

NJC «Kazakh National Agrarian Research University»



Approved

Chairman of the Board - Rector
NJC "Kazakh National Agrarian
Research University"



A.K. Kurishbayev
2025 year

Sustainable transport development strategy at the KazNARU campus (Concept)

Quality management representative

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Sustainable transport is transportation sustainable in terms of their social and environmental impacts. Components for evaluating sustainability include the particular vehicles used for road, water or air transport; the source of energy; and the infrastructure used to accommodate the transport (roads, railways, airways, waterways, canals and terminals).

Developers:

Vice-Rector for international relations



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Normative references

- 1 Transforming our world: the 2030 Agenda for Sustainable Development (<https://undocs.org/en/A/RES/70/1>)
- 2 Strategies for sustainable transportation in road way system in urban areas (E3S Web of Conferences 389, 05001 (2023) (<https://doi.org/10.1051/e3sconf/202338905001> UESF-2023))
- 3 2024 Draft Annual Report of the Sustainable Transport Division of the United Nations Economic Commission for Europe
- 4 The Review of Developments in Transport in Asia and the Pacific 2024: Transition Towards Sustainable Transport Solutions
- 5 Sustainable_Transport_Strategy_2024-2030(adilet.zan.kz/rus/docs/P2200001116)
- 6 Implementation Plan for the United Nations Decade of Sustainable Transport Concept Note_Implementation_Plan_Sust.Transport_Decade.pdf (un.org)
- 7 Benefits of sustainable transportation (2024 updated)
[Benefits of Sustainable Transportation \(2024 Updated\) - BleedGreen \(bleedgreenfoundation.com\)](http://bleedgreenfoundation.com)
- 8 City of Almaty Sustainable transport strategy [1308_OON_transport_Report Eng_n.indd \(alatransit.kz\)](http://1308_OON_transport_Report_Eng_n.indd(alatransit.kz))
9. The concept for the Development of Higher Education and Science in the Republic of Kazakhstan for 2023-2029 (adilet.zan.kz/rus/docs/P2300000248)
10. On approval of the updated national contribution of the Republic of Kazakhstan to the global response to climate change. Resolution of the Government of the Republic of Kazakhstan dated April 19, 2023 № 313 (<http://adilet.zan.kz/rus/docs/P2300000313>)
11. Concepts of development of transport and logistics potential of the Republic of Kazakhstan until 2030 (adilet.zan.kz/rus/docs/P2200001116)

Basics concepts and terms

Sustainability covers economic, environmental and social aspects

economic sustainability (economic efficiency): although public debate about sustainability often focuses on ecological goals, in fact, a sustainable development cannot be achieved unless the effects on the economy, employment and the provision of goods are considered;

environmental sustainability (ecological stability): this requires that the environmental balance is not overburdened by human emissions and resource use in order to guarantee the functional stability of present eco-systems, both on a local and global scale;

social sustainability (distributional/social equity): social and distributional needs are met by ensuring a fair distribution of resources, poverty reduction, stable human development, public participation, and democratic policy formation

Regulatory and Planning Instruments:

The regulatory approach administratively sets standards, restrictions, administrative procedures, etc. Regulatory Instruments basically follow a command and-control approach.

Cooperation Agreements:

Cooperative approaches try to get all the people engaged in a specific issue involved in a process of voluntary communication and negotiation. The aim is to reach a consensus on policy goals and to design voluntary measures to reach these goals. Cooperative solutions can be found in various forms, including all kinds of negotiations between states and/or private entities

Economic Instruments:

Market-based approaches use economic incentives and/or disincentives to pursue a policy goal. The price mechanism serves as a vehicle for policy enforcement. By changing the price of private transport supply and demand, the decisions of the users and providers can be guided into more favorable directions

General provisions

KEY STRATEGIES • Support public transport, walking and cycling as sustainable modes of transport in the city center • Significantly reduce transport related air pollution • Improve public transport services extensively • Develop Almaty into a walking and cycling city • Adjust the road network in accordance with the needs of the sustainable transport system, so that trucks and through-traffic will avoid passing through the city • Actively manage traffic in the city center • Introduce on-street parking management in the city center • Better integrate urban planning with transport planning • Integrate Almaty's transport system with the suburbs This strategy will be coordinated with the State government to ensure that all projects match with Almaty's development and transport needs .

STRATEGY GOALS • Reduce air pollution emissions and GHGs by 32% relative to current levels • Increase the market share of sustainable transport modes (public transport, walking and cycling) from 42% currently, to 55% • Decrease the number of fatalities due to road accidents, especially accidents involving pedestrians, by 35% • Reduce congestion in the city center by 30% • Ensure full integration between municipal urban planning and transport planning.

The international expert community recognizes the significant contribution of transport to global climate change. It was first documented at the 1992 United Nations Earth Summit and enshrined in its concluding document 'Agenda 21.' Many international documents highlight that transport is now one of the largest energy end-users in developed countries and the fastest growing in most developing countries. International studies suggest that public transport systems are essential for goods delivery networks, accessibility, efficiency, and convenience of transport. In this context sustainable transport can contribute to improving urban air quality, improving health, and reducing greenhouse gas emissions.

Current technological development suggests that it is possible to sustainable transport, which can contribute to economic growth and improve accessibility of the transportation infrastructure. Sustainable transport provides a more integrated

economy while enabling environmental conservation, promoting social equity, health, urban sustainability, urban-rural connectivity, and rural productivity.

The UN Secretary-General has proposed establishing and operationalizing a High-Level Advisory Group on Sustainable Transport (HLAG-SST). It will assess all modes of transport, including road, rail, air, sea, ferry, and urban public transport. The importance of sustainable transport for developing countries has also been recognized by the international community through the Istanbul Programme of Action for LDCs. It was also noted by the Vienna Programme of Action for LLDCs, the Samoa Pathway for SIDS, the Sendai Framework for Disaster Risk Reduction and the New Urban Agenda.

Principles/Relevance

Role of the Kazakh National Agrarian Research University: The University can contribute to the process of developing and identifying new technologies, planning, development, and rational operation of transport and transport infrastructure, and promoting environmentally friendly modes of transport in Kazakhstan.

The Kazakh National Agrarian Research University can mobilize researchers, educators, and students to implement environmental protection and development and adopt new technologies, such as popularizing electric cars and electric scooters. Development of environmentally friendly and environmentally neutral transport in Kazakhstan

In the 2030 Agenda for Sustainable Development in Kazakhstan, the need for sustainable transport is reflected in a number of sustainable development goals and targets, especially those related to food security, health, energy, economic growth, infrastructure, and cities and human settlements. The importance of transport in combating climate change is also noted under the UNFCCC: the transport sector will play a particularly significant role in the implementation of the Paris Agreement, given that transport accounts for almost a quarter of the world's energy-related greenhouse gas emissions and is projected to increase significantly in the coming years. The objective of sustainable transport development in Kazakhstan is to

maximize human well-being and provide a healthy and secure economic, social, and environmental foundation for both present and future generations.

Goals and Objectives

The development of a sustainable transport policy in Kazakhstan should guide the transport sector to find an optimal compromise that maximizes the economic and social benefits of transport and minimizes the associated environmental, social and economic costs.

To ensure the reduction of CO₂ and other harmful elements on a least-cost basis, cross-sectoral analyses of possible solutions should identify measures that can be applied in the transport sector. The first step in the transport sector is to quantify the emission reductions expected due to those measures that have already been taken. This process is currently underway in most European countries, but has not yet been finalized definitively in any of them. Accelerated emission reductions. In addition to the voluntary ASEA (International Automobile Manufacturers Association) Agreement on emissions from new vehicles, efforts to change driving practices (so-called "eco-driving") and to ensure quality vehicle maintenance are likely to be most promising in the short term. Appropriate economic mechanisms will also be important to ensure initiatives to accelerate the introduction of more fuel-efficient vehicles and to manage transport demand. Improved traffic management can make a significant contribution to reducing emissions in many cities, in particular through comprehensive measures to improve real-time information to drivers and passengers on congestion and on the expected arrival time of buses (a key factor in the quality of the passenger experience).

Expected results (Ways of solving transport problems in Kazakhstan)

The Kazakh National Agrarian Research University can mobilize research capacity and contribute to planning developing and identifying new transportation-related technologies, public expenditure and private investment to the transportation-related sectors. It can also plan and implement environmental and operational measures for environmentally neutral transport development. For example, these measures could include the following steps:

- 1) Developing a transport efficiency programme.
- 2) Engaging scientific potential to develop the most efficient approaches and the latest technologies in the field of transport development for agriculture.
- 3) Development of new energy-saving technologies.
- 4) Adaptation of new technologies in transport.
- 5) Popularization of electric cars and electric scooters.