and an engine volume of no more than 2500 cubic centimeters - from January 1 to 3, 2022 import and sale are exempted from VAT for a year. This law also exempts the import and sale of second and third level electric chargers for electric vehicles - for 3 years from January 1, 2022

According to the Resolution of the Cabinet of Ministers of the Republic of Azerbaijan dated 10.11.2022, № 411, import tariff rates for cars driven by an electric motor engine with an expired production period of up to 3 years, as well as for electric chargers of the second and third levels, are set at 0% per annum.

The Ministry has developed an internet resource "edm.ayna.gov.az" that displays information about electric charge points on an interactive map.

Law of the Republic of Azerbaijan "On Mandatory Insurances".

"Rule for calculation of insurance premium amounts for compulsory civil liability insurance of motor vehicle owners" approved by Resolution No. Q-01 dated 06.12.2011 of the Ministry of Finance

Type of vehicle	Coefficients
According to the volume of passenger cars and other motor vehicles manufactured on their basis - engines:	
50 sm ³ – 1500 sm ³	1
1501 sm ³ – 2000 sm ³	1.5
2001 sm ³ – 2500 sm ³	2
2501 sm ³ – 3000 sm ³	2.5
3001 sm ³ – 3500 sm ³	3
3501 sm ³ – 4000 sm ³	3.5
4001 sm ³ – 4500 sm ³	4
4501 sm ³ – 5000 sm ³	4.5
5000 sm ³ -dən çox	5



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Protocol No. 1 of the Road Traffic Safety Commission of the Cabinet of Ministers of the Republic of Azerbaijan dated June 30, 2015



Restrictions were imposed on the movement of trucks with a permissible weight of more than 5 (8) tons in Baku in the morning;

Creation of free parking lots provided with the necessary conditions at the southern and northern entrances of the city for vehicles coming from the cities and regions of our republic to the city of Baku;

relocation of bus stops from places that obstruct movement, creation of "pockets" for bus stops where possible; creation of special traffic lanes for buses carrying out regular passenger transportation;

"BakuBus" Limited Liability Company was established by the decision No. 92 of the Cabinet of Ministers of the Republic of Azerbaijan dated 03.04.2014.

The main goal of the company is to organize bus transportation services for passengers in accordance with international standards in Baku, equip this area with modern vehicles, and ensure safety from a technical and ecological point of view during passenger transportation.

First, 300 new French-made liquefied natural gas fueled buses were delivered by "BakuBus" LLC.





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In order to increase the interest of our national transporters in vehicles conforming to the standards of "Euro-5" and higher environmental standards, in order to achieve the renewal of the relevant truck fleet, a lower fee is applied for this type of vehicles when purchasing the ANNK magazine established by BNF.



Acquiring skills and knowledge of driving vehicles using the "Eco-driving" method



In accordance with the Order No. 1737 of the President of the Republic of Azerbaijan dated December 26, 2019, 100 new "LEVC" (electrically powered) taxi passenger cars were brought to the country and put into service by the "Baku Taxi Service" Limited Liability Company of the Ministry. Service" LLC has a total of 624 taxis, of which 16 percent are taxi passenger cars (powered by electricity) and work in this direction is continued.



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According to the Resolution No. 73 of the Cabinet of Ministers of the Republic of Azerbaijan dated March 4, 2019, "Buses and taxi passenger cars used in Baku city, their drivers, carriers carrying out passenger transportation activities, transport exchange centers, bus stops and taxi stands "Requirements for locations" have been approved.



Buses that carry out regular intra-city (intra-town) passenger transportation in the administrative area of Baku must be equipped with a compressed natural gas or electric engine, in accordance with the environmental standards in force for the respective motor vehicles, and the said requirement shall enter into force on January 1, 2025. Therefore, in 2025, all buses in the city of Baku will be replaced by vehicles that meet more environmentally friendly standards.

The carrier must ensure that the vehicles in use are checked once a quarter for their compliance with technical, operational, safety and environmental requirements (except for taxi passenger cars), check their technical condition before departure, and undergo a state technical inspection.

Law of the Republic of Azerbaijan "On Traffic".



The operation of the vehicle is prohibited if the amount of harmful substances in the exhaust gases and their smokiness exceeds the amounts specified in the state standards.

The technical inspection of vehicles across the country is carried out in the relevant authorities and within the specified time periods in accordance with Part VI of Article 30 of the Law of the Republic of Azerbaijan "On Traffic".



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Railway

Railway passenger transportation was organized using modern "Stadler" high-speed trains that provide high comfort on the Baku-Khirdalan-Sumgayit and Baku passenger - Sabunchu - Pirshagi - Sumgayit passenger - Khirdalan - Bilajari - Baku routes;

- Other high-speed trains equipped with this type of carriages operate on the Baku-Ganja route, and currently, relevant works have been started to extend this route to the border of Georgia;

- The construction project of the new Laki-Gabala railway with a length of 46 kilometers was implemented;

Electrification of railway lines and switching to alternating current traction system belong to mitigation measures in this area





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Water transport

According to the Order of the President of the Republic of Azerbaijan dated 18.10.2007, No. 2443, a new International Sea Trade Port complex was built in the territory of Alat settlement of Garadagh district of Baku city.

In 2018, the first phase of the port was inaugurated. Baku International Sea Trade Port, built in Alat settlement, in addition to partial elimination of traffic congestion in Baku city, the organization of the operation of the port based on the "Green port" principle also contributed to the reduction of gases that create a heat effect in the area of the transport-road complex.

On October 16 of the current year, Baku Port was awarded the "EcoPorts" certificate of the European Sea Ports Organization in Oslo, Norway. Thus, Baku Port became the first port in the Caspian region to receive the "EcoPorts" certificate.



since June 18, 2004 the Republic of Azerbaijan

"On prevention of pollution of the sea from ships"

Joined the International Convention and its Annex VI

**Annex VI - Rules for prevention of
air pollution from ships**





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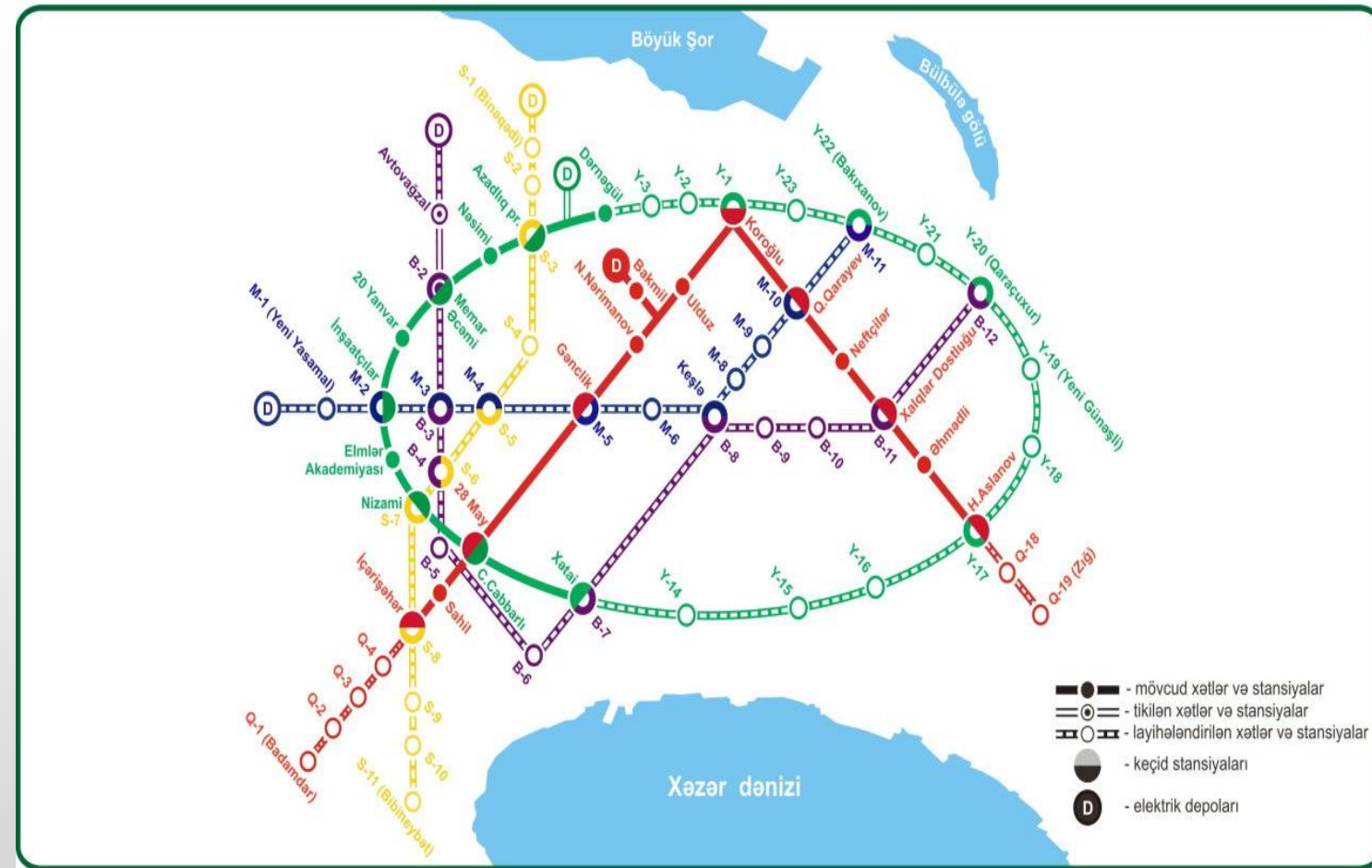
Baku Metro

Decree of the President of the Republic of Azerbaijan dated 18.03.2011, No. 1408 "On additional measures related to the perspective development of the Baku Metro"

The approved Conceptual Development Scheme envisages the phased expansion of the existing network of the Baku Metro until 2030 and the creation of a huge metro network.

Number of 5,
Number of stations 76,
total length of roads 119 km,
The distance between each station 900 m,
Platforms are calculated for 7 trains.

CONCEPTUAL DEVELOPMENT SCHEME OF BAKU METRO LINES





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Questions and answers