2. Local Transport

2A. Present situation

<table>
<thead>
<tr>
<th>Index</th>
<th>Data</th>
<th>Units</th>
<th>Data from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share (%) of citizens living within 300 meters of public transport running every hour (or more frequently)</td>
<td>92</td>
<td>%</td>
<td>2010</td>
</tr>
<tr>
<td>For all journeys of less than 5 km, share of journeys by:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Car</td>
<td>27</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Public transportation</td>
<td>44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bicycle</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestrian</td>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of low-emission city buses (at least Euro 5)</td>
<td>39.2</td>
<td>%</td>
<td>2015</td>
</tr>
</tbody>
</table>

- The index of accessibility is based on the comparison of database of access zones to all public transport stops (approx. 4,300 units) to the database of the geographical allocation of the population (approx. 2 million residents); average reaching distance – approx. 400 m.
- Journey indicators - within city’s administrative boundaries; no data for journeys up to 5 km.

Transport infrastructure

Warsaw’s public transport system is based on rail transport, assisted by buses.

**Trams** - 298 km of single track tram tracks (around 80% of separated tracks); 588 trams; average distance between stops – 0.5 km;

![Photo: Archives of the City of Warsaw](image)

**Metro** - 2 lines – total length: 28 km; 28 stations; average distance between stations 1 km;
**Rail** - 8 lines, total length: 93 km; 48 stations; average distance between stops: around 2.3 km;

**Bus** - 750 km of routes (48 km of separate bus and tram – bus lanes); 3 637 stops; average distance between stops: 0.7 km;

**4 seasonal ferry crossings** - (pedestrians and cyclists);

**Veturilo** - Public bike system - 202 stations; 2 992 bicycles; 356 819 registered users; 5 734 952 rentals (2015);

**Bike routes** - 412.5 km;

**Park & Ride** parking facilities - 14; 4 218 parking spaces; 652 bicycle parking spaces;

**Pedestrian zones** – (330 km of calmed - traffic streets).

**Warsaw rail transport scheme**

Number of vehicles (in motion):

**Trams** – 424 wagons
Metro – 270 wagons (45 trains)
Urban Rapid Rail (SKM) – 118 wagons (19 trains)
Buses – 1 524 buses
Veturilo system – 2 992 bikes

Every weekday around 500 000 persons commute to Warsaw from metropolitan areas by trains, buses and cars (work and study).

**Infrastructure Management Tools**

Integrated Traffic Management System (ZSZR) (parts of the city) - traffic control: managing traffic lights, transfer of information on traffic situation using variable message...
signals (VMS), information transfer using weather stations and VMS, collective rail transport priority, internet information on traffic situation.

Independent traffic surveillance systems of operators, i.e. Municipal Buses System (MZA), Warsaw Trams (TW) and Metro.

**Modal split of public transport (2015)**

- Warsaw Trams – 25%
- Warsaw Metro – 15%
- Rail – 9%
- Buses – 51%
- Freight – private sector (mainly road and additional rail transport)

Approximately 3% of public transport buses have alternative propulsion systems.

**Alternative mobility programs**

- Expansion of Veturilo bike system - new stations, increasing number of bicycles, tandems and bicycles for disabled, children bicycles;
- Bicycle paths (including counterpaths) and associated infrastructure (self-service bicycle repair stations);
- Bike&Ride facilities, installation of bicycle racks;
- Implementation of the car sharing system;
- Park&Ride system;
- Public transport's joint ticket system (metropolitan area);
- Strategies and standards for pedestrian traffic.

**Use of alternative fuel vehicles**

1049 registered hybrid and 179 electric automobiles (until 30.06.2015); around 18% of registered automobiles are LPG-powered.
Public transportation: 35 articulated LNG buses (18 m), 10 electric buses (12 m), 4 hybrid buses (diesel - electric). 15 custom vehicle charging stations available.

![Photo: Archives of the City of Warsaw](image)

**Significant problems or limitations**

- Surge in the automotive industry after 1990;
- Scattered housing (increased transport demand);
- Lack of unified public transport management in the metropolitan area;
- Construction delays of central/peripheral bicycle routes.

**Management principles and scope of responsibility**

The Municipal Transport Authority (ZTM) organizes passenger transport - responsible for arranging routes, ticket distribution system, contracting with operators and initiating implementation of priorities for public transport (i.e. bus lines).

Freight transport in Warsaw: subject to market laws, monitored by the Municipal Roads Authority (ZDM) - manages Warsaw public roads, designates restricted access zones for trucks and issues temporary entry permits into such zones. Police, Main Inspectorate of Road Transport and the municipal police monitor compliance with freight transport regulations.

**Improved spatial planning**

- Stricter parking norms for office buildings, city offices, trade and services are to be implemented in the near future (city center and selected areas);
- Differentiation of building functions in local zoning plans.

**Plans for sustainable urban mobility (SUMP)**

*Warsaw Mobility Policy* – aimed at strengthening effectiveness of sustainable development measures and reducing car use.
2B. Past Performance

After 1989, verification process of the transportation system began. As a result the *Transport Policy for the Capital City of Warsaw* (1995), based on the principles of sustainable development, was adopted. The main objectives of this policy are reflected in many strategic documents, in particular in the *Development Strategy for the City of Warsaw until 2020* (2005) and the *Study of Determinants and Directions of Spatial Development of the Capital City of Warsaw* (Development Study) (2006). Under this policy, decentralization of public transport management systems was decided and steps were taken towards modernizing transportation system and implementing ecological solutions.

The city adopted the principle of sustainable development of the transportation system with a priority approach towards public transport, pedestrians and cycling. The need to detail the currently pursued transport policy arose. The *transportation system of Warsaw: Sustainable development strategy up to the year 2015 and successive years* (Transportation strategy) was adopted by the City Council (2009). The strategy includes targets and measures of their implementation included in the above-mentioned strategic documents. However, they formulate anew the general objective of Warsaw’s transport policy: "such an improvement and development of the transportation system, as to create conditions for efficient and safe movement of people and goods, while reducing the harmful impact on the natural environment and living conditions."

The strategy details specific objectives of this policy and basic measures of developing Warsaw’s public transport system. Public rail transport is to play a key role in transport system - its quality will determine the proper functioning of the entire metropolitan area. The measures are meant to limit the role of the automobile in local transport. These objectives and measures are gradually implemented by city authorities.

Warsaw’s transport policy is closely correlated with planning and spatial development policy. Therefore, the Development Study (containing guidelines for local spatial plans) includes the sustainable development principle, ensuring balance between economic development, achieving social and environmental protection objectives, setting out measures to counteract negative effects of the automobile industry. Special emphasis was put on the strengthening of public transport’s role and range; the need to create public transport routes, particularly rail routes at the expense of road lines was emphasized. Guidelines for developing communication systems were specified and broken down into 3 main issues: Warsaw’s road and street system with a network of bicycle paths, public transport system, zones with different transport service conditions and parking of vehicles.

Enhancing attractiveness of public transport and changing the residents’ transport behavior during a surge in individual automotive transport was possible by stopping the degradation of existing transport infrastructure (modernization and expansion). In years 2007 – 2015, 16 EU-funded road and 11 public transport projects were implemented, among others:

- Modernization of 92 km of single track (st) tram routes, (improving the quality of railways, power system, passenger information system at
stops), development of grass-surface tracks and the construction of new railway tracks (18.9 km) (st),
- Completion of the I metro line (4 stations and tunnels) and construction of the central section of the II metro line (7 stations, 6.1 km dual tunnels),
- construction of 14 Park&Ride parking facilities (4 218 parking spaces),
- replacement of public transport’s rolling stock.

Photo: Archives of the City of Warsaw

One of the key objectives set out in the transport policy is **The integration of public transport in the Warsaw metropolitan scale**, carried out by:

- including 30 municipalities surrounding Warsaw in the joint public transport system,
- introduction of a joint ticket for metropolitan transport (various means of transport),
- introduction of seasonal tickets and a ticket fare enabling change to different means of transportation,
- popularization of the electronic municipal card, installation of 3 800 ticket booths, including 2 100 ticket and municipal card machines;
- agreement with regional railways (*Mazovian Railways*) on honoring joint tickets and municipal cards;
- launch of shuttle buses and peripheral bus lines carrying passengers from residential areas to rail transport interchanges;
- construction of new and modernization of existing interchanges;
- constructing a network of P&R and Bike&Ride parking lots at the main interchanges outside the city center.

Photo: Archives of the City of Warsaw

Another important objective was: **Improving public transport travel standards, including increasing the availability of the transport system for the disabled**. This objective is implemented by replacing old rolling stock with modern stock, which meets high standards of accessibility for the disabled. In the years 2007 – 2015, 1 269 modern, low-floor/low-emission buses were put into operation and 1 158 old buses were decommissioned (total fleet: 1 759 buses). Simultaneously, 242 modern, low-floor single-space trams were purchased and 329 old wagons were decommissioned (total fleet: 762 wagons); 32 *Urban Rapid Rail (SKM)* trains (2006-2013) and 35 single-space
metro trains (2013-2014) were purchased. A modernization program of public transport stops (including the construction of lifts and elevators for people with reduced mobility) is being implemented, as well as a program (public-private partnership) of replacing 1 580 bus shelters with interactive ones (travel planners and multimedia passenger information). Improving public transport standards is also carried out by increasing the number of bus lanes and improving frequency of service.

To promote alternative means of transport, a public bike system Veturilo and a bike paths construction program were implemented. The public bike system in Warsaw is open (public-private collaboration) therefore the private sector is engaged in investing in bike stations. In 2012, there were 55 stations, 1 150 bicycles, 250 bicycle parking lots for 3 000 bicycles and 360 km of organized bicycle paths (and over 300 km of calmed traffic streets). In 2015, 202 stations, 3 000 bicycles and 800 bicycle parking lots for 9 200 bikes and 412.5 km of organized cycling paths (and over 330 km of calmed traffic streets). Cycling transport's share in transport increased to around 2.1% (2014).

Photo: Archives of the City of Warsaw

Pedestrian traffic is promoted. In 2011, the Strategy of the development of pedestrian transport (Strategy) and Guidelines for the design of pedestrian traffic in Warsaw were developed. The strategy includes organizing parking in the downtown area, pedestrian routes, eliminating transport barriers, improving pedestrian safety and educational campaigns. With the modernization of city center streets, above-ground parking spaces are reduced, architectural barriers are eliminated, LED lighting is installed and solutions for pedestrians with disabilities are implemented. The city priorities for pedestrians and cyclists and new resident-friendly public spaces are designed.

Substantial reduction in car traffic is attributed to the establishment of unguarded paid parking zones (2008) in the city center. Currently, the zone includes approximately 29 000 parking spaces. As a result of transport infrastructure development and improvement of public transport standards, a reduction in traffic congestion, especially in downtown area is observed.

The introduction of the participatory budget was an important achievement. It enables residents to actively co-decide on local community projects. The projects submitted by residents, including public transport projects, are financed by the city.

The Evaluation of the implementation of the Capital City of Warsaw’s Transport Strategy was implemented (2013). An analysis of the condition of Warsaw’s existing transport and advancement of objectives completion of the transport policy specified in the Strategy was performed. The analysis proved that despite of it being in force for a short time, many objectives were achieved.
2C. Future Plans

The coming years will bring a continuation of the implementation of city’s transportation strategy:

- transport infrastructure modernization and development,
- implementation of public transport integration solutions in the metropolitan area,
- establishing public transport priority,
- limiting car traffic in downtown area,
- further public transport improvements,
- rationalization of tram and bus lines systems,
- rail system revitalization,
- parking system improvement,
- cycling and pedestrian transport development,
- road safety improvements,
- supply of goods rationalization.

Warsaw Mobility Policy

Current policy will be supplemented by a new approach to the transport system’s organization – active and effective management of transport demand in the city and metropolitan area. The Warsaw Mobility Policy will be implemented in 2016 and will include measures encouraging walking, cycling and public transport use, while discouraging automobile use, by:

- supporting the city’s spatial order;
- increasing public, cycling and pedestrian transport’s role;
- transformation of public spaces/restoring their social functions;
- adjusting street parameters to planned functions;
- defining a new, limited role of the automobile;
- organizing principles of parking, cargo transportation, delivery of goods and tourist services, etc.
Key objectives of the *Warsaw Mobility Policy* include:

- limiting automobile use;
- shortening average journey length;
- maintaining public transport’s leading role;
- increasing the role of walking and cycling in the modal split, particularly in the downtown area;
- increasing accessibility of the transport system for people with reduced mobility;
- development of public space;
- reducing negative impact of transport on the environment and residents.

Simultaneously, further infrastructure modernization and development measures will be carried out (mostly EU-funded). The inclusion of Warsaw into the European highway system (2012) resulted in current construction of expressways and bypasses in the city and metropolitan area, financed mainly from the central budget.

**Main road network in Warsaw – existing and planned**

The city will carry out road investments (city – center ring road linked with a system of express roads) and modernize the road system (transforming streets and squares into friendly public spaces). Large investments in railway infrastructure (Warsaw railway junction area) are implemented. The EU’s largest transport investment is the continued construction of the II metro line. 11 new metro stations will be constructed (2022), and the subway network will be extended by 12.2 km.
4 large investments of the Warsaw Trams company are being developed. The company is also purchasing new rolling stock - 180 modern trams. The existing tram routes are gradually modernized. MZA will also continue replacing old buses with a low-emission fleet (purchase of 80 modern buses, including 60 articulated buses equipped with photovoltaics, constituting an additional source of electricity used to power electronics including displays, LED lighting and ticket machines).

The development of the tram line within the 2014-2020 EU financial perspective
The most important objectives until 2020, aimed at integrating the transport system will include the expansion of the P&R, Bike&Ride and Kiss&Ride systems and construction of new cycle routes enabling passing through the city center by a number of corridors in the East-West and North-South corridor and serving part of the metropolitan area (approx. 200 km) - in accordance with the adopted **Program for the Development of Bicycle Routes until 2020**. An example of the development of cycling infrastructure are winning projects submitted in the first edition of participatory budget from the Ochota District (completion 2015), i.e.:

1. **Construction of a bicycle lane – the Ochota connector** - (€ 47 619)
2. **Improving pedestrian and bicycle traffic in Ochota** - (€ 21 786)

Specific organizational and investment tasks (different priority levels) for specific measures are included in the **Warsaw Mobility Policy**:  
**zoning** – change of parking indexes for new buildings, introduction of a principle of completing a transport plan for new investments, a completion of a revitalization of streets and squares;  
**influencing demand** - executing mobility plans, developing and implementing the plan for reducing transport demand;  
**pedestrian transport** - the introduction of pedestrian design standards, implementation of pedestrian routes organization program in the downtown area, including adaptation to the needs of persons with reduced mobility, developing and implementing a recovery of public space program, development of district programs for improving pedestrian transport;  
**role of the automobile** – development/implementation of an integrated program of reducing the automobile’s role in the city, promotion of the "city car", cars with an alternative power source and car sharing;  
**parking** - organizing parking in the downtown area, enforcement of parking rules, construction of enclosed municipal underground parking structures, the introduction of the urban parking management system (including an integrated parking information system);  
**freight transportation** - the development and implementation of an urban logistics system;  
**mobility education** - educational campaigns for students and adults.

Long and short term tasks, will be implemented in close cooperation with NGO’s, investors and other stakeholders.

Implementation of the plans and strategies is monitored and evaluated using metrics and criteria adopted by designated city units annually or in two-year periods. Assessment reports, guidelines and recommendations of further actions are developed.
2D. References

Research of citizen satisfaction levels (public transport system):
Warsaw barometer (October, 2014)
http://www.um.warszawa.pl/o-warszawie/warszawa-w-liczbach/2014

How do you rate the functioning of public transport?

79% very well and rather well

In the last 12 months has the functioning of public transport improved?

56% see improvement

To what extent do you agree with the statement: The distance to the nearest public transportation stop is short?

49% fully agree, 32% rather agree

To what extent do you agree with the statement: I am satisfied with public transportation’s frequency of operation?

22% fully agree and 45% rather agree

To what extent do you agree with the statement: Means of public transport generally operate according to the timetable?

22% fully agree and 50% rather agree

To what extent do you agree with the statement: Privileging of public transport is necessary even at the expense of passenger automobile traffic?

26% fully agree, 41% tend to agree

Positive characteristics of public transportation:
range: 20%, frequency of stops: 16%, good operation frequency: 15%

Is Warsaw a bicycle friendly city?

17% definitely yes, 59% rather yes

How would you rate the Veturilo public bike system?

21% very good, 42% fair

List of strategic documents:

Resolution No. XXVI/193/95 of the Warsaw City Council dated 27 November 1995 on the Capital City of Warsaw’s transport policy;
Resolution No. LXXXII/2746/2006 of the Warsaw City Council dated 10 October 2006 - feasibility study on spatial development of the Capital City Warsaw;
Resolution No. LVIII/1749/2009 of the Warsaw City Council of 9 July 2009 on the adoption of the Strategy of sustainable development of Warsaw transport system by 2015 and subsequent years, including sustainable plan of Warsaw public transport development;
Resolution No. XI/198/2015 of the Warsaw City Council dated 7 May 2015 on adopting the Plan for sustainable development of public transport for the Capital City of Warsaw with regard to public transport organized on the basis of agreements with neighboring municipalities;
Websites:

Mobilna Warszawa - [http://transport.um.warszawa.pl/](http://transport.um.warszawa.pl/)
Municipal Transport Authority - [http://www.ztm.waw.pl/](http://www.ztm.waw.pl/)
Warsaw Metro - [http://www.metro.waw.pl/](http://www.metro.waw.pl/)
Warsaw Trams - [https://www.tw.waw.pl/](https://www.tw.waw.pl/)
Warsaw Trams - [https://www.tw.waw.pl/](https://www.tw.waw.pl/)
Municipal Buses - [http://www.mza.waw.pl/](http://www.mza.waw.pl/)
[https://www.veturilo.waw.pl/blog/](https://www.veturilo.waw.pl/blog/)

2E. Good practice

**Veturilo - public bike system**

The introduction of a public bike system led to a cycling boom in Warsaw.

The system is based on a public-private collaboration, thus the private sector is engaged in financing and investing in stations. *Veturilo* was launched in 2012, with 55 stations and 1000 bikes. In April 2013, there were 125 stations and 2 100 bikes. The 2014 season began with 173 stations and 2 650 bikes. In 2015, bike rental network reached 202 stations and 2 992 bicycles. *Veturilo* not only preserved the status of the largest urban bike network in Poland, but also became the seventh largest European system and one of the top ten best public bike systems in the world (according to USA Today).

Bikes are available around the clock, for 9 months of the year: 1st March - 30th November. The majority of the stations are located in the city center and near most of the metro stations.

The bike doesn’t have to be returned to the point of renting. It can be rented in the city center and returned in another district. The first 20 minutes are free. The bikes can be rented for a maximum of 12 hours at a time.

Bikes can be rented by registering on website and paying an initial fee or by registering by credit card at the terminal at every bicycle station.

Moreover, Warsaw’s public bike system is the first system in the world to introduce bikes for children within a maintenance-free rental.

In 2015 *Veturilo* introduced 10 tandems rented on the same basis as all other *Veturilo* bikes.
Since August 2012 until October 2015 system registered 5 734 952 rentals and 356 819 users. During 2015 season alone, number of rentals amounted to 1 328 194 and number of registrations to 63 246.

Stations:
Red & Blue – since 2012
Green – since 2013
Yellow & Orange – since 2014