



A Case Study from Russian Federation

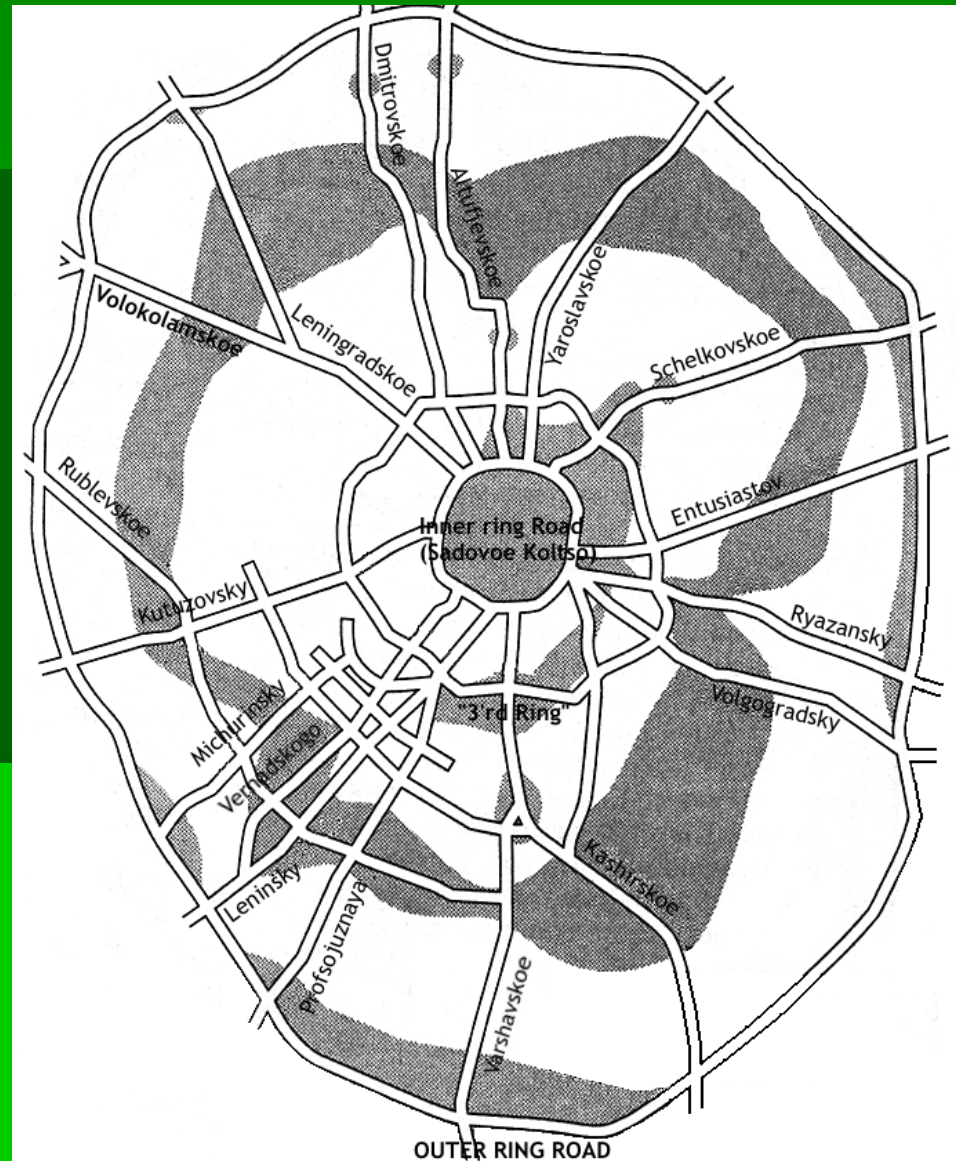
Promotion of the Public Transport as a Base for Sustainable Urban Transport System in Moscow City

Report written by Vadim Donchenko, Yuliy Kunin and Dmitry Kazmin, State Scientific and Research Institute of Motor Transport, Moscow.

Characteristic Features of Moscow Transport System

- Radial planning scheme and insufficient density of the city's road network.
- Prevalent share of public transport in passenger transportation.
- Special role of metro network in urban transportation.

Moscow Road Network Scheme

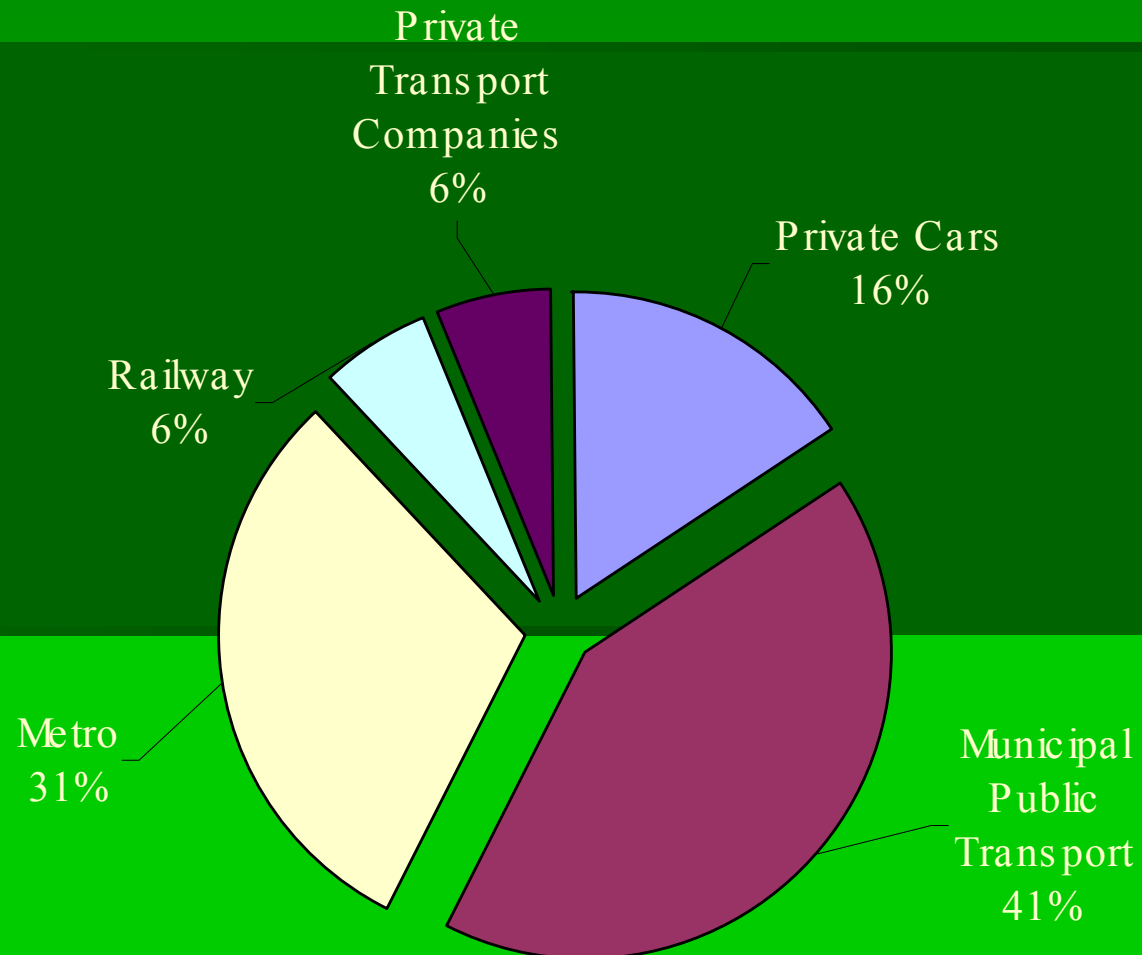


■ - city's territories liable to traffic congestion.

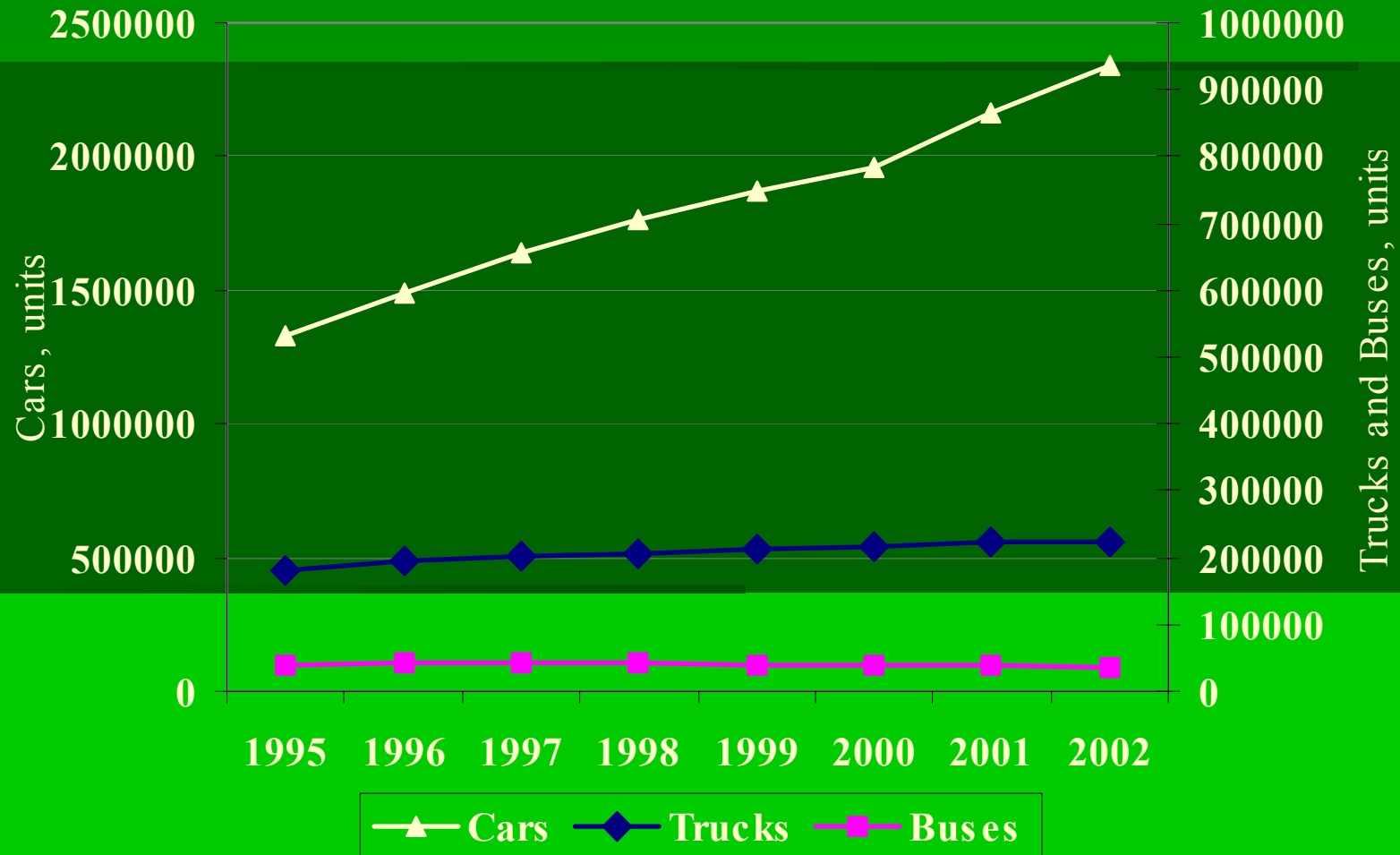
Comparative Road Network Density

City	Road network density, km/km ²
Chicago, Tokyo, Osaka	>16
New-York	13,3
Greater London, Los-Angeles, Philadelphia	8-9
Budapest, Berlin, Warsaw, Hamburg, Vienna, Milan	5-7
Moscow	4,5

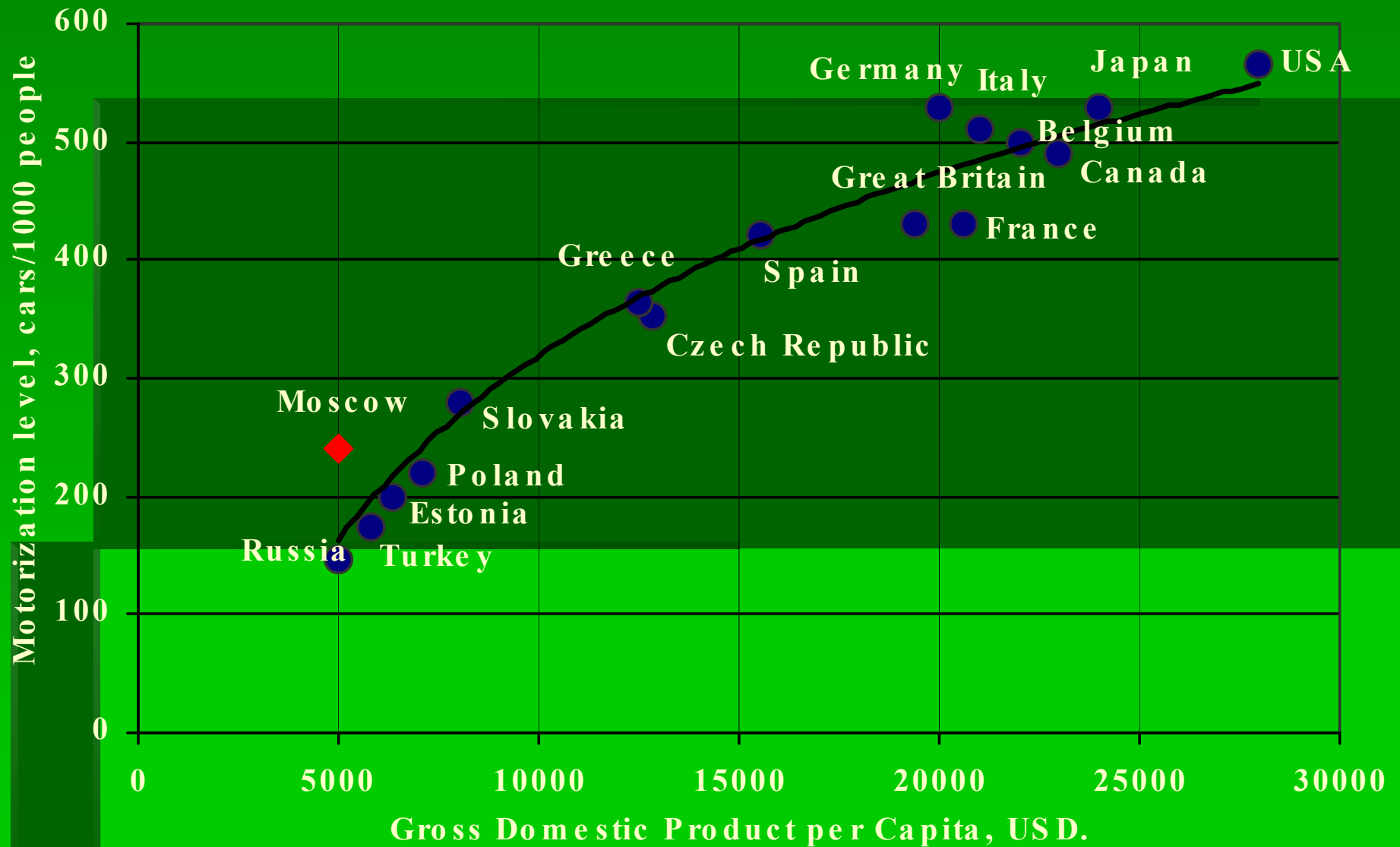
Share of Various Carriers in Passenger Transportation Volume (2003)



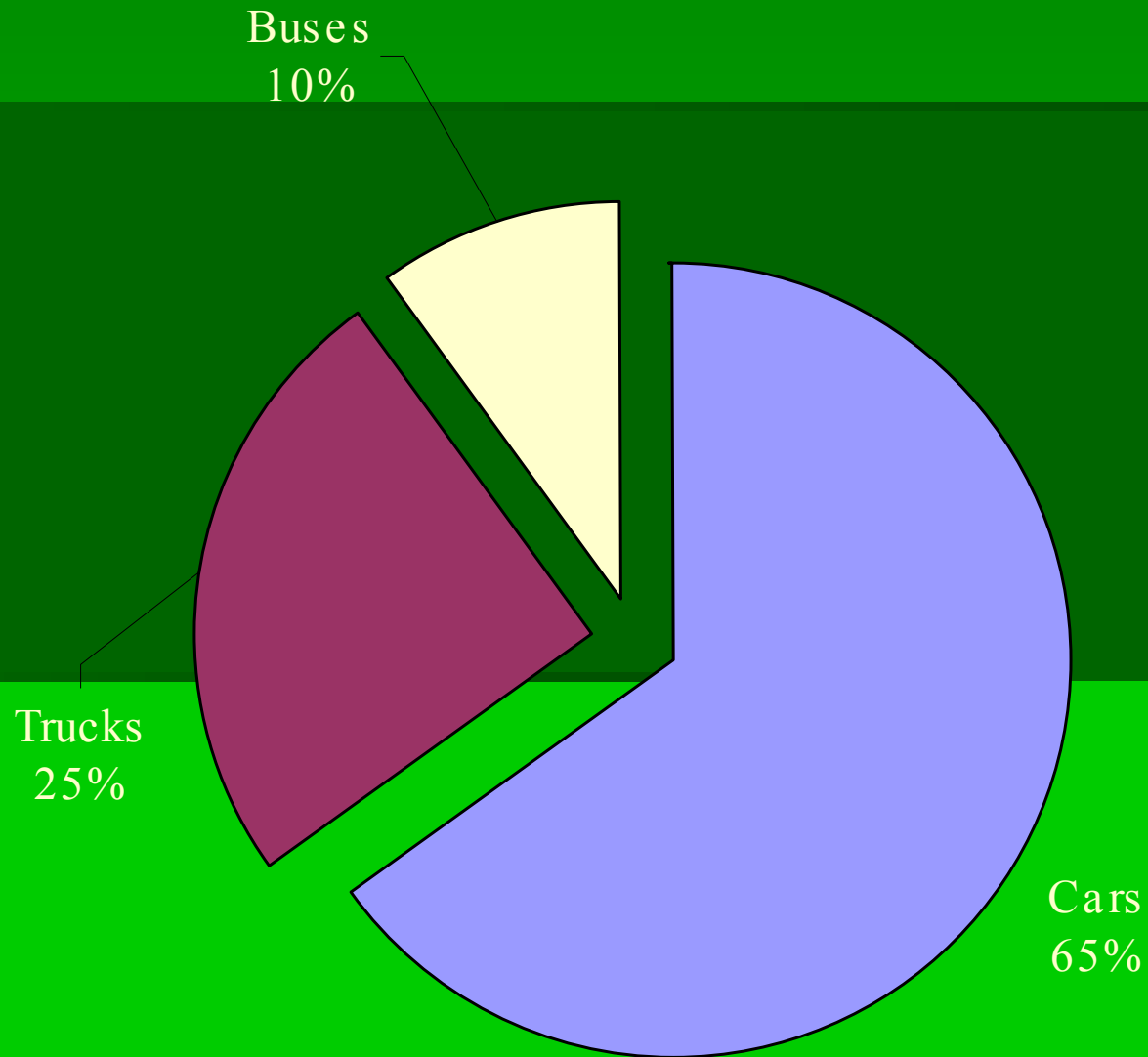
Moscow Vehicle Fleet Growth



Motorization and Population Welfare

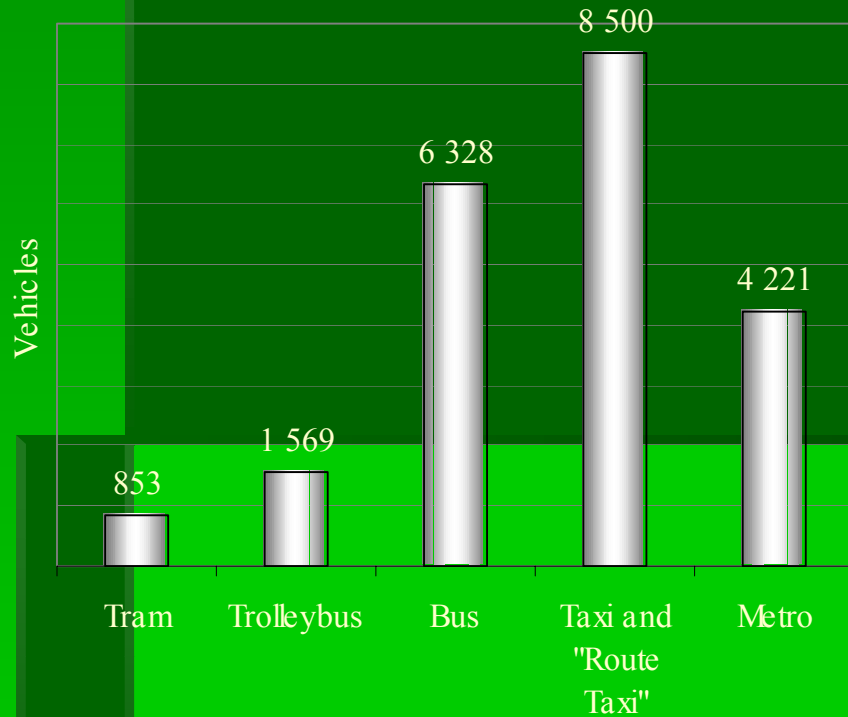


Pollutants Emission Structure by Vehicle Type in Moscow

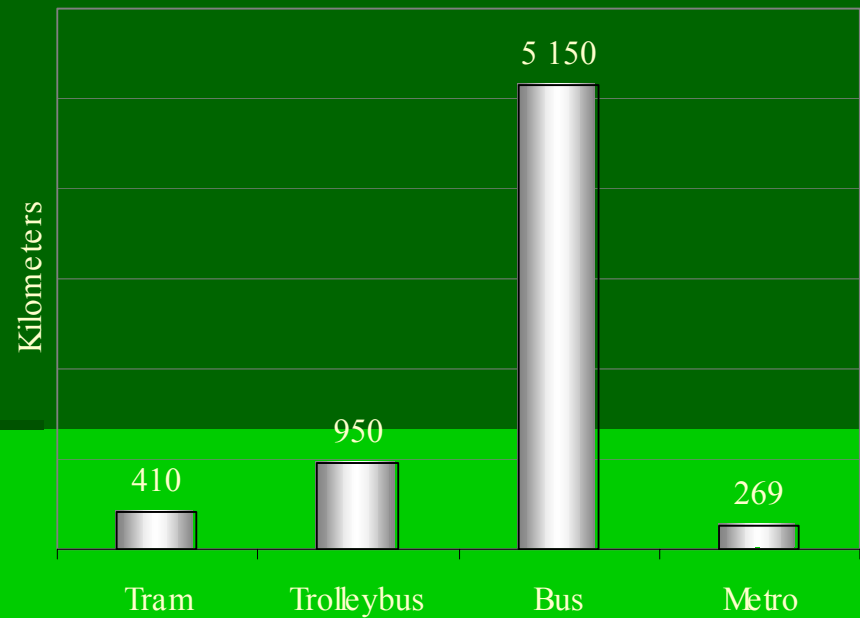


Moscow Public Transport System

Moscow Public Transport Vehicle Fleets (2003)

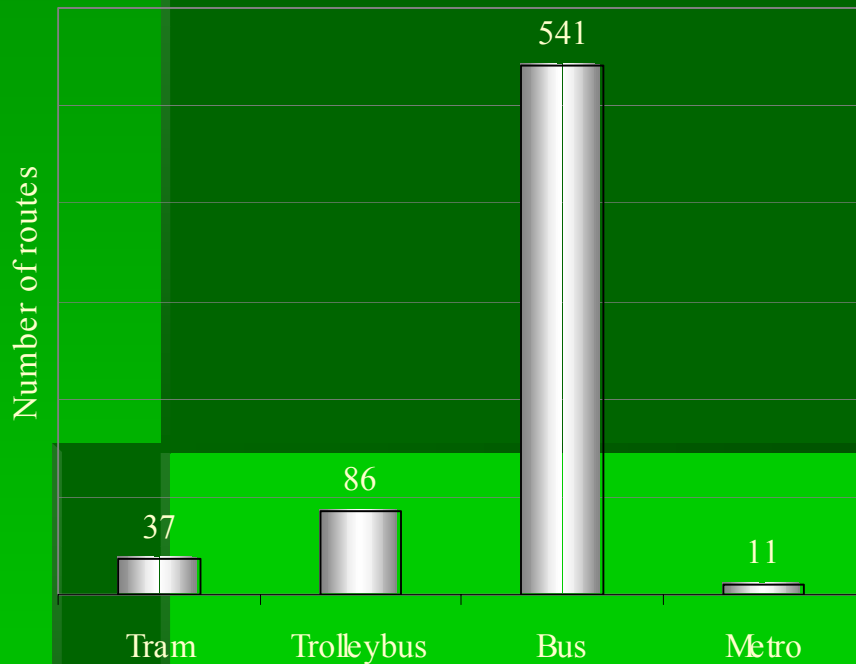


Moscow Public Transport Route Network Length (2003)

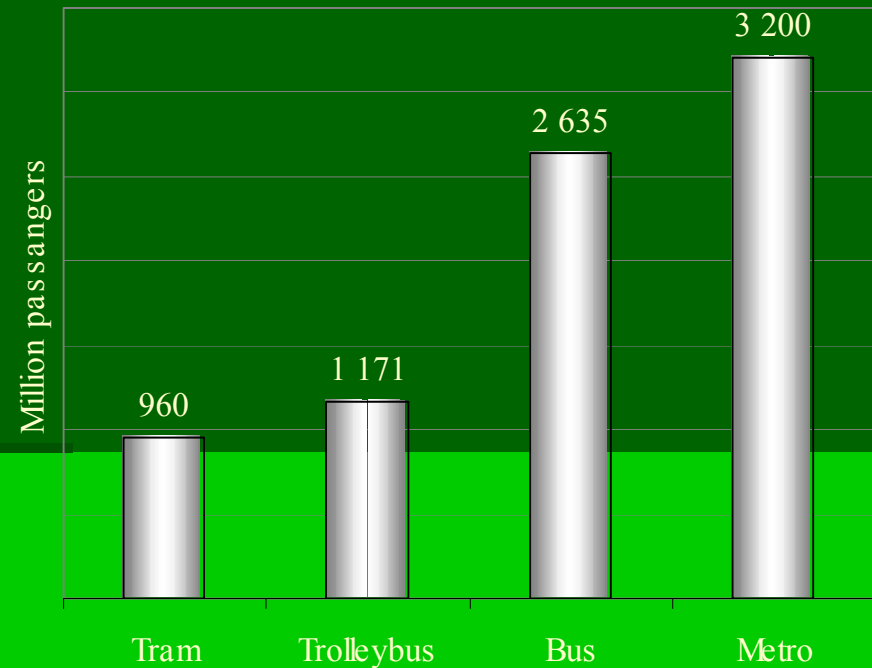


Moscow Public Transport System

Moscow Public Transport Routes (2003)



Yearly Passenger Transportation Volume (2003)



Problems of Moscow Public Transport System

- Insufficiently developed metro network.
- Insufficiently developed surface rapid transit transport modes.
- Inefficient use of public transport vehicle fleets.
- Insufficient quantity and high degree of deterioration of the public transport vehicles.
- Insufficiently developed and highly deteriorated urban transport infrastructure.
- Shortage of the skilled personnel at public transport enterprises.
- Uncoordinated activity of both private and municipal transport companies.

Municipal Public Transport Companies' Financial State

Mode of transport	Share of operational costs covered by income, %
Urban bus	58.2
Suburban bus	61.3
Trolleybus	49.8
Tram	43.3
Metro	69.3

Some Elements of Sustainable Urban Transport Policy in Moscow City

- Development of the public transport.
- Improvement of the environmental characteristics of the public transport vehicle fleet.
- Traffic management and parking policy.

Plans For Public Transport Development

- Increase and renovation of the public transport vehicle fleet.
- Opening of the new public transport lines and development of its infrastructure (opening new lines, building public transport terminals etc.).
- Introduction of the new public transport modes (light rail and monorail).
- Improvement of the fare collection efficiency by introduction of the transport smart-cards.
- Improvements in environmental safety of the public transport vehicle fleet.

The New Modes of Transport Being Introduced in Moscow

Moscow Monorail Train



Moscow Light Railway



Improvements in Environmental Safety of the Public Transport Vehicle Fleet.

- Fuel quality management.
- Switching city owned vehicles to alternative fuels.
- Equipping vehicles in use with catalytic converters.

Fuel Quality Requirements in Moscow

Petrols		
Polluting agents content	Petrols AI-92 and AI-93 (produced since 1977)	“City” petrols
Mass fraction of sulfur, ppm	≤ 1000	≤ 500
Volume fraction of benzene, %	Not regulated	$\leq 5\%$
Diesel Fuels		
Polluting agents content	Diesel fuel of “L”, “Z”, “A” class (produced since 1982)	“City” diesel fuel of “L” and “Z” class
Mass fraction of sulfur, ppm	Type 1: ≤ 2000 Type 2: ≤ 5000	Type 1: ≤ 500 Type 2: ≤ 1000
Cetane number	≥ 45	“L”: ≥ 49 “Z”: ≥ 45

Traffic Management and Parking Policy

- “START” automated traffic management system operation.
- Switching congested streets to one-way traffic.
- Restriction of the trucks access to the central part of the city.
- Parking policy.

Main Problems in Sustainable Transport Policy Implementation and Decision Making

- Lack of integral approach to urban transport problems solution.
- National legislation does not regulate issues of sustainable urban transport policy and often comes into contradiction with the legislative proposals on local and regional level.
- Lack of practice of economic and ecological evaluation in the decision making.
- Lack of funds allocated to financing of many planned and operating programmes and to their scientific and legislative support.
- Inability to work with the population to ensure favorable public opinion.