Moscow is changing for you

Moscow Transport: 2010–2017 results and plans until 2023
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   100  A city for pedestrians
   104  A city for cyclists
   108  A city for passengers
   116  A city for motorists
   122  A city for businesses
Dear friends,

In 2011, the Moscow Government developed an ambitious upgrade programme for the capital’s transport infrastructure. We are now seeing the first results after eight years of our efforts – the growing popularity of public transport, reduced average trip duration in Moscow, increased average travel speed, and the decrease in the number of traffic incidents.

Moscow has become a safer and more comfortable city with enough space for pedestrians, passengers, motorists, and cyclists.

We are currently building a new transport system for the Moscow metropolitan area for decades ahead.

The system comprises the following mega projects: the Big Circle line and new radial lines to more distant parts of the city, the Moscow Central Diameters, four expressways, the Central Ring Road (CRR), and roads in the New Moscow.

We are continuing to replace the surface transport rolling stock and fleets, introducing electric buses while launching new passenger services and other important initiatives.

As a result, Moscow residents will be provided with a fundamentally new transport infrastructure which will improve mobility and comfort in the city while helping drive the capital’s economic development.

These are our plans for the upcoming years – and we will fulfil them without fail.

Moscow Mayor
Sergei Sobyanin

Moscow is changing for the better
Moscow is changing. The city is becoming busier, more active, and more mobile each year. We have all witnessed what it means for a city to be comfortable for its residents, so now Mostrans faces new tasks — to make Moscow even better, more comfortable, and environmentally friendly.

Not so long ago, in 2010, upon exiting a metro station you would find yourself in the middle of a chaotic open-air market which led to a disorderly parking lot, rather than on the streets along which you can walk peacefully and safely. That is why a car became Moscow residents’ favourite mode of transport — not only could it shield one from the city’s uneasy ambience of those times, but it could also bring them to work, shops, or anywhere else. The number of cars consequently exceeded the quantity for which the historical street and road network was planned, and the city’s public transport failed to meet modern requirements and was no longer popular. Moscow was associated with permanent discomfort and desperately needed change.

Now in 2018, Moscow is an open and friendly city. City residents using public transport have reached 70% of Moscow’s population, more and more people are satisfied with the quality of public transport services, the amount of pedestrians in the city has tripled, and 25,000 trips are made on rental bicycles each day. We all like new, modern rolling stock, value-added passenger services, dedicated lanes, cosy bus stops, and convenient pavements and wayfinding signage.

But there is still much work to do. Reliance on cars is still a significant problem in Moscow, which should be addressed both through development and provision of a decent alternative, as the excessive number of cars has resulted in congestion and increased pollution.

About 70% of residents choose public transport for daily travel around the city.

We all want to live in a clean city and breathe fresh air, which is extremely difficult with 3.6 million cars filling the city roads on a daily basis. The reduction of cars driving daily in the city by 300,000 to 500,000 will help improve the quality of life of Muscovites.

So we have encouraged and will continue to encourage residents to use their cars wisely while we continue to provide affordable and comfortable public transport services comprising well-developed underground and surface metro system and road infrastructure, and a convenient network of surface transport services such as taxi services, urban bicycle rental, and short-term car rental (Moscow Car Sharing) services.

At the same time, the city’s unified integrated transport system is becoming more flexible and takes each resident’s needs into consideration.

Today, Moscow steadily follows its aim to develop all modes of healthy and eco-friendly transport. Electric buses — truly harmless to the environment — will be launched in 2018, and we will stop purchasing diesel buses altogether by 2021.

Do we want to see Moscow as a healthy and comfortable city? I believe every one of us should answer this question, not only the Moscow Government, but also the city residents. Our ardent wish is that Moscow residents live in the world’s best city, and we will put in maximum effort so that it is comfortable, healthy, and convenient for all.
How did the city’s public transport evolve?

**Moscow Transport**

**Moscow today**

**Key Public Transport Components**

- **Metro**
  - 54 km
  - 31 stations
  - 42 Lastochka trains
- **Suburban Trains**
  - 430 km
  - 290 km (43 sections)
- **Dedicated Lanes**
  - 10,585 vehicles
- **Surface Public Transport Rolling Stock**
  - 1,010 routes
  - (including 13 night routes and 43 Magistral routes)
- **Citywide Wayfinding System**
  - 311 km
  - 327 streets, squares, major routes, and public spaces modernised and reconstructed
- **Pedestrian Infrastructure**
  - 72,000 cars
  - 1,329 parking spaces in 384 taxi ranks
  - 422 km
  - 246 stations
  - 770 trains

**Moscow Central Circle (MCC)**

- 2,070 km
- 112 ticket machines at surface transport stops
- 1,239 ticket machines at metro stations

**Intelligent Transport System**

- 40,000 traffic lights
- 1,943 photo and video recorders
- 2,059 CCTV cameras
- 802 new-generation surface transport shelters
- 1,200 parking spaces
- 11 operators

**Mobile Apps**

- Moscow Parking
- Moscow Metro
- Moscow Assistant
- Velobike
- Mosgortrans
- Mosgorpass

**Key Public Transport Components**

- 4,300 km
- 430 routes
- 130 bus stop shelters
- 7,737 km
- 1,329 km

For details, see page 102

As at August 2018.

As at May 2018 including the MCC.

Railway track length within the Moscow Railway Hub.

As at July 2018.

Taxi cars registered in Moscow and the Moscow Region and operating in Moscow.
Moscow in figures

Population, 1mln people

Area, 1250 sq km

Vehicles registered in Moscow and the Moscow Region, 11,541

Average speed of private cars, 68 km/h

Share of people using public transport, 3%

Share of people using public transport, %

Metro and MCC stations, stations

Duration of a trip by public transport from the Moscow Ring Road to the city centre, minutes

Total traffic accidents, '000

Total length of bicycle paths and lanes, 4 km

Trips across all modes of transport, 5mln trips per year

Trips by economically active passengers, 5mln trips per year

Metro and MCC lines, km

Average speed of private cars, km/h

Vehicles registered in Moscow and the Moscow Region, thousand vehicles

2010 2017

+8%

2,600

2,100

2010 2017

–59%

180

120

2010 2017

–15%

7,700

5,700

2010 2017

5767

422

2010 2017

3,900

2,400

2010 2017

19.116.7

2010 2017

+14%

6862

5,700

2010 2017

95%
Transport organisational structure

Of Moscow Transport focus on helping all residents and guests of the capital to move around the city quickly, comfortably, and safely.

> 200,000 employees

of Moscow Transport focus on helping all residents and guests of the capital to move around the city quickly, comfortably, and safely.
TOP MANAGERS OF MOSCOW TRANSPORT

1. Alexander Polyakov
   Director of SUE MosTransProekt

2. Leonid Antonov
   General Director of SUE Mosgortrans

3. Alexander Grivnyak
   General Director of SPI Moscow Parking Administrator

4. Yevgeny Adamov
   Deputy Head of the Moscow Department for Transport and Road Infrastructure Development

5. Dmitry Pronin
   Deputy Head of the Moscow Department for Transport and Road Infrastructure Development

6. Sergei Andreykin
   First Deputy Head of the Moscow Department for Transport and Road Infrastructure Development

7. Gamid Bulatov
   First Deputy Head of the Moscow Department for Transport and Road Infrastructure Development

8. Tatiana Malashenkov
   Head of the Moscow Department for Coordination of the Transport System Development

9. Vasily Kozlovsky
   Head of SUE Moscow Metro

10. Elena Eremina
    Advisor to the Head of the Moscow Department for Transport and Road Infrastructure Development, Press Secretary

11. Viktor Pavlov
    Head of State Public Institution Organizator Perevozok

12. Pavel Pavlov
    Head of State Public Institution Traffic Management Centre of the Moscow Government

13. Pavel Pavlov
    Head of the Moscow Administrative Road Inspection Service

14. Rudik Grigoryan
    Head of the Moscow Administrative Road Inspection Service

15. Alexander Grivnyak
    General Director of SPI Moscow Parking Administrator
### History of Moscow Transport

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1847</td>
<td>The first mode of urban transport emerged – multi-seater horse-drawn carriages</td>
</tr>
<tr>
<td>1872</td>
<td>First temporary line for horsecars was constructed</td>
</tr>
<tr>
<td>1873</td>
<td>The first asphalt pavement in Moscow was completed, in Nikolskaya Street</td>
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<tr>
<td>1879</td>
<td>First electric trams were put in operation</td>
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<tr>
<td>1891</td>
<td>Horsecar routes were structured and a single transfer pass was launched for all destinations</td>
</tr>
<tr>
<td>1899</td>
<td>First temporary line for horsecars was constructed</td>
</tr>
<tr>
<td>1899</td>
<td>First electric trams were put in operation</td>
</tr>
<tr>
<td>1903</td>
<td>The first projects to build the Moscow metro were developed</td>
</tr>
<tr>
<td>1907</td>
<td>The first taxi appeared in the city streets with a plate stating, “Cabman, rate by agreement”</td>
</tr>
<tr>
<td>1908</td>
<td>Bus services were launched to provide Muscovites easy access to the countryside</td>
</tr>
<tr>
<td>1924</td>
<td>The first scheduled bus route was launched</td>
</tr>
<tr>
<td>1929</td>
<td>The first suburban train was put into service</td>
</tr>
<tr>
<td>1930</td>
<td>The first traffic lights appeared at the corner of Petrovka Street and Kuznetsky Most Street</td>
</tr>
<tr>
<td>1933</td>
<td>The first Soviet trolleybus route was launched</td>
</tr>
<tr>
<td>1935</td>
<td>The first metro line was opened – from Sokolniki station to Park Kultury station with a branch to Smolenskaya station</td>
</tr>
<tr>
<td>1939</td>
<td>The first shuttle buses began transporting visitors of the All-Union Agricultural Exhibition</td>
</tr>
<tr>
<td>1942</td>
<td>The first traffic lights appeared</td>
</tr>
<tr>
<td>1948</td>
<td>The first trailer bus was put into service</td>
</tr>
<tr>
<td>1954</td>
<td>The first low-floor buses were put into service</td>
</tr>
<tr>
<td>1956</td>
<td>The construction of the Moscow Ring Road (MRR) began</td>
</tr>
<tr>
<td>1958</td>
<td>The Moscow trolleybus network became the world’s longest (1,253 km)</td>
</tr>
<tr>
<td>1972</td>
<td>The Moscow trolleybus network became the world’s longest (1,253 km)</td>
</tr>
<tr>
<td>1975</td>
<td>The first Moscow Region metro station – Myakinino – was opened</td>
</tr>
<tr>
<td>1980</td>
<td>The construction of the Moscow Ring Road (MRR) began</td>
</tr>
<tr>
<td>1981</td>
<td>The first low-floor buses, trolleybuses, and trams appeared on Moscow routes</td>
</tr>
<tr>
<td>2002</td>
<td>The first metro station outside of the Moscow Ring Road – Bulvar Dmitriya Donskogo – was opened</td>
</tr>
<tr>
<td>2003</td>
<td>The construction of the Butovskaya light rail line began</td>
</tr>
<tr>
<td>2009</td>
<td>The Moscow trolleybus network became the world’s longest (1,253 km)</td>
</tr>
<tr>
<td>2010</td>
<td>Sergei Sobyanin became the Mayor of Moscow</td>
</tr>
<tr>
<td>2010</td>
<td>A project was launched to develop Moscow new transport system development strategy</td>
</tr>
</tbody>
</table>
HISTORY OF MOSCOW TRANSPORT: KEY INITIATIVES IN 2011–2017

2011
- Introduction of the Intelligent Transport System for automated traffic control
- Freight transport movement control
- Dedicated lanes launched

2012
- Development of the traffic regulations compliance and control system
- Unified parking system launched
- A unified style was developed for Moscow transport and the citywide wayfinding system
- Launch of the public bicycle rental system and development of cycling infrastructure

2013
- Large-scale rolling stock and fleet replacement
- Development of the street and road network – road construction and reconstruction projects
- Unified taxi standard adopted

2014
- A new commercial transport management model was launched: unified standards were adopted for all buses
- Commencement of MCC construction and integration into the urban transport system
- Passenger service was launched at MCC (31 stations)

2015
- City centre reconstruction and improvements under the My Street programme
- 100% of the metro covered by a Wi-Fi network. Wi-Fi launched on all public transport
- Digitalisation of Moscow Transport: the Innovation Centre was launched
- A smart safety system was introduced in the metro
- Electronic services for Moscow residents were launched

2016
- Moscow car sharing system launched
- New surface metro stations for Moscow and the Moscow Region – Moscow Central Diameters
- The Magistral network was launched, connecting the entire city
- New-generation rolling stock launched for the metro (the Moskva train) and surface transport services (the Vityaz-M train)

2017
- Environmental improvements: launch of electric buses, development of electric car infrastructure, replacement of public transport vehicles with electric and environmentally friendly alternatives
- Launch of the Moscow Assistant – a mobile app assisting residents in complying with traffic rules
- Construction of new metro stations, roads, and interchanges
- A new commercial transport management model was launched: unified standards were adopted for all buses

PLANS FOR 2018 AND BEYOND

- Digitalisation of Moscow Transport: the Innovation Centre was launched
- A smart safety system was introduced in the metro
- Electronic services for Moscow residents were launched

For 2018 and Beyond

1. Barannoye, Shkolnaya, Zybikhovo.
4. Sportivnaya, Trubnaya.
5. Krasnaya, Tekhnopark.
7. Moskva, Leninskie Prudy, Ramenski, Khovrino.
Moscow is no longer a big city with the world’s worst traffic jams. Since the peak level of road congestion in 2012, congestion has reduced by 25%.

Compared with 2010, the average driving speed in the city throughout the day has increased by 16% (to 52 km/h)

The universal Troyka card, which can be used to pay for public transport fares, bicycle rent, parking, and visits to museums and ice-skating rinks, was introduced. Paying for trips has never been easier, as the card can be topped up remotely.

Modern, advanced, and comfortable public transport vehicles were launched on routes.

Parking situation has improved. The throughput and availability of parking spaces have tripled.

The city centre has become accessible and comfortable for people.

The share of residents living within access of metro stations via public transport has increased.

2010: 20%  2017: 88%

Moscow has one of the world’s shortest taxi pick-up times. The average pick-up time during peak hours is 5 to 7 minutes.

2,000 new private carrier shuttle buses now operate instead of old and unsafe vans. 40% of passengers can now enjoy free travel and reduced fares that were previously unavailable on private shuttle vans.

Alternative modes of transport have been launched.
Our goal is to help you available comfortable

Moscow City Transport Development Strategy to 2020

9,416 new buses, trolleybuses, and trams put into operation since 2010

11,000 cars within the Moscow Car Sharing System
REACH YOUR DESTINATION

FAST

EXCITING

66

new metro and MCC stations opened since 2010

773 km

of bicycle paths and lanes established since 2010

Including dedicated lanes.

A city for everyone

Contact Us

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OVER THREE HOURS PER DAY spent by 20% of Moscow residents on commuting

Moscow Transport Strategy

The Moscow City Transport Development Strategy to 2020 in place since 2011 has been designed by the Moscow Government with the help of research and expert communities drawing upon global best practices in transport and related infrastructure development. All solutions within the strategy were preliminarily assessed for their applicability to Moscow.

**KEY CHALLENGES OF MOSCOW TRANSPORT IN 2011**

- **Density of the Street and Road Network**: Two to four times lower compared with the world’s largest cities
- **All Public Transport**: Bound for the city centre was 22% over capacity during morning rush hour
- **Motor Roads**: Were over capacity by 42%
- **Over Three Hours Per Day**: Spent by 20% of Moscow residents on commuting
- **No Efficient System**: For controlling traffic and regulating the operations of private carriers
- **Increased Rates of Road Traffic Accidents and Fatalities**

**How have our development priorities for the public transport system changed over time?**

**Development areas for Moscow public transport system**

- **More Comfort**
  - Advanced rolling stock and fleets
  - Passenger information system
  - Intercity ticketing and fare pricing solutions
  - Higher public transport capacity
  - Wheelchair accessibility
  - My Street, a programme for reconstructing and improving the street and road network

- **Improved Availability**
  - Extended and integrated metro, MCC, and suburban train lines
  - Improvements to the city’s taxi and short-term car rental services
  - Construction of new and reconstruction of previously dismantled tram lines
  - New transport hubs and park-and-ride facilities
  - A unified parking system
  - Construction of new roads and interchanges
  - Further extension of the public transport route network
  - Promoting alternative modes of transport

- **Higher Speed**
  - Construction of new lines for the metro, MCC, and suburban trains
  - Establishment of dedicated lanes for public transport
  - Segregation of on-street tramways
  - Optimized timetables and higher frequency of public transport services
  - Intelligent Transport System (ITS) and Integrated Traffic Management System (ITMS) rollouts

**Our solution**

Our strategy focuses on building a unified, integrated public transport system for Moscow residents and visitors to move around the city in a fast, comfortable, and safe way. To this end, we have substantially intensified building and reconstructing roads, expanding the metro network, and consistently replacing our passenger transport fleets with new vehicles while providing more space for pedestrians and cyclists. Having gained momentum in comprehensive development, our transport system has begun operating as a single organism.
The Moscow Government allocates over USD 8.6 billion annually to improve the availability of transport services to Muscovites and address urban mobility issues.

The Moscow’s 2017 budget for transport infrastructure development

### SUPPORTING PROGRAMMES

- **12% (USD 1.1 bln)**
  - Surface public transport, car parks, transport hubs, wayfinding, cycling and pedestrian space, and traffic management

- **43% (USD 3.9 bln)**
  - Metro: construction of new lines and stations, replacement of the rolling stock and renewal of the metro infrastructure, etc.

- **42% (USD 3.7 bln)**
  - Street and road network: construction and reconstruction of the road network, engineering structures, etc.

- **3% (USD 0.3 bln)**
  - Rail transport: construction of additional main tracks, infrastructure improvements, etc.

### INFRASTRUCTURE INITIATIVES

- **Moscow’s 2017 budget for transport infrastructure development**

### PERFORMANCE AGAINST 2020 TRANSPORT STRATEGY TARGETS

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Duration of home-to-work trip by car from districts near the Moscow Ring Road to the city centre, minutes</td>
<td>86</td>
<td>50</td>
<td>57</td>
</tr>
<tr>
<td>Wheelchair accessibility of surface transport, %</td>
<td>86</td>
<td>60</td>
<td>85</td>
</tr>
<tr>
<td>Average speed of private cars, km/h</td>
<td>94.5</td>
<td>55</td>
<td>43</td>
</tr>
<tr>
<td>Road utilisation, %</td>
<td>65.0</td>
<td>40</td>
<td>43</td>
</tr>
<tr>
<td>Share of people using public transport, %</td>
<td>55.8</td>
<td>68</td>
<td>62</td>
</tr>
<tr>
<td>Duration of home-to-work trip by public transport from districts near the Moscow Ring Road to the city centre, minutes</td>
<td>96.0</td>
<td>55</td>
<td>57</td>
</tr>
<tr>
<td>Punctuality and reliability of surface transport services, %</td>
<td>96.9</td>
<td>75</td>
<td>95</td>
</tr>
<tr>
<td>Average travel time to airports, minutes</td>
<td>97.9</td>
<td>53</td>
<td>54</td>
</tr>
</tbody>
</table>

While three years still remain until the completion of Moscow City’s National Programme, Transport System Development, our performance against the targets for key performance indicators covering strategy implementation is already close to 100%.

###Accelerated programme implementation

**Performance against key targets is close to 100%**

A transport strategy to 2023 is currently under development

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1. All amounts expressed in rubles are translated at the USD/RUB weighted average exchange rate for 2017.
2. According to an independent expert review by TomTom (Netherlands).
TRANSPORT SYSTEM DEVELOPMENT IN 2010–2017 AND PLANS UNTIL 2023

**Metro and MCC**
- +66 new metro stations
  - (including 31 MCC stations)\(^3\)
- +110 km of rail lines
  - (including 54 km of MCC lines)
- +1,950 new metro train carriages
  - (40% of the fleet replaced)
- +210 new carriages for MCC

**Suburban rail services**
- +104.5 km of additional main tracks
- +2,152 new carriages
  - (39% of the fleet replaced)

**Unified parking system**
- +5,000 parking spaces at park-and-ride facilities
- An updated version of the Moscow Parking mobile app
- Building a unified parking system in Moscow with multi-storey car parks – even more convenient for motorists

**Road network**\(^2\)
- Construction and reconstruction of:
  - 695 km of roads
  - 199 bridges, tunnels, and overpasses
  - 199 pedestrian crossings

**Surface public transport services**
- +9,416 new buses, trolleybuses, and trams
  - (10% of the fleet replaced)
- 237 km of tramways to be reconstructed
  - (55%)\(^4\)
- +6,000 new vehicles
  - (including 1,800 electric buses)
- +63 km of new dedicated lanes
- +152 km of new tram tracks will be reconstructed
- +85 km of new tramways (a total of 520 km of tramways by the end of 2023)

**Cycling infrastructure**
- 773 km\(^3\) of bicycle paths and lanes
- 430 bicycle rental stations
- 4,300 bicycles within the rental system
- 900,000 users\(^1\) of the bicycle rental system

**Moscow car sharing and Moscow taxi services**
- Over 15,000 new cars within the car sharing system\(^5\)
- Renewal of the Moscow Taxi fleet and maintaining an optimal number of taxis for the city

**Moscow Central Diameters**
- +446 km of new surface metro lines for Moscow and areas outside Moscow
- +211 stations

**New road framework:**
- The Central Ring Road and four expressways:
  - South-East, North-East, and North-West expressways,
  - and Southern Lateral Road

**2010–2017**

**2018–2023 PLANS**

**3.9 bln trips per year**
made by economically active passengers in 2017

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2. Including dedicated lanes for public transport.
3. The projects fully financed through private investments.
4. As at July 2018.
5. Updated version of the Moscow Parking mobile app.
Global Urban Transport Development Index (2018)

The Index was developed in 2016 to compare large cities' urban transport systems in terms of quality, availability, road safety, freight logistics performance, and environmental impact. The Index is calculated annually and is based on 72 indicators for the period from 2010 to 2017.

Russia's Urban Transport Development Index (2018)

The Index was developed in 2016 to assess the quality, availability, safety, and environmental impact of transport. The Index is calculated annually and is based on 55 indicators for the period from 2010 to 2017.

Research findings about Moscow

Moscow tied with London at 2nd to 3rd place in 2017 – a strong contrast to its 8th position in 2010. For the past eight years, Moscow has been Russia's leading city in transport development, with an absolute growth of its development index 2.5 times higher compared with the average growth posted by other cities with over one million residents.

Moscow transport system as seen by researchers and experts

Transport Infrastructure Development Dimensions

- Quality of Public Transport Services
- Freight Logistics Performance
- Availability of Public Transport Services
- Road Safety and Environmental Impact

Transport Development Index

- Tokyo
- London
- Moscow
- New York
- Singapore
- Saint Petersburg
- Hong Kong
- Shanghai
- Istanbul
- Mexico City

2017 vs 2010

1 The Index is calculated annually and was developed in 2016.

#3 globally
#1 in Russia
ELEMENTS OF SUCCESS: THE URBAN TRANSPORT SYSTEMS OF 24 GLOBAL CITIES

An independent research by McKinsey & Company covering the urban transport systems of 24 cities across the globe. The benchmarking is based on a comprehensive set of objective indicators and detailed analyses of residents' satisfaction with their local public transport.

Overall transport ranking by objective indicators

<table>
<thead>
<tr>
<th>City</th>
<th>AVAILABILITY</th>
<th>AFFORDABILITY</th>
<th>EFFICIENCY</th>
<th>CONVENIENCE</th>
<th>SAFETY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moscow</td>
<td>11.9</td>
<td>12.0</td>
<td>13.6</td>
<td>13.6</td>
<td>5.9</td>
</tr>
<tr>
<td>Shanghai</td>
<td>11.6</td>
<td>12.0</td>
<td>13.6</td>
<td>13.6</td>
<td>5.9</td>
</tr>
<tr>
<td>New York</td>
<td>12.1</td>
<td>12.6</td>
<td>13.7</td>
<td>12.6</td>
<td>6.7</td>
</tr>
<tr>
<td>Province of Milan</td>
<td>10.9</td>
<td>10.8</td>
<td>11.7</td>
<td>14.3</td>
<td>6.8</td>
</tr>
<tr>
<td>Madrid</td>
<td>11.9</td>
<td>11.6</td>
<td>10.7</td>
<td>13.2</td>
<td>7.7</td>
</tr>
<tr>
<td>London</td>
<td>14.7</td>
<td>8.4</td>
<td>12.1</td>
<td>13.5</td>
<td>9.2</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>11.3</td>
<td>11.5</td>
<td>9.2</td>
<td>14.2</td>
<td>14.2</td>
</tr>
<tr>
<td>Singapore</td>
<td>11.3</td>
<td>13.4</td>
<td>13.0</td>
<td>13.5</td>
<td>12.9</td>
</tr>
<tr>
<td>Greater Paris</td>
<td>13.1</td>
<td>11.3</td>
<td>9.5</td>
<td>12.9</td>
<td>13.1</td>
</tr>
<tr>
<td>Province of Milan</td>
<td>10.8</td>
<td>10.8</td>
<td>11.7</td>
<td>14.3</td>
<td>6.8</td>
</tr>
</tbody>
</table>

Moscow transport system as seen by researchers and experts

Research findings about Moscow

The comprehensive benchmarking ranks Moscow 6th in the world among 24 cities, on the level of London, Madrid, Chicago, and Seoul.

Our city demonstrates the highest rate of improvement – in 2010, it would have been ranked 20th among large cities in developing countries.

In public transport ranking, Moscow is positioned 4th, behind only Hong Kong, Singapore, and the Greater Paris region.

Moscow rankings by selected metrics

Moscow residents’ perception of Moscow public transport

Moscow residents highly appreciate changes to their public transport in recent years, although their level of satisfaction is still generally lower than that of residents in other leading cities.

The satisfaction is highest for travel comfort, convenience of the ticketing system, electronic services, and intermodality, as well as the availability of shared transport.

Moscow residents’ perception towards the improvements in private transport efficiency and environmental impact is fair overall, but they generally undervalue achievements in affordability and efficiency of their public transport system.

Research findings about Moscow

Moscow rankings by selected metrics

- ENVIRONMENTAL IMPACT
- RAIL INFRASTRUCTURE
- ROAD INFRASTRUCTURE
- SAFETY
- INTERMODALITY
- ELECTRONIC SERVICES
- TICKETING SYSTEM
- TRAVEL COMFORT
- PRIVATE TRANSPORT EFFICIENCY
- PUBLIC TRANSPORT AFFORDABILITY
- PRIVATE TRANSPORT COST AND BARRIERS

Objective indicators Perception of the current situation Perception of changes in the past 3 to 5 years

Learn more about the research findings
The research considers the quality of life and consumption of resources in 14 global cities and is based on spatial and statistical analyses, as well as a survey that covered 7,000 respondents (about 500 respondents in each city). Six indicators were used to compare levels of public transport infrastructure development and the day-to-day availability of different modes of transport.

TomTom, a global manufacturer of personal navigation devices, publishes an annual ranking of cities by congestion levels, covering almost 400 cities across six continents.

Due to its balanced transport development approach, Moscow is ranked among the top 3 cities, just behind large cities in the United States. Moscow’s ranking by the integral index places it among the leading cities for transport infrastructure convenience.

Research findings about Moscow traffic

After a peak in 2012, Moscow’s traffic congestion level declined by 25%.

According to a momentum case for the city’s road infrastructure, Moscow’s road congestion without a transport strategy would have increased 26\% by 2018.

The overall level of traffic congestion in Moscow declined by 1% year-on-year in 2017 to 43%.

Evening rush hour congestion declined from 94% in 2016 to 91% in 2017.

Many cities are working to improve their traffic congestion levels, but the momentum of Moscow’s progress in reducing congestion is difficult to compete with.

[[Ralf-Peter Schäfer]

TomTom]

Potential increase of traffic congestion by\% 26%

Extra travel time due to traffic jams, %

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<tbody>
<tr>
<td>Base case</td>
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<td>57</td>
<td>57</td>
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</tbody>
</table>

Drivers at play

- Large-scale construction of new roads, interchanges, and metro stations
- Introduction of integrated traffic management
- Public transport movement control
- Intelligent Transport System
- Improvements to public transport performance
- Unified parking system

[[Forecast by the Traffic Management Centre.]]

Research findings about Moscow transport

New York 2.06
Chicago 2.04
Moscow 1.85
Singapore 1.77
Barcelona 1.72
Mexico City 1.71
Paris 1.66
Seoul 1.58
Berlin 1.51
Tokyo 1.42
Shanghai 1.36
London 1.3
Hong Kong 1.27
São Paulo 0.80

Indicator weight in overall score

<table>
<thead>
<tr>
<th>City</th>
<th>Affordability</th>
<th>Multimodality</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Chicago</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>Moscow</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td>Singapore</td>
<td>61</td>
<td>61</td>
</tr>
<tr>
<td>Barcelona</td>
<td>57</td>
<td>57</td>
</tr>
<tr>
<td>Mexico City</td>
<td>56</td>
<td>56</td>
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<tr>
<td>Paris</td>
<td>75</td>
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<tr>
<td>Seoul</td>
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<tr>
<td>Berlin</td>
<td>32</td>
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</tr>
<tr>
<td>Tokyo</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Shanghai</td>
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</tr>
<tr>
<td>London</td>
<td>51</td>
<td>51</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>52</td>
<td>52</td>
</tr>
<tr>
<td>São Paulo</td>
<td>78</td>
<td>78</td>
</tr>
</tbody>
</table>

Overall score

#3 globally

Moscow’s key advantages compared to other cities

- AFFORDABILITY
- MULTIMODALITY
- AVAILABILITY
- AFFORDABILITY
Awards

2010–2015

BRITISH DESIGN & ART DIRECTION (D&AD) • UK
dandad.org
The custom Moscow Sans font for the Moscow wayfinding system

WIRELESS BROADBAND ALLIANCE • Singapore
awards.wirelessglobalcongress.com
Best Wi-Fi Deployment in a City or Public Area (Free Wi-Fi in Moscow Metro)

PEOPLE’S CHOICE BRAND AWARDS • Russia
narodnayamarka.ru
The universal Troyka travel card

SUSTAINABLE TRANSPORT AWARD • USA
staward.org
Moscow received honorable mention in recognition of visionary achievements in sustainable transport and urban mobility.

INTERNATIONAL TRANSPORT FORUM • France
www.itf-oecd.org
At the summit of the International Transport Forum, an intergovernmental organisation with 59 member countries, Moscow was awarded the Transport Achievement Award in Leipzig, Germany, for its exemplary approach to improving traffic conditions, including the launch of its Unified Parking System, development of public transport, innovative ticketing system, and development of cycling infrastructure, car sharing and other initiatives. The ITF jury recognised the “impressive achievement in improving the overall traffic conditions in Moscow” and “the effectiveness of consistent, coordinated initiatives and transport policy actions that facilitated the remarkable change”.

2016

SUSTAINABLE TRANSPORT AWARD • USA
staward.org
Moscow was awarded a special recognition at the 62nd Global Public Transport Summit for the comprehensive development of its transport system, particularly:
• integrated urban transport policy
• extension and modernisation of the Moscow Metro network
• upgrade of the surface transport network

UITP • Belgium
uitpsummit.org
Moscow was awarded a special recognition at the 62nd Global Public Transport Summit for the comprehensive development of its transport system, particularly:
• integrated urban transport policy
• extension and modernisation of the Moscow Metro network
• upgrade of the surface transport network

TOMTOM • Netherlands
www.tomtom.com
In 2016, Moscow became the TomTom Traffic Index Parking Award winner. Historically a city renowned for appalling traffic congestion, Moscow’s drivers have benefited from the implementation of a new intelligent transport system, combined with major changes in parking policy.

2017

International Transport Forum • France
www.itf-oecd.org
Moscow was awarded an honourable mention for the reorganisation of city space, improved pedestrian environment, and the launch of the Magistral route network and the Moscow Central Circle.

UITP • Belgium
uitpsummit.org
Moscow was awarded a special recognition at the 62nd Global Public Transport Summit for the comprehensive development of its transport system, particularly:
• integrated urban transport policy
• extension and modernisation of the Moscow Metro network
• upgrade of the surface transport network

UITP

In the last five years, Moscow has gone through an upgrade of its surface transport network, an extension and modernisation of its metro network, and the reconstruction and completion of the Moscow Central Circle. The Unified Parking System, launch of a cycling infrastructure, and introduction of pedestrian zones are also part of Moscow’s achievements.

UITP

The advanced parking management system established across Moscow helped reduce the time spent searching for parking by 65% and had a significant effect on reducing congestion.
Current and future mega projects

<table>
<thead>
<tr>
<th>Moscow Central Diameters</th>
<th>Metro and MCC</th>
<th>Roads</th>
<th>Surface transport</th>
<th>Rolling stock</th>
<th>2018 FIFA World Cup</th>
<th>Digitalisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>For details, see page 38</td>
<td>For details, see page 42</td>
<td>For details, see page 52</td>
<td>For details, see page 56</td>
<td>For details, see page 66</td>
<td>For details, see page 76</td>
<td>For details, see page 80</td>
</tr>
</tbody>
</table>

How do you imagine the city of tomorrow?
Moscow Central Diameters

Mega project for the immediate future

Suburban train diameter routes will connect radial routes and offer higher quality transport services for 8.2 million residents of Moscow and the Moscow Region. The first two diameters will be launched in 2019–2020.

MOSCOW CENTRAL DIAMETERS – THE SURFACE METRO FOR MOSCOW AND THE MOSCOW REGION

All over the world, suburban trains are becoming part of the metro system. We have a similar vision. Our plan is to build cross-cutting diameters lines, enabling suburban commuters to transit through the entire city without exiting at railway stations, travelling with the same speed, frequency, and comfort that the metro offers and with the same ticket used for both the metro and suburban train.

Sergei Sobyanin
Moscow Mayor
MCDs – THE SURFACE METRO FOR MOSCOW AND THE MOSCOW REGION

The project will be jointly implemented by the Ministry of Transport of the Russian Federation, JSC RZD (Russian Railways), the Moscow Government, the Moscow Region Government, and the passenger carrier JSC Central Exurban Passenger Company.

What are the benefits of MCDs?

- A twofold reduction in travel time
- Improved railway infrastructure service for 8.2 million people
- About 2.36 million additional passenger seats per day
- 5% to 10% reduction in the metro load
- 25% reduction in railway terminals’ load
- 6-minute intervals between trains during peak hours
- 5:30 am–01:00 am – the same operating hours as the metro and MCC

Transfers to urban transport
Comfortable trains
User-friendly navigation
Payment with the Troyka card
No afternoon break in the train schedule

Other potential MCDs

Stage 1
- MCD1: Smolensko-Savelovsky (Odintsovo – Lobnya)
- MCD2: Kursko-Rizhsky (Nakhabino – Podolsk)

Stage 2
- MCD3: Zelenograd – Ramenskoe
- MCD4: Korolyov – Aprelevka
- MCD5: Nakhabino – Zheleznodorozhny
- MCD6: Pushkino – Podolsk

Stage 3
- Other potential MCDs

Detailed map
Preliminary estimates.
The Moscow metro is being built at an unprecedented rate. Over 88% of the capital's residents now live within access of metro stations via public transport (compared with 70% in 2010). By 2023, new metro lines and stations will come to remote districts with low transport availability.
The Big Circle line (BCL) is the largest project in the entire history of metro construction in Russia. Once completed, it will be the longest metro circle line in the world, ahead of the second loop line of the Beijing subway (57 km).

Each station is completely unique. We are preserving the tradition of the Moscow metro in making stations not only convenient in terms of their technical capabilities, but also attractive and aesthetically pleasing.

The openings of these stations have improved traffic conditions in four districts of the capital, as well as in the Moscow City Business Centre.

Most of the stations on the Big Circle line will be low-depth, enabling passengers to descend to the train and exit at their destination more quickly. Travel times will be reduced.

Source: Moscow Complex of Urban Planning Policy and Construction.
THE METRO TO NEW MOSCOW

In July 2012, Moscow expanded 2.4 times when the current Troitsky and Novomoskovsky administrative areas became part of the city. At the time of incorporation, the areas that became part of the new territory of Moscow (so-called «New Moscow») had fewer than 250,000 permanent residents, while at present their population has reached almost 340,000 people (+ 36%).

Full-scale development of the New Moscow is not possible without creating a transport infrastructure. In 2023, three metro lines will reach the area: Sokolnicheskaya, Kalininsko-Solntsevskaya, and the new Kommunarskaya line.

Sokolnicheskaya line
Sokolnicheskaya was the first metro line to extend to the New Moscow. Currently, two stations are operating in that area, Rumyantsevo and Salaryevo, opened in 2016. Four more stations on the Sokolnicheskaya line are to be constructed in the Troitsky and Novomoskovsky administrative areas (TiNAO) by the end of 2018. Novomoskovskaya station is scheduled for opening in 2022.

Kalininsko-Solntsevskaya line
A new radial line, Solntsevskaya, at 10 km long, was launched in 2017 and connected five stations between Delovoy Tsentr and Ramenki. Going forward, this line will extend to Vnukovo airport, which will be the first airport in Moscow with its own metro station.

Kommunarskaya line
A projected radial line extending from the Big Circle line to the Novomoskovsky administrative area, as well as to a planned administrative and business centre in the settlement of Kommunarka. The first section will be 15.6 km long and will include the following stations:

- Novomoskovskaya
- Kommunarka
- Olkhovskaya
- Filatov Lug
- Prokshino
- Borovskoe Shosse
- Vnukovo
- Ulitsa Novatorov
- Ulitsa Akademika Oparina
- Ulitsa Generala Tsyleneva
- Kommunarka Mamyri Slavyansky Mir
- Stolbovo
- Kommunarka Mamyri Slavyansky Mir
- Ulitsa Novatorov
- Ulitsa Akademika Oparina
- Ulitsa Generala Tsyleneva

A dedicated depot will be constructed here to ensure uninterrupted train operation.

Source: Moscow Complex of Urban Planning Policy and Construction.
NEW METRO STATIONS

to improve transport availability in remote Moscow districts

New metro lines and stations are designed to improve transport access to remote districts so that all Moscow residents can travel to work and home with speed and comfort.

**RUBLEVO-ARHKANGELSKAYA LINE**
The Rublevo-Arkhangelskaya line is a projected radial line of the Moscow metro designed to connect the Moscow City Business Centre and the Rublevo-Arkhangelskoe international financial centre.

**NEKRASOVSKAYA LINE**
The Nekrasovskaya line will connect the city centre to the Ryazansky, Kuzminki, Vykhino-Zhulebino, and Kosino-Uxkinsky districts.

**ZAMOSKVOETSKAYA LINE**
Khovrino became the terminal station in the north section of the Zamoskovetskaya line and helped improve challenging traffic conditions around Rechnoy Vokzal. One more station, Belomorskaya, will be constructed between Khovrino and Rechnoy Vokzal.

**LYUBLINSKO-DMITROVSKAYA LINE**
Three new stations were opened on this line in 2018, providing the residents of nine districts in the north of Moscow with access to the metro within walking distance of their homes.

**BIRYULEVSKAYA LINE**
Biryulevskaya is a planned metro line. It will start at Klenovy Bulvar and run south to TINAO.

For details, see page 46

Detailed map

Source: Moscow Complex of Urban Planning Policy and Construction.
Special attention is paid to MCC’s accessibility to reduced mobility passengers

- 19 special lifts at 11 transport hubs
- A dedicated ticket office at each station
- Pay gates widened to allow wheelchair access
- Tactile tiles at all stations

MOSCOW CENTRAL CIRCLE

The Moscow Central Circle (MCC) is a mega project by the Moscow Government and Russian Railways. It began carrying passengers in September 2016 and improved transport availability in 26 Moscow districts. MCC is recognised as the world’s best passenger transportation project of 20171.

1 UITP Global Public Transport Summit (Montreal, Canada, 2017).
2 As at July 2018.
3 By reducing intervals between trains during peak hours (reduction to 4 min. is planned)

MCC PERFORMANCE

200 million passengers carried
15% reduction in traffic load on the metro’s Circle line
320,000 additional passenger seats per day
20…40% reduction in railway terminals’ load

430,000 people per day
50,51

MCC’s length

54 km
31 stations

5 MIN. interval between trains during peak hours (reduction to 4 min. is planned)

MCC’s length

54 km
31 stations

19 transfer points to the metro (+1 in the future)
6 transfer points to interchange to suburban rail transport (+4 in the future)
31 transfer points with transfers to surface transport

10 September 2016 – MCC launch. Russian President Vladimir Putin, Moscow Mayor Sergei Sobyanin (right to left).
An ambitious road construction and reconstruction programme

Over 40% of the budget allocated for the development of transport and road infrastructure in Moscow are spent on construction and reconstruction of the street and road network.

1,300 km
of new roads between 2011 and 2023

About 700 km
of roads constructed and reconstructed since 2011
Four expressways running across Moscow, the Central Ring Road, and outbound motorways will collectively expand the road network of the capital and the Moscow metropolitan area by about 2,000 km. The underground and surface metro, along with new major roads, will shape Moscow’s new, modern transport framework, radically transforming traffic conditions in the capital and the Moscow metropolitan area.

Sergei Sobyanin
Moscow Mayor

Road construction in Moscow is being carried out at record-breaking speed

- 605 km of new roads
  - 2015–2017: 268 km
  - 2018–2023: 337 km
- 1,300 km of new roads between 2011 and 2023 (700 km completed)
- 530 km of Central Ring Road by 2025: 34 interchanges and 379 bridges, overpasses, and elevated roads
- 200 km of new roads for New Moscow

Development prospects

Source: Moscow Complex of Urban Planning Policy and Construction.

1 Construction and reconstruction of new and existing roads between 2011 and 2023.
New convenient surface transport

Surface transport is becoming increasingly more popular each year, and the passenger traffic is fast approaching that of the metro.

7.6 million trips by surface transport per day

90% of land vehicles replaced
THE MAGISTRAL NETWORK

Magistral is a network of surface transport routes connecting the city centre to remote districts. Phase One of the network was launched in 2016, and Phase Two on 7 October 2017.

The new route network helped dramatically cut waiting times for buses in the city centre, from 16 minutes to 3–5 minutes, with 14.5 km of dedicated bus lanes introduced in Moscow’s centre specifically for routes within the network. These initiatives have enabled fast and easy travel to and around the city centre by bus, trolleybus, or tram without any transfers.

Route types within the Magistral network

HIGH-FREQUENCY routes are the longest, connecting the city centre with residential districts. Frequency: 5–10 min.

LOCAL routes are shorter and connect Moscow districts to the city centre. Frequency: 10–15 min.

SPECIALISED routes take passengers to social infrastructure facilities (hospitals, My Documents offices, etc.). Frequency: up to 30 min.

>0.5 million people per day using Magistral network routes – a 30% increase in passenger traffic on surface transport in the city centre
The city centre never sleeps. Night-time surface transport routes connect the centre with Sheremetyevo airport and residential districts located close to the Moscow Ring Road. They allow Moscow residents to travel in the city as the rhythm of their lives requires.

A major transport hub, Kitay-Gorod, has been set up in Slavyanskaya Square. It operates around the clock, serving 12 day routes and seven night routes.

NIGHT ROUTE NETWORK

4,920 passengers carried each night
64 buses
5 trams
287 km total length

4,920 passengers carried each night
64 buses
5 trams
287 km total length

15 min. on routes serving the Garden Ring

27% of the city covered by the night route network

160,000 daily passengers using routes originating at the Kitay-Gorod transport hub

As at August 2018

TRANSPORT HUB IN SLAVYANSKAYA SQUARE

12 AND 7 ROUTES
(as at July 2018)

• Sheltered waiting area
• Arrivals display
• Wi-Fi
• USB ports to charge mobile phones
• Specially-designed wayfinding pylons
• Numbered stops
• Signs
• Network map

As at August 2018
DEDICATED LANES

Dedicated bus lanes prioritise public transport on the roads. They can also be used by school buses, ambulances and other emergency vehicles, cyclists, and registered taxis.

Dedicated lanes enable passengers to reach any destination in Moscow faster and estimate their travel time more accurately. Reverse dedicated lanes are set up in some streets in the city centre – Solyanka, Bolshaya Lubyanka, Sretenka, and Vozdvizhenka, whereby passengers can exit on traffic islands with pedestrian crossings leading to both sides of the road.

Improved public transport performance

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total length of the 43 lanes launched since 2011</td>
<td>290 km²</td>
</tr>
<tr>
<td>% increase in passenger traffic on routes using dedicated lanes</td>
<td>+12%</td>
</tr>
<tr>
<td>% increase in the speed of public transport</td>
<td>+15%</td>
</tr>
<tr>
<td>% reduction in road accidents involving surface public transport</td>
<td>-30%</td>
</tr>
</tbody>
</table>

Starting from 2019, taxis operated by Mosgortrans, utility vehicles, and double-decker tour buses will be entitled to use dedicated lanes. As of 23 July 2018.

Over 2.8 million trips per day in dedicated lanes
Moscow pioneered a surface passenger transport reform in Russia to ensure high quality of passenger services.

**A SINGLE STANDARD OF SERVICE**

for Moscow residents on surface public transport

Moscow pioneered a surface passenger transport reform in Russia to ensure high quality of passenger services.

**Improvements brought by the new model**

- New buses introduced on all routes
- Fares are paid using a unified ticketing system providing reduced fares
- Vehicles are Euro 5 compliant
- Service quality is monitored by the Moscow Government
- Buses are wheelchair accessible
- Speed limits and traffic rules are complied with
- Air conditioning units installed

**About 1 million daily passengers on commercial buses**

Buses operated by commercial carriers can be small, medium-sized, or large depending on the passenger traffic on a particular route.

2,000 buses operated by commercial carriers serve 214 routes

Unified standard of quality, safety, and cost of surface passenger services

In the near future, the new transport management model will be extended to the New Moscow

- 22 new routes operated under the new model will be launched in New Moscow
- 13 routes will be launched by the end of 2018
- 9 routes will be launched by the end of 2019
- 118 commercial buses will be launched
- For 254,000 people (76% of TI NAO residents) transport availability will improve

1 As of June 2018.
Moscow has been consistently replacing its public transport rolling stock and fleets. The goal is to shift to modern, fast, energy-efficient, environmentally friendly, comfortable, and inclusive vehicles.

Record-high rolling stock and fleet replacement

Moscow

#1 globally

in terms of public transport rolling stock and fleet replacement rates

-20% reduced maintenance costs due to life-cycle contracts

All rolling stock is Russia-made

These contracts provide for product procurement and subsequent maintenance and repair throughout each product life-cycle, as well as disposal if necessary.

Moscow and Moscow Region taxis operating in Moscow.

-20% reduced maintenance costs due to life-cycle contracts

Modes of transport

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Metro</td>
<td>1,950</td>
<td>40%</td>
</tr>
<tr>
<td>Surface transport</td>
<td>9,416</td>
<td>90%</td>
</tr>
<tr>
<td>Suburban railways</td>
<td>2,152</td>
<td>40%</td>
</tr>
<tr>
<td>Taxi</td>
<td>72,000</td>
<td>100%</td>
</tr>
<tr>
<td>Car sharing</td>
<td>11,000</td>
<td>100%</td>
</tr>
</tbody>
</table>

1 These contracts provide for product procurement and subsequent maintenance and repair throughout each product life-cycle, as well as disposal if necessary.

2 Moscow and Moscow Region taxis operating in Moscow.
In 2017, the first next-generation trains were launched on the Tagansko-Krasnopresnenskaya line, which is one of the busiest lines in Moscow, carrying about 1.2 million passengers each working day.

These trains were also launched on the Kaluzhsko-Rizhskaya line in May 2018. In July, a modification of the Moskva train enabling operation on surface sections was launched on the Filyovskaya line.

**MOSKVA METRO TRAIN**

Launched in April 2017

- **Country of origin**: Russia
- **Capacity**: 1,524 passengers (+1%)
- **Noise pollution**: 70 dBA (~28%)
- **Wider doors**: 15 cm (+10%)
- Wheelchair accessible
- Dedicated area for bicycles and prams
- Walk-through layout
- Emergency gangway
- Specially shaped handrails and hand poles
- Audio-visual announcements
- Climate control
- Digital displays with journey planning capabilities
- USB ports to charge mobile phones
- Adaptive lighting: cold lights in the morning and warm lights in the evening
- Wi-Fi
In 2017, 134 new Vityaz-M trams arrived in Moscow. The trams run on routes in northeast, east, and central Moscow. In January 2018, the new trams were also launched on the Novokonnaya Ploschad – Nagatino route connecting central to south Moscow.

**Country of origin**
- Russia

**Length**
- 27.5m (+46%)

**Capacity**
- 185 passengers (+36%)

**Noise pollution**
- 75 dBA (-12%)*
  
  * Silent running bogies

**Number of doors**
- 6*
  
  * 30% faster passenger boarding and alighting

- Low floor
- Wheelchair accessible
- Walk-through layout
- Wide doors
- Multimedia announcements on board
- Climate control
- USB ports to charge mobile phones
- Energy-efficient lighting
- Wi-Fi connection
- No turnstiles

**+300 VITYAZ-M TRAMS**
The high-tech Lastochka trains with an improved carriage layout operating on the MCC became even more comfortable in 2017.

**Country of origin**
- Russia

**Capacity**
- 1,500 passengers

**Maximum speed**
- 160 km/h

**Service life**
- 40 years

- Climate control
- Wheelchair accessible
- Low noise pollution
- Bicycle and pram racks
- Walk-through layout
- Wi-Fi connection
- Charging points for mobile phones
- Digital displays
- Toilet facilities with composting toilets
- Air curtains on doors
- Energy-efficient lighting

**NEW LASTOCHKA TRAINS RUNNING ON THE MCC TODAY**
Electric bus is the most advanced and environmentally friendly surface passenger transport in the world.

To be launched in September 2018

Specially designed for Moscow

Country of origin: Russia
Capacity: ≥ 85 passengers
Maximum speed: 75 km/h
Service life: 15 years
Length: 12 m (as a bus)
Seating: ≥ 30 (+70%)
Travel distance on one charge: 40 km
Charging time: Between 2 min. (10% charge) and 24 min. (100% charge)
Energy consumption: ≥ 1.4 kWh/km
Noise pollution: –30%
Operating costs: –10%

Ultra-rapid charging stations for electric buses

600 V input VDC ≤ 500 A maximum input current

–40 to +40 °C ambient temperature range

FREE TRAVEL on electric buses between 3 September and 3 October

900 ELECTRIC BUSES will run on routes by the end of 2020

9-fold growth

Country of origin: Russia
Capacity: ≥ 85 passengers
Maximum speed: 75 km/h
Service life: 15 years
Length: 12 m (as a bus)
Seating: ≥ 30 (+70%)
Travel distance on one charge: 40 km
Charging time: Between 2 min. (10% charge) and 24 min. (100% charge)
Energy consumption: ≥ 1.4 kWh/km
Noise pollution: –30%
Operating costs: –10%

• Low floor
• Wheelchair accessible
• Braille signage for visually impaired passengers
• Wide doors
• Climate control
• Air curtains at doors
• USB-ports to charge mobile phones
• Media system
• Energy-efficient lighting
• Wi-Fi connection

• Moscow Transport branded design
• A light indicator turns from yellow to blue when the bus is being charged
Transport services for the 2018 FIFA World Cup

Eleven Russian cities hosted the 2018 FIFA World Cup. Twelve of the sixty-four matches were held in Moscow, including opening, semi-finals and finals matches at the Grand Sports Arena of the Luzhniki Stadium.

It is an incredible, amazing World Cup. This couple of years I said that the 2018 World Cup will be the best for all time. Now I can say it again, being convinced that this is the best world championship in history.

Gianni Infantino
FIFA President
TRANSPORT MANAGEMENT DURING 2018 FIFA WORLD CUP

The organising cities’ obligations stipulated in the Agreement between FIFA, the Russia 2018 Organising Committee, and the Moscow Government were met in full.

**KEY TRANSPORT MANAGEMENT PLAN ACTIVITIES**

- **Free public transportation services** were provided for the spectators, volunteers, FIFA officials, police officers from other regions, and accredited journalists.

- **Accreditation for local residents and legal entities** enabling travel to the homes and workplaces located around stadiums and the FIFA Fan Festivals.

- **Regional transport management** of passenger services from the Traffic Management Centre.

- **11 new express shuttle routes** for fans (147 buses).

- **Developing and implementing temporary traffic schemes** in areas surrounding the World Cup venues.

- **Taxi accreditation** (33 companies and 4,832 cars).

- **Night services on the metro, MCC, and surface transport** on late kick-off game days (43 routes and shuttles).

- **Regional transportation services** were provided for the spectators, volunteers, FIFA officials, police officers from other regions, and accredited journalists.

- **Accreditation for local residents and legal entities** enabling travel to the homes and workplaces located around stadiums and the FIFA Fan Festivals.

Moscow Transport employees thoroughly prepared to provide services to the World Cup guests hailing from dozens of countries. Over 800 English-speaking employees helped guests in the metro. The Moscow Transport service centres and transport hotline helped guests in English, German, French, Spanish, and Chinese.

> 90% of Russian fans were satisfied with the overall organisation of the World Cup

> 98% of foreign guests were satisfied with the overall organisation of the World Cup

According to the Innovation Centre.

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Digitalisation of Moscow transport

The new opportunities offered by big data analytics and machine learning are opening up bright prospects for Moscow transport in the 21st century. Moscow is at the forefront of change as it embraces the most advanced technologies and the best national and international innovations.

24/7 operation of the Traffic Management Centre’s control centre

100% of the city covered by the Intelligent Transport System
An Intelligent Transport System (ITS) has been operating in Moscow since 2011. It initially covered 30% of the city, and has now reached 100%. The ITS is a comprehensive monitoring system for traffic control and public transport operation.

The amount of data generated daily by the transport system is comparable to that of a major bank’s transaction volumes.

-34% reduction in road fatalities (down to 2.9 deaths per 100,000 residents) from 2010
-59% reduction in traffic accidents from 2010
+16% increase in the average traffic speed from 2010

In 2013, a control centre was launched at Moscow’s Traffic Management Centre to analyse data received from the equipment installed across the city – traffic speed sensors, adaptive traffic lights and road safety cameras, controlled CCTV cameras, and GPS/GLONASS sensors on public transport.

Moscow’s Intelligent Transport System tracks 10,000 land vehicles, over 72,000 taxis, and 11,000 cars within the car sharing network.

The control centre at Moscow’s Traffic Management Centre is the largest in Europe.

The Traffic Management Centre receives over 350 million data packages per day from various locations, including:

- 80 mln trips
- 45 mln speed measurements from sensors
- Over 60 mln vehicle telematics data entries in the Regional Navigation and Information System (RNIS)

Moscow’s Intelligent Transport System tracks 10,000 land vehicles, over 72,000 taxis, and 11,000 cars within the car sharing network.

The control centre at Moscow’s Traffic Management Centre is the largest in Europe.
The Innovation Centre was established in 2017 to improve the quality and benefits of processing big data.

**Objectives of the Innovation Centre**

- **Personalised communication with Moscow residents**
  - Information about events in the city
  - Route recommendations
  - Advice in difficult situations
  - Feedback collection

- **Consolidation of transport system data**
  - A single platform for data collection, storage, and processing
  - Ensuring data security and protection

- **Preparation of analytical reports**
  - Building a powerful analytics toolkit as well as credible, high-quality models
  - Using analytics to make transport-related decisions

- **Testing and adopting modern innovative technologies**
  - Innovative communication channels with city residents (social networks, apps, messengers)
  - Monitoring new trends
  - Introducing new technology to the transport system

**DATA SOURCES**

- Validation of Troyka cards and tickets in the metro, and on surface transport and suburban trains
- Bicycle rental operators
- Suburban rail carriers
- Wi-Fi operators in public transport
- Mobile apps of Moscow City Transport
- Photo and video cameras
- Surface transport telematics
- Taxi and car sharing operators
- Parking

**END PRODUCTS**

- 30 SERVERS in a protected environment
- 400 CORES
- 2,5 TB of RAM

**DATA STORAGE AND PROCESSING**

- Advanced analytics
- Reports and data visualisation
- Personalised communication with users
COMPREHENSIVE SAFETY ON TRANSPORT

The Moscow Government’s comprehensive programme ensures the safety and full-scale protection of all passengers aboard public transport.

SURFACE TRANSPORT

Surface transport vehicles are consistently being equipped with modern engineering and technical equipment and systems assuring transport safety, including photo and video recording and transfer of images or streaming videos at a dispatcher’s request. Vehicle locations are tracked and geo-referenced using the GLONASS system, enabling dispatchers to respond immediately to an incident and send assistance.

100% of surface transport vehicles are equipped with GPS/GLONASS systems as well as both external and onboard CCTV

Set of safety and security equipment installed in a Mosgortrans passenger vehicle

- Smoke and heat detectors
- Automated passenger traffic control sensors and controllers
- CCTV microphone
- Panic button
- Onboard NAV/COM station
- Onboard VHF NAV/COM radio
- 3G modem
- Dashcam
- Video cameras (forward facing, reversing, driver facing, and compartment cameras)
- Fuel level sensors

METRO

The Transport Safety Management Centre was opened in 2017. It receives data from all CCTV cameras in the metro and has access to the cameras on the MCC.

Currently more than 7,700 Safety Service employees are on duty at metro stations and entrances. Emergency call points are installed at all stations, and security checkpoints with specialised equipment for detecting prohibited items and substances are set up at metro entrance halls.

A comprehensive approach adopted in 2017 enabled a 35% year-on-year decrease in the number of crimes occurring in the metro, while the number of administrative violations fell 21% year-on-year.

10 x faster metro employee response times to incidents due to the new system

Over 42 min (up 90% year-on-year)
luggage items inspected in 2017

Over 250,000 (up 30% year-on-year)
dangerous items detected in 2017

17,300 CCTV CAMERAS are installed in the Moscow metro

Smart CCTV system

5,700 smart CCTV cameras:
- IP camera for situational and general surveillance
- Machine vision cameras with threat recognition functions

Cameras can identify crowding, unusual activity, disorderly behaviour, lost property, and trespassing and help the Transport Safety Management Centre dispatchers make prompt decisions. Video stream data are stored in a specifically built 11 PB data centre.
Moscow transport offers state-of-the-art passenger services on par with leading global transport systems.

Free Wi-Fi on public transport (MT_FREE)

MT_FREE is Europe’s largest single-login access Wi-Fi network on public transport. It covers all metro trains, surface transport rolling stock and fleets, new surface transport stops, the MCC, as well as Aeroexpress trains and terminals. Passengers can benefit from a seamless Wi-Fi experience when interchanging between different modes of transport.

The public transport Wi-Fi network is more popular in Moscow than in other large cities.

Moscow’s public transport Wi-Fi network is one of the best globally in terms of connection speeds and user-friendliness.

Share of passengers using Wi-Fi as their preferred connectivity option when traveling by public transport.

Share of passengers satisfied with the Wi-Fi connection quality on public transport.

Universal travel card: Troyka

The Troyka card can be used to travel by any mode of public transport, rent bicycles, and visit museums and ice-skating rinks around Moscow, with 88% of passengers using Troyka as their preferred fare payment method. Since June 2018, Troyka users on the Wallet plan can benefit from a loyalty programme and get bonuses and discounts in stores, pharmacies, restaurants, dry cleaners, private clinics, beauty salons, cinemas, and with other partners, as well as free travel on public transport.

The Troyka – Strelka integrated travel card allows travel on both urban and suburban transport, and the Troyka – Podarozhnik travel card is valid in both Moscow and Saint Petersburg.

Variety of payment options

Moscow Metro passengers can choose the most convenient method of payment:
• Troyka card
• Social card
• Contactless bank cards (PayPass and PayWave)
• Mobile ticketing
• Bank cards via Android Pay, Apple Pay, and Samsung Pay
• QR codes (piloted at four metro stations)
INTERACTION WITH MOSCOW RESIDENTS

An ongoing dialogue with each passenger is helping improve the performance of Moscow Transport

Moscow Transport mobile apps

Mosgortrans
For details, see page 110

Mosgorpass
For details, see page 110

MosMetro
For details, see page 112

Velobike
For details, see page 107

Moscow Assistant (Pomoschnik Moskvy)
For details, see page 103

Moscow Parking
For details, see page 119

3.5 MLN DOWNLOADS
total for all Moscow Transport mobile apps

Active Citizen
Active Citizen is a project developed on behalf of Moscow Mayor Sergei Sobyanin, launched in April 2014. Moscow residents have voted on multiple transport-related matters using a dedicated portal.

Major voting results:
• Selecting the colour pink for the new metro line under construction in 2014 and choosing its name – Nekrasovskaya in 2018
• A total 480,900 Moscow residents chose the name for the Moscow Central Circle project in a two-stage voting process in 2017
• Reducing the number of announcements on escalators in the Moscow metro
• Naming the next-generation Moskva train
• Selecting the locations for new pedestrian zones in the Zamoskvorechye District

No project is implemented without collecting opinions from Moscow residents. Moscow has two service centres processing over 5,000 queries, suggestions, and requests via phone calls, emails, or personal contacts every week. We also handle all suggestions and requests submitted in social media.

Social media is key to maintaining a dialogue with Moscow residents, allowing them to leave opinions and ask Moscow Transport (MT) staff questions.

Active Citizen

Followers across all social media as at 28 June 2018.

1 Followers across all social media as at 28 June 2018.

 reinforcements

Moscow Transport in social media

Social media is key to maintaining a dialogue with Moscow residents, allowing them to leave opinions and ask Moscow Transport (MT) staff questions.

SOCIAL FOLLOWING

3,600

OVER 45 transport-related topics discussed on the portal since 2014

116 transport innovations rated by Moscow residents

381 Average daily unique visitors on MT’s VKontakte page

5,160 Average monthly reach of MT’s Instagram post

1,343 Average monthly reach of MT’s Facebook post

144 Average monthly reach of MT’s Odnoklassniki post

Moscow Deputy Mayor for Transport
Maxim Liksutov

.portal for citizens

www.ag.mos.ru
A PATH TO THE FUTURE

Global development outlooks for urban transport

Electrification and the environment
Electric car sales are stimulated by incentives and subsidies for car owners, such as reduced battery costs and environmental restrictions. According to the International Energy Agency (IEA), the number of electric cars doubled in 2017 to above three million worldwide. After 2020, the United States, EU, and China will introduce stricter requirements on car energy efficiency, thereby further driving sales upwards.

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Shared mobility
Taxi aggregators, car sharing, and other services that increase mobility are gaining market shares across the world.

Internet of Things
Uninterrupted vehicle connectivity enables remote software updates and transmission of road traffic information to increase road safety.

Autonomous (self-driving) transport
Self-driving vehicles save time for private car owners, reduce costs, and are changing the parking laws in large cities.

CAR-SHARING MODELS

Car sharing is the short-term rental of cars for travel within the city.
P2P car sharing is a platform for car owners to rent their cars out to other people for a short period of time.
A taxi aggregator is a mobile and/or online platform for finding licensed taxis for one-off trips.

GLOBAL TECHNOLOGY TRENDS

42 FOLD
(up to 125 million vehicles)
in the number of electric cars by 2030 worldwide has been forecast by the IEA.

450 MILLION USERS
make 25 million trips a day using Didi Chuxing, a Chinese taxi aggregator.

75% CAR OWNERS
support automatic data transfers to car manufacturers.

HOW WILL AUTONOMOUS CARS CHANGE URBAN LIFE?

- A self-driving car can perform tasks while the owner is elsewhere, such as picking up food from a supermarket or children from school, or transporting small cargoes.
- One car can be shared by many people to minimise unproductive downtime.
- It can be parked far from home or work to reduce the use of car parks and related costs for car owners. When needed, the car will drive to the specified address on its own.
- The resulting free space around the city can subsequently be used for walking zones, bicycle paths, parks, and garden squares.
Stages of smart city evolution in transport and urban mobility

**INITIATIVES**

- **Intelligent Transport System**
  - 100% coverage of the city by the Intelligent Transport System

- **Electronic card Troyka**
  - 10 fare methods

- **Car parking payment system**
  - 8 car parking payment methods

- **A traffic violation management system**

- **Taxi ordering**

**RESULTS**

<table>
<thead>
<tr>
<th>2011</th>
<th>2014</th>
<th>2018+</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>24/7 operation</strong></td>
<td><strong>System automation</strong></td>
<td><strong>Over 9 channels</strong></td>
</tr>
<tr>
<td><strong>Smart traffic lights, smart CCTV cameras, 100% GPS/GLONASS coverage on surface transport</strong></td>
<td><strong>72,000 taxis, 11,000 shared cars</strong></td>
<td><strong>Advanced fare payment methods on public transport</strong></td>
</tr>
<tr>
<td><strong>Wi-Fi on public transport</strong></td>
<td><strong>Car-sharing system</strong></td>
<td><strong>Moskva assistant</strong></td>
</tr>
<tr>
<td><strong>100% of transport vehicles covered</strong></td>
<td><strong>Passenger interfaces</strong></td>
<td><strong>Over 10 channels</strong></td>
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<tr>
<td><strong>Automation of traffic and transport control</strong></td>
<td><strong>Public bicycle rental system</strong></td>
<td><strong>Process automation and robotics</strong></td>
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<tr>
<td><strong>Mobile apps</strong></td>
<td><strong>Smart City 2030 digital development strategy</strong></td>
<td><strong>Smart traffic violation management system</strong></td>
</tr>
<tr>
<td><strong>Passenger interfaces</strong></td>
<td><strong>Public transport mobile apps</strong></td>
<td><strong>Moscow Assistant app</strong></td>
</tr>
<tr>
<td><strong>Automatic payment of violations</strong></td>
<td><strong>Advanced monitoring of transport and infrastructure condition (self-diagnostics)</strong></td>
<td><strong>Pick-up time of up to 5–7 minutes during peak hours</strong></td>
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</tbody>
</table>

**Use of big data – Innovation Centre**

**Facial recognition**

**Smart City 2030 digital development strategy**

**Autonomous transport**

**Promoting car sharing**

**Process automation and robotics**

Smart mobility – a set of next generation solutions for travelling as quickly, comfortably, and safely as possible.
Biometrics is a method for recognising and authenticating people based on their physiological and behavioural profiles.

**WHERE IS BIOMETRICS ALREADY USED ON TRANSPORT?**

- **MOSCOW**
  - Metro CCTV with facial recognition

- **LONDON**
  - Pilot palm vein scanning project for card readers

- **ISTANBUL**
  - Fingerprint-based check-in at the airport

- **SHANGHAI**
  - Voice control of ticket machines

- **JINAN**
  - Facial recognition check-in when boarding a train

**EXAMPLES OF USE**

- **Fingerprinting**
  - Smartphone protection
  - Touch and pay (Sberbank)

- **Palm vein pattern**
  - Identification of school students to pay for services
  - Metro pay-gates

- **Face**
  - Identification of wanted criminals in a crowd
  - Mood recognition (Amazon)

- **Voice**
  - Identification at ticket machines
  - Equipment voice control

- **Retina**
  - ATM identification
  - Next-generation passports

- **Speech**
  - Speech-to-text
  - Identification through call centres

- **Gait and other movement patterns**
  - Smartphone user identification (by movement rhythm)

- **Personality**
  - Career guidance
  - Behaviour correction
A city for everyone

WHAT JOURNEY WILL YOU HAVE AROUND THE CITY TODAY?

The Moscow Government hears the voice of every Moscow resident
For cyclists

Exciting
КАКИМ БУДЕТ ВАШЕ ПУТЕШЕСТВИЕ ПО ГОРОДУ СЕГОДНЯ?

Город для каждого

Comfortable

For drivers

For details, see page 116
All large and advanced cities prioritise pedestrians, and Moscow is no exception. Some years ago, pedestrians had to edge their way around cars parked along narrow pavements in the city centre. Moscow has undergone a dramatic change since then.

**A city for pedestrians**

All large and advanced cities prioritise pedestrians, and Moscow is no exception. Some years ago, pedestrians had to edge their way around cars parked along narrow pavements in the city centre. Moscow has undergone a dramatic change since then.

2-7x increase in pedestrian traffic due to comprehensive street improvement programmes

327 streets, squares, major routes, and public spaces modernised and reconstructed
TRAVELLING AROUND THE CITY

Pedestrian zones
327 streets, squares, major routes, and public spaces modernized and reconstructed
311 km total length

My Street programme
150 of new transport schemes completed as part of reconstruction efforts
1,800 ha total area covered by improvements
>7,000 trees planted

What should be done with drivers who park on the pavement?
– If you see a car parked on the pavement, a lawn, pedestrian crossing, or under a no waiting/no stopping sign, you can use the Moscow Assistant app on your smartphone to take a photo of the violation and submit it via the app.

WHAT SHOULD BE DONE WITH DRIVERS WHO PARK ON THE PAVEMENT?

– Moscow has 40 pedestrian-only streets and squares, and over 200 pedestrian zones. The Yakimanskaya Embankment is the most popular walking area. Apart from walking space, pedestrian zones also host multiple public events. They serve as venues for fairs, festivals, and sports competitions such as the Moscow Marathon.

What is the most popular walking area?

– If we want to make Moscow a smart and safe city, temporary inconveniences are as inevitable as in any other kind of repair. The My Street programme in Moscow primarily aims to capture the interests of all traffic stakeholders, including pedestrians, cyclists, motorists, and passengers of public transport taxis. As a result, we benefit from road safety and smartly organised walking spaces with wide pavements, trees and bushes, and new, comfortable, and attractive street furniture.

Why should pavements be repaved and roads dug up in the city centre?

– Moscow has 40 pedestrian-only streets and squares, and over 200 pedestrian zones. The Yakimanskaya Embankment is the most popular walking area. Apart from walking space, pedestrian zones also host multiple public events. They serve as venues for fairs, festivals, and sports competitions such as the Moscow Marathon.

The 10 longest improved streets
1. Tverskaya
2. 1st Tverskaya-Yamskaya
3. Novoslobodskaya
4. Novy Arbat
5. Bolshaya Nikitskaya
6. Bolshaya Ordynka
7. Bolshaya Yakimanka
8. Bolshaya Polyanka
9. Taganskaya
10. Myasnitskaya

Citywide wayfinding system
The citywide wayfinding system helps Muscovites and tourists select routes and easily navigate around the city throughout their journey.

Magistral network routes are colour-coded.

The orientation of the maps uses heads-up mapping, which corresponds with the direction the user is facing. For example, everything showed on the right side of the map is actually located to the right of the user.

Metro exits are numbered clockwise to help find the destination.

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Moscow residents use bicycles not only for leisurely rides, but also as a last-mile transport mode to get from home to a surface public transport stop, the metro, or an MCC station. Moscow’s cycling infrastructure is based on a network of bicycle paths and dedicated lanes, bicycle parking, and bicycle rental stations.

Moscow bicycle rental system

#1 in Europe by rides per bicycle

2.5 million rides over three months of bicycle rentals in 2018 (as many as for the entire 2017 season)
TRAVELLING AROUND THE CITY

Local resident involvement

>100,000 CYCLISTS participate in Moscow cycling parades each year

900,000 USERS registered in the bicycle rental system (13 times more than in 2013)

Cycling infrastructure

773 KM of bicycle paths and lanes in Moscow¹

14.2 KM Russia’s longest bicycle lane on the Boulevard Ring

>14,000 PARKING SPACES for private bicycles

Velobike

The Velobike mobile application is designed to help find the nearest station, check the availability of bikes and parking stations, select a rate, top up one’s account, and calculate the cost of travelling.

Electric scooter rentals launched in Moscow

Electric scooters are environmentally friendly vehicles for fast and comfortable short-distance travel around the city. In June 2018, Moscow launched Delisamokat, Russia’s first public electric scooter rental system.

Its 25 rental stations are located in the city centre as well as in the Strogino, Krylatskoye, Kuntsevo, Ramenki, Prospekt Vernadskogo, and Lomonosovsky districts. Registration via online or a mobile app is required to rent a scooter.

- Weighs 12 kg
- Up to 25 km on a single charge
- Can be charged at a station or at a 220 V outlet
- Speed of up to 25 km/h
- Reflectors
- A light

Electric scooter rentals

Moscow bicycle rental system (launched in 2013)

430 STATIONS (five times more than in 2013)

4,300 BICYCLES² (eight times more than in 2013)

> 100,000 CYCLISTS

> 14,000 PARKING SPACES

> 900,000 USERS

1 Including dedicated lanes.
2 As of May 2018.
The number of Moscow residents using public transport increased to 68% of the population in 2017, from 62% in 2010. The growth drivers include improved convenience, speed, and availability. Most buses, trolleybuses, and trams are low-floor and wheelchair-accessible, while climate control makes travelling on public transport comfortable in any weather.
Public transport stops have become more comfortable. Moscow currently has 802 new model stops (including 497 stops installed in 2017), with wayfinding pylons, maps, and digital arrival information panels. The stops are equipped with CCTV cameras, free Wi-Fi, and USB ports for portable device charging.

New-generation surface transport shelters

Moscow Transport mobile apps will help you find an optimal route by travel time, modes of transport, and cost. The Mosgortrans app uses up-to-date traffic data to calculate the estimated time of arrival. An alert can be set up to notify that your bus or tram is about to arrive at the stop. The travel times of surface transport have become more predictable following the establishment of dedicated lanes. The Department for Transport has consistently been adding dedicated lanes to help debottleneck roads. To improve the passenger experience, stops are equipped with real-time arrival information panels, arrivals are now at regular intervals, and turnstiles are being phased out.

Mosgorpass – a city wayfinding navigator.

Mosgortrans tracks the traffic of surface transport online and calculates travel time and cost.

Moscow Transport to be launched in 2018.

Fast and smart

Schedule performance

2017 95%

2010 76%

Turnstiles removed from all surface public transport from 1 September 2018

For details, see Current and Future Mega Projects: New Convenient Surface Transport

3–5 min average waiting time for buses in the city centre

– We are organising more dedicated lanes for public transport. Their total length in Moscow has now reached 287 km. Another 48.5 km will be built to address bottlenecks by 2020.

– Sometimes traffic jams make waiting for a bus too long. What is the progress on this?

– Queues build up at the busiest routes during peak hours. How can the boarding process be sped up?

– Turnstiles are being phased out in public transport, which will substantially shorten boarding time. In early 2018, turnstiles were removed from all large-capacity buses, and from all trams in June 2018. From September 2018, all surface transport will operate without turnstiles.

– How can I find out the arrival time of my bus or tram without wasting time at a stop? Surface transport is so unpredictable.

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Mosgorpass – a city wayfinding navigator.

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TRAVELLING AROUND THE CITY:
METRO AND MCC

Live music on the Metro
A unique busking scheme to entertain passengers and promote music performers.

>18 BUSKING PITCHES
at metro stations

>200 PERFORMERS
In the busking scheme

>20,000
Live performances since launch

With the Moscow Metro app, passengers can build intermodal routes, top up their Troyka cards, and contact the metro authorities.

The metro is an extremely sophisticated integrated technological system that requires regular inspection of all its tracks, tunnels, rolling stock, and equipment. Strategic diagnostic trains are used to check tracks in the daytime without disrupting the train schedule. Tracks are replaced at night. Track replacement is scheduled in sections throughout peak hours. Since 2007, we have been purchasing higher capacity (+ 15%) next-generation trains with enlarged (+ 15 cm) doorways for convenient entry and exit of passengers.

The metro is becoming increasingly efficient. Peak hour period was extended in 2016, with trains arriving at 50-second intervals. The Moscow Metro is the only metro in the world that maintains such short arrival intervals throughout peak hours. Since 2017, we have been purchasing higher capacity (+ 15%) next-generation trains with enlarged (+ 15 cm) doorways for convenient entry and exit of passengers.

The construction of new metro lines has reached unprecedented rates in Moscow. Launched in 2016, the Moscow Central Circle has taken a 15% load off the Circle line. The Big Circle line is under construction (to take a 15%–30% load off radial lines) as well as the new surface metro for Moscow, and the Moscow Region – Moscow Central Diameters (15%–20% off the metro’s current load).

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Metro mobile app
Via the Moscow Metro mobile app

Unprecedented Rate of Moscow Metro and Moscow Central Circle Development

For details, see
Current and Future Mega Projects: The
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A Passenger Mobility Centre has been operating in Moscow since 2013. Its staff help passengers with impaired hearing, vision, and mobility, as well as elderly people, parents with small children, and large families to travel by metro. Help is provided throughout the journey, including outside the metro, free of charge.

Aid to passengers with reduced mobility

>650,000
PEOPLE
used the service
(including 152,000 in 2017)

>50%
of metro stations
will be made
wheelchair-accessible
by 2020

To apply for assistance...

Need to top up your Troyka card or buy a ticket? Easy!

35% of all transactions are through ticket machines.
88% fares are paid with Troyka cards
807 THOUSAND
CUBIC KM OF AIR
passes through the metro ventilation system every year. This amount of air would be sufficient for all the residents of Paris to breathe for 70 years
99.98% metro train punctuality: better than a Swiss watch

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1 In nominal terms.
2 Based on the average monthly income rate and an assumed travel frequency of 40 trips per month.

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Velvet Track
Velvet Track is a continuous welded track to ensure lower maintenance and maximize train speeds and passenger comfort.

Travelling around the City:
Metro and MCC

112 113

In the busking scheme at metro stations

With the Moscow Metro app since launch

>20,000
Live performances since launch

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A CITY FOR EVERYONE

TRAVELLING AROUND THE CITY: TAXIS

Moscow Taxi cars need to meet the Moscow quality standard

114

Yellow body colour (only for taxi cars licensed to operate in Moscow)

An orange taxi roof light

A yellow licence plate (optional)

1 Mandatory from 1 July 2018.
2 Moscow and Moscow Region taxis

Checkerboard trim

– I AM AFRAID OF USING TAXIS BECAUSE DRIVERS ARE COMPLETE STRANGERS.
– Choose legal taxi services. A taxi’s licence plate number can be checked in the Register posted in the Services section on the Moscow Mayor’s website (see Public Transport/Taxi) at www.mos.ru. Some taxi companies also have driver rating systems, photo and video surveillance cameras, driver fatigue monitoring, and remote vehicle diagnostics.

– LAST TIME WE TOOK A TAXI, WE ALMOST HAD A CAR ACCIDENT! WHERE SHOULD WE LODGE A COMPLAINT TO HAVE THIS RECKLESS DRIVER PROHIBITED FROM CARRYING PASSENGERS?
– If you have questions, complaints, or proposals, please contact the Moscow Transport contact centre or service centres. Some taxi and ride-sourcing services also use their own driver scorings and ratings.

– HOW CAN I TELL A MOSCOW TAXI FROM OTHER CARS BY SIGHT?
– All Moscow taxis are yellow, including yellow licence plates and checkerboard signs. Since 1 July 2018, 100% taxi cars licensed to operate in Moscow are yellow in colour.

– USE 7.9 average taxi fare in Moscow in 2017 (down 29% from 2015)

5–7 MIN average pick-up time for Moscow taxis during peak hours (one of the best performers among the world’s largest cities)

Number of taxi passengers in Moscow, thousand per day

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
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– Last time we took a taxi, we almost had a car accident! Where should we lodge a complaint to have this reckless driver prohibited from carrying passengers?
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A city for motorists

Since 2010, the number of cars registered in Moscow and the Moscow Region has increased by a third to 7.7 million vehicles. The Moscow Government is building new and reconstructing existing roads, managing road traffic and parking facilities, and launching alternative mobility options for those who prefer to remain at the wheel at all times.

3.6 million vehicles move within the city every day

16% average speed increase on roads since 2010 (52 km/h in 2017)

1 According to Traffic Management Centre of the Moscow Government.
With the Moscow Parking mobile app, you can find and pay for different types of car parks.

**Moscow Parking**

With the Moscow Parking mobile app, you can find and pay for different types of car parks.

**ABOUT**

700 km roads built and reconstructed between 2010 and 2017 (including 60 km of commissioned new roads)

+25% increase in road throughput in the city centre

**2.3 MILLION downloads**

- The historical buildings in Moscow leave little room for building new roads, especially in the centre, while the number of vehicles continues to grow. As a result, the road area per vehicle remains low in Moscow despite record-high road-building rates, at only 25 sq. m as compared to 95 sq. m in London and 205 sq. m in New York.

- Paid parking increases parking turnover. It is easier to find parking when two out of ten spaces are available, without having to cruise around creating unnecessary traffic, congesting roads, wasting your personal time, and causing stress when in search of a space. Paid parking has also resulted in lower road congestion and fewer road accidents caused by chaotically parked vehicles.

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- Vehicle removal is a forced safeguard measure to protect 99.98% of law-abiding people from the 0.02% of offenders.

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- Previously, the width of Moscow city centre roads was non-uniform, and the disparity resulted in bottlenecks, traffic jams, and frequent road accidents. Once reconstructed, excess parts of roads are given to pedestrians, with streamlined and faster traffic as a result.

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CAR SHARING

Car sharing is a type of short-term car rental on a pay-by-minute or pay-by-hour basis. The service represents an alternative to private vehicles for trips within the city.

- **57% of users** are ready to forgo owning a car or driving their own vehicles within the city.

+5,000 new shared cars each year

**HOW WILL THE CITY BENEFIT FROM CAR SHARING?**

- A motorist typically only drives a limited number of hours per week, between work and home. The car stands idle the rest of the time, but the owner still needs to pay for its parking, insurance, and maintenance. A shared car can be used repeatedly to reduce road congestion and costs for drivers.

**HOW DO MOSCOW RESIDENTS USE THEIR PRIVATE VEHICLES?**

- Parked at home: 134 hours
- Parked elsewhere: 28 hours
- On the move: 6 hours

**WHY IS A SHARED CAR PREFERABLE TO A PRIVATE VEHICLE?**

- The user does not need to pay for parking, fuel, insurance, or maintenance.

**THE MOSCOW CAR SHARING SYSTEM**

- Operates via an operator’s website or mobile app.
- Each company has age and driving experience restrictions for users.
- A car can be booked either online or via an app. The car unlocks via the app, with all necessary documents and ignition keys already inside.
- Once the trip is over, the fee will be automatically debited from the user’s bank card.

**6 MILLION TRIPS** in the first half of 2018 (as many as for the project’s entire period since launch)

**6-8 TRIPS A DAY** per vehicle within the Moscow Car Sharing project, the best performance in Europe

**1,000 Cars** available

1 As of May 2018.
A city for businesses

For businesses of any size, from major holding companies to small-scale private entrepreneurs, the city’s rapid growth provides a unique opportunity to expand operations and engage in ambitious projects supported by the Moscow Government.

Moscow Taxi

- 47,000 Moscow taxis
- 384 taxi ranks for 1,129 vehicles
- 2.7 years is the average vehicle age (the youngest taxi fleet in Europe)
- 260 million trips made in 2017 (16 times more than in 2010)

Moscow Car Sharing

- 11,000 vehicles
- 15 operators
- > 1.5 million registrations in the system

Freight framework

- 53% respondents of the Active Citizen project have noted a positive effect from the freight framework
- A 17%–25% decrease in pollutant emissions in pilot areas (Northern, North-Eastern, and Western Districts)

For many years, trucks have put immense pressure on the city, both in traffic congestion and environmentally, while those crossing the city accounted for up to 30% of all freight traffic in Moscow. Truck drivers often chose to drive far from residential districts. Similar zones exist in the world’s largest cities such as London and New York, and have shown to improve and streamline freight delivery. For better load handling, special parking bays for trucks have been established in the city centre.

We have developed a freight framework to streamline traffic by all types of vehicles within the city, providing better logistical opportunities for businesses with dedicated lanes which can accommodate for trucks and are located far from residential districts. Better logistical opportunities for businesses with dedicated lanes which can accommodate for trucks and are located far from residential districts.

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The Government and Municipal Services Portal of Moscow is taking online applications for taxi licences. A licence provides access to a number of benefits, such as the right to use dedicated lanes and free parking at special taxi ranks, as well as partial reimbursements of car leasing costs or loan interest. A total of USD 5.6 million in subsidies was issued for car purchases over six years.

The sharing economy has been gaining traction worldwide, and the car sharing system has also rapidly grown in Moscow. Supported by the Moscow Government, it currently ranks No. 1 globally by growth rate. Over its first year of operation, Moscow outperformed Berlin and London by the number of trips in shared cars.

Companies can take advantage of the explosive growth and healthy competition in this market to expand their business. Businesses setting up car sharing schemes are eligible for support from the Moscow Government in the form of reduced parking fees and subsidies on fleet expansion.

Today, all carriers operate to unified quality and safety standards. Large and comfortable buses have replaced uncomfortable, low-capacity vehicles. New vehicles can be leased on attractive terms.

Both the city and private carriers will benefit from the new management model. Previously, private carriers incurred great losses due to unstable demand, and their aged fleets were not upgraded, thereby putting the lives of passengers and drivers at risk, while private bus carriers did not offer any free travel or reduced fares for school and university students or retirees.

Commercial carriers and SUE Mosgortrans are on equal footing when competing for contracts to operate certain routes, as all contracts are awarded through a bidding process. Private buses offer city-wide fares, with 40% of passengers now using free travel or reduced fares subsidised by the city. Providing contracted services to the city authorities guarantees a steady flow of business under a five-year government contract, regardless of demand, the economic situation, or other factors.

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Contacts

Moscow Transport service centres

The Moscow Transport service centres in Staraya Basmannaya Street and 1905 Goda Street operate on a one-stop shop basis. Here, users can obtain advice on all issues related to parking, public transport operation, fares, and cycling zones.

> 260,000 visitors served by the service centres in 2017
3 min. – the average waiting time

Moscow Transport contact centre

The Moscow Transport contact centre can be reached by calling +7 495 539 54 54 or 3210 (Beeline, MTS, MegaFon, Tele2). The centre’s operators are ready to answer any transport-related questions from Moscow residents, including on: metro operation, surface transport schedules, routes, and fares, parking permits, and so on.

> 2.2 million calls were handled by agents of the Moscow Transport contact centre in 2017

Unified transport portal

The unified transport portal offers all the information passengers need. Passengers can use this website to choose an optimal route and fare for their trip, top up their Troyka cards, find out the arrival times of surface public transport, intercity buses, suburban trains, and Aeroexpress, as well as verify a taxi driver’s licence, check for road congestion, apply for support at the Passenger Mobility Centre, and receive many other services.

1.5 million unique users of the Moscow Transport portal in 2017