LOMONOSOV MOSCOW STATE UNIVERSITY

July 17–22, 2018

URBAN TRANSPORT DEVELOPMENT INDEX:
COMPARISON OF LEADING RUSSIAN AND FOREIGN CITIES
LOMONOSOV MOSCOW STATE UNIVERSITY: THE LARGEST UNIVERSITY, THE LEADING SCIENTIFIC CENTER OF THE COUNTRY

- MORE THAN 57 THOUSAND STUDENTS
- 20 THOUSAND EMPLOYEES
- ~300 ACADEMICIANS AND CORRESPONDING MEMBERS OF RAS AND STATE BRANCH ACADEMIES
- 4 THOUSAND OF RESEARCHERS
- 7,5 THOUSAND DOCTORS OF SCIENCE AND CANDIDATES OF SCIENCE
- 43 FACULTIES, 15 SCIENTIFIC RESEARCH INSTITUTIONS, 377 DEPARTMENTS, 7 CAMPUS
- TOP-100 IN QS UNIVERSITY RANKINGS FOR 15 DISCIPLINES
- № 1 IN DEVELOPING EUROPE AND CENTRAL ASIA RATING
- 33RD PLACE IN WORLD REPUTATION RANKING OF THE WORLD'S LEADING UNIVERSITIES

REALIZATION OF THE CONCEPT «SMART CITIES - CAPITALS OF THE DIGITAL ECONOMY»

- COMPREHENSIVE TECHNOLOGICAL AND ECONOMIC STUDIES, DEVELOPMENT OF MODERN RESEARCH METHODS
- СИНТЕЗ ОБУЧЕНИЯ И ИССЛЕДОВАНИЙ НА БАЗЕ НАУЧНЫХ ЛАБОРАТОРИЙ

WIDE RANGE OF ANALYTICAL RESEARCH AT REGIONAL LEVEL, INCLUDING STATISTICS AND BENCHMARKING

COOPERATION:
- INTERNATIONAL ORGANIZATIONS
- STATE ADMINISTRATION BODIES
- LEADING RUSSIAN AND FOREIGN COMPANIES
- RESEARCH CENTERS
THE PROPOSED INDEX TAKES INTO ACCOUNT A COMPREHENSIVE SET OF FACTORS THAT DETERMINE THE LEVEL OF URBAN TRANSPORT DEVELOPMENT

1. Experience in the development of Moscow transport infrastructure in comparison with the largest megacities: Hong Kong, London, Mexico City, Moscow, New York, St. Petersburg, Singapore, Istanbul, Tokyo and Shanghai.

2. Priorities of state strategic planning documents, including the state program "Development of transport system of Russia? (2010-2020)"

3. The best practices of Russian cities with a population of more than one million people

4. Socio-economic aspects of transport infrastructure functioning in large cities

5. The values of comparable key indicators for the period 2010-2017.

6. The needs of all major categories of users of transport services

7. Directions of perspective development of transport system.
METHODOLOGY OF THE COMPARATIVE ANALYSIS TAKES INTO CONSIDERATION THE BEST PRACTICES OF BOTH FOREIGN AND LARGE RUSSIAN CITIES
KEY GOAL IS TO PROVIDE THE CONFORMITY OF THE URBAN TRANSPORT SYSTEM TO THE BEST WORLD STANDARDS

**Urban Transport Development Index**

**Subindexes**

- **Transport Services’ Quality**
- **Transport Services’ Availability**
- **Road Safety and Ecological Impact**
- **Freight Logistics Performance**

**Key Indicators**

- 72 indicators in retrospect from 2010 to 2017

**Initial Data**

- Over 200 primary indicators

**Sources:** information systems of national state statistical agencies, municipal authorities (including management of transport system), materials of the leading independent analytical centers, results of research of Moscow State University
In 2010–2017 there was an outpacing growth of the index for Moscow in comparison with other megacities of the world (the average absolute increase in the index is 6 times higher).
IN 2010-2017 MOSCOW SIGNIFICANTLY IMPROVED ITS POSITIONS ON THE QUALITY OF TRANSPORT SERVICES FOR ALL POPULATION GROUPS

THE MAIN DRIVERS

The improvement in the quality of transport services for users of public transport

A comprehensive system for monitoring and managing traffic on the basis of ITS have been implemented over the period 2010–2017.

**Time spent in traffic jams in 2016–2017 as % of travel time**

*taking into account the Moscow Central Ring launched in 2016.*

**The length of metro lines in Moscow**

* The length of metro lines in Moscow has been increased by 35% since 2010

**TRANSPORT SERVICES’ QUALITY INDEX**
INDICATORS OF TRANSPORT SERVICES’ AVAILABILITY FOR ALL POPULATION GROUPS IN MOSCOW ARE HIGH

**Drivers**
- High level of motorization and provision of population with basic types of public transport
- Introduction of new types of urban transport routes

**Passenger traffic of passenger taxis in Moscow, thousand people per day**

**Number of cars in Moscow, million units**

- **Increase in passenger traffic of passenger taxis in Moscow 15 times since 2010**
- **The number of cars in Moscow has increased by 21% since 2010**
IN MOSCOW THERE IS POSITIVE DYNAMICS OF INDICATORS, CHARACTERIZING THE SAFETY OF ROAD TRAFFICKING AND THE IMPACT OF TRANSPORT ON THE ENVIRONMENT

**DRIVERS**

Presence and active use of environmentally friendly types of urban transport
Decrease in traffic accidents rates and traffic-related death rates

**ROAD SAFETY AND ECOLOGICAL IMPACT INDEX**

The number of road accidents in Moscow has declined since 2010 by 35%

The traffic-related death rate in Moscow has decreased since 2010 by 40%
IN THE LAST YEARS THERE WAS AN IMPROVEMENT IN CARGO LOGISTICS EFFICIENCY INDICATORS IN MOSCOW

**DRIVER**
Growth in the specific indicators of the provision of freight transport, improvement in freight transport infrastructure

**LIMITATION**
The expansion of the vehicle fleet with increasing density of the road network

The number of trucks in Moscow has increased by 19% since 2010
COMPARISON OF THE TRANSPORT SYSTEM OF RUSSIAN MAJOR CITIES ON THE BASIS OF THE PROPOSED METHODOLOGY

URBAN TRANSPORT DEVELOPMENT INDEX

SUBINDEXES

TRANSPORT SERVICES’ QUALITY

TRANSPORT SERVICES’ AVAILABILITY

ROAD SAFETY AND ECOLOGICAL IMPACT

KEY INDICATORS

55 indicators in retrospect from 2010

INITIAL DATA

Over 100 primary indicators

SOURCES: information systems information system of the Russian Federal State Statistics Service, municipal authorities (including management of transport system), materials of the leading independent analytical centers, results of research of Moscow State University
Today Moscow occupies a leading position among Russian cities in terms of transport development.

**Urban Transport Development Index**

<table>
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In 2010-2017 there was an outpacing growth of the index for Moscow in comparison with other Russian cities (the average absolute increase in the index is 2.5 times higher).

**During 2010-2017 in Moscow:**

- The number of passengers of land-based urban transport have been increased by **100 million** per year.
- More than **8 thousand** new buses, trolleybuses, and trams have been bought.
- More than **5 thousand** Euro-5 class buses have been commissioned. Buses of class lower than "Euro-3" have been decommissioned.
- More than **4,5 thousand** stopping pavilions have been upgraded.
- More than **500** information panels at stops have been installed.
- More than **100** new urban transport routes have been opened.
- **66** new metro stations of the Moscow Central Circle have been opened (as of June 2018).
IN 2010-2017 MOSCOW SIGNIFICANTLY IMPROVED ITS POSITIONS ON THE QUALITY OF TRANSPORT SERVICES FOR ALL POPULATION GROUPS

THE MAIN DRIVER
Improvement in the quality of transport services for public transport users

The specific length of motorways in Moscow has increased since 2010 by 47%

The specific length of metro lines in Moscow has increased since 2010 by 35%

* Area of Moscow without the territories joined since July 1, 2012.
IN MOSCOW THERE IS POSITIVE DYNAMICS OF INDICATORS, CHARACTERIZING THE TRANSPORT SERVICES’ AVAILABILITY FOR ALL POPULATION GROUPS

DRIVERS
High level of motorization and provision of population with basic types of public transport
Introduction of new types of urban transport routes

Number of passenger cars in 2017, units per hundred people

The number of routes for ground urban passenger transport per city area* in 2017, units per hundred km²

In Moscow a level of motorization remains stably high

About 100 new public transport routes have been opened in Moscow in the last 6 years

TRANSPORT SERVICES’ AVAILABILITY INDEX

1
Moscow
St. Petersburg
Samara
Yekaterinburg
Nizhny Novgorod
Kazan
Rostov-on-Don
Krasnoyarsk
Novosibirsk
Chelyabinsk
Voronezh
Ufa
Omsk
Volgograd
Perm

* Площадь г. Москвы без учета территорий, присоединенных с 1 июля 2012 г.
INDICATORS OF THE SAFETY OF ROAD TRAFFIC AND THE IMPACT OF TRANSPORT ON THE ENVIRONMENT IN MOSCOW ARE HIGH

**DRIVERS**
- Presence and active use of environmentally friendly types of urban transport
- Decrease in traffic accidents rates and traffic-related death rates

**ROAD SAFETY INDEX**
- The number of accidents per number of passenger cars in 2017, *units per thousand vehicles*
- The level of accidents on the roads of Moscow declined by 37% since 2010
- The number of deaths in road accidents per number of passenger cars in 2017, *people for 10 thousand cars*
- The level of road traffic fatalities in Moscow decreased by 46% since 2010

**ECOLOGICAL IMPACT INDEX**
- Moscow
- Yekaterinburg
- Samara
- Novosibirsk
- St. Petersburg
- Kazan
- Ufa
- Chelyabinsk
- Krasnoyarsk
- Rostov-on-Don
- Nizhny Novgorod
- Volgograd
- Voronezh
- Perm
- Omsk

**INDICATORS OF THE SAFETY OF ROAD TRAFFIC AND THE IMPACT OF TRANSPORT ON THE ENVIRONMENT IN MOSCOW ARE HIGH**

- The level of road traffic fatalities in Moscow decreased by 46% since 2010
- The number of accidents per number of passenger cars in 2017, *units per thousand vehicles*
- The level of accidents on the roads of Moscow declined by 37% since 2010
- The number of deaths in road accidents per number of passenger cars in 2017, *people for 10 thousand cars*
POSITIVE DYNAMICS OF THE INDEX FOR THE CITY OF MOSCOW IS CAUSED BY A COMPLEX OF THE MEASURES

- Creating dedicated lanes for public transport
- Taking the commercial intracity transport routes under the responsibility of the Government of Moscow

- Increasing the density of the road network
- Expansion of the metro network
- Improving the system of land urban passenger transport

- Development of stopping points system for ground urban passenger transport
- Expansion of the fleet and growth of passenger traffic of legal passenger taxis
- Regulation of the cost of travel on public transport and the cost of a paid city parking

- Upgrading the rolling stock of urban passenger transport

- Reduction of accident and death rates from road accidents
- The development of underground ecological transport and the regulation of the movement of freight transport in the city

- Improving the administration of road freight transport
THE RESULT OF THE IMPLEMENTATION OF THE PROPOSED IMPROVEMENTS SHOULD ENSURE THE MOSCOW TRANSPORT SYSTEM CONFORMITY TO THE BEST WORLD STANDARDS

TRANSPORT SERVICES’ QUALITY

• Development of intellectual control systems for all modes of transport
• Introduction of modern traffic management systems

TRANSPORT SERVICES’ AVAILABILITY

• Increasing the connectivity of city districts
• Increase in the density of the road and road network
• Development of chord directions of roads
• Development of the system of transport and transfer nodes
• Optimization of parking space
• Improving the quality of road maintenance
• Development of the adaptive traffic signal system

ROAD SAFETY AND ECOLOGICAL IMPACT

• Development of pedestrian space
• Improving the bicycle infrastructure
• Expansion of the network of city bike rental
• Development of the city electric bike rental system

FREIGHT LOGISTICS PERFORMANCE

• Upgrading of the rolling stock of the subway
• Expansion of the metro network
• Reconstruction of the underground space of the metro
THE RESULT OF THE IMPLEMENTATION OF THE PROPOSED IMPROVEMENTS SHOULD ENSURE THE MOSCOW TRANSPORT SYSTEM CONFORMITY TO THE BEST WORLD STANDARDS

- Upgrading the rolling stock of urban land passenger transport
- Optimization of the route network
- Reducing the intervals for urban land passenger transport
- Expansion of the land passenger transport fleet
- Expansion of the legal taxis fleet
- Development of urban infrastructure for taxi operation
- Organization of dedicated lanes for public transport
- Expansion of the land transport fleet with access to the Wi-Fi network
- Adaptation of urban public transport for people with disabilities

- Optimization and coordination of freight traffic
- Improving the administration of road traffic
- Reduction of transit cargo flows
- Expansion of the use of alternative motor fuels
- Enhancement of existing environmental standards in the transport sector

TRANSPORT SERVICES’ QUALITY

TRANSPORT SERVICES’ AVAILABILITY

ROAD SAFETY AND ECOLOGICAL IMPACT

FREIGHT LOGISTICS PERFORMANCE

• Strengthening control over violations of the Road Traffic Rules and the rules of using city parking lots
• Increase the speed of response of emergency services
THANK YOU FOR YOUR ATTENTION!

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