

TRANSPORTATION POLICY IN POLISH CITIES: 10 YEARS OF EXPERIENCE

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Abstract: In the first years of transition, which started in 1989, significant changes have been observed in urban transportation in Poland. The State has entirely withdrawn from sponsoring urban public transport (UPT) and to a high degree with regard to urban roads. The whole responsibility for UPT has been delegated to local governments. Rapid growth of motorization and raising incomes have caused modal shift from public to individual transport. The pressure to reduce UPT subsidies has led to sharp fare increases.

Public transport level of service to passengers has eroded, fleet renewal has been slowed down and infrastructure were deteriorating. No wonder that urban public transport was losing passengers. The modal split between private car travel and public transport, which in the past was even 10/90, changed to 30/60. It is estimated that the share of the passenger car continues to grow by 1-2% per year.

In the largest cities deteriorating pavements, traffic congestion, road accidents and parking difficulties have become listed among the most critical problems. In some cities in Poland authorities decided to formulate transport policy, based on the application of a strategy of sustainable development through the creation of conditions conducive to the efficient and safe transportation of persons and goods, while guarantying priority for public transport in the city. The first transport policy was adopted in Cracow in 1993 – ten years ago.

The paper presents information about process of the sustainable transport policy adoption in Polish cities as well as conclusions concerning particular case (Warsaw) with its objectives, solutions, measures and results.

INTRODUCTION

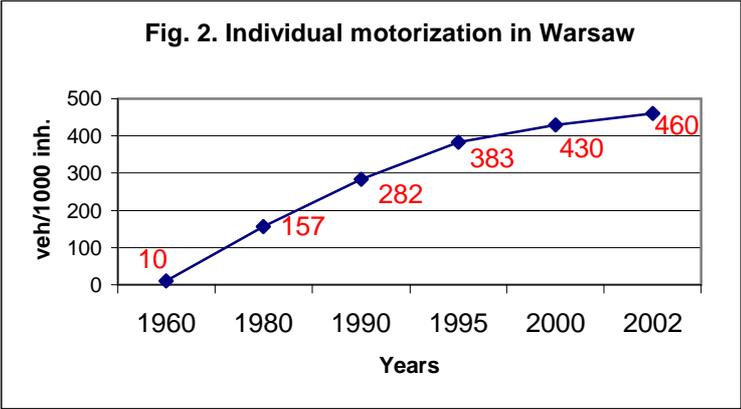
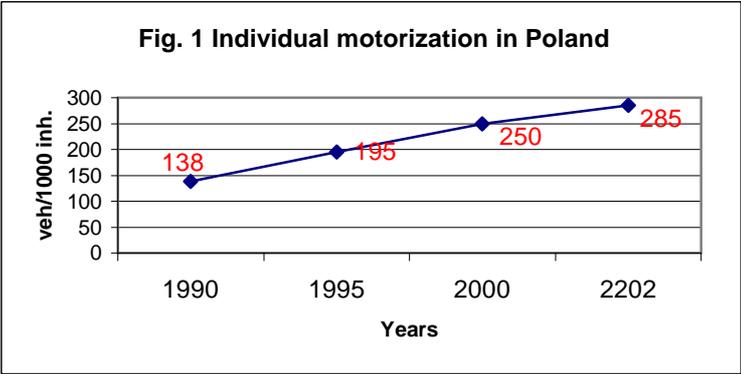
Transformation in Central and Eastern Europe has caused a great change in transport demand. Volumes of freight transport was first reduced than stabilised. The role of railways, specially in agglomerations was reduced. Personal mobility has been growing and with a rapid growth of motorization (which is growing faster than GDP) there is a shift from public to private transport, and a great pressure to develop road infrastructure. Generally, these changes cannot be considered as positive from the point of view of sustainability.

In any case the improvement and development of transport systems is necessary. National and local budgets, even supported by the European Union (EU) assistance and with increased involvement of international finance institutions, are still too limited to meet all competing objectives in the transport sector and the whole economy, where development objectives are often conflicting with social transfer and environmental objectives.

Among strategic problems the following are most important: (1) dividing resources between transport means; (2) proportion between investing in new infrastructure and in maintenance, renovation and upgrading of existing infrastructure not limited to investing in **hardware** but including streamlining management and operation, development of human resources etc.

POLICY IN CITIES

In recent years, in many of Polish cities (as well as European) a dynamic increase of motorization was observed. Increase of number of vehicles was much faster than increase of personal incomes. This happened as a result of state policy in the 90-ties, when costs of car purchasing and its operation increased slower than the costs of other products and services. This situation brought more vehicles on roads which resulted in an increase of the traffic volumes, mainly in cities, covering every year bigger and bigger areas and longer periods during a day.



This had a bad impact to the quality of travel, quality of environment, level of traffic safety and effectiveness of public transport, specially buses. Better situation is observed in cities possessing rail systems, specially trams which are more car independent, because of tracks which are separated from streets. However also trams travel times suffer because of lack of priorities in traffic control at intersections. This have a negative impact also to fuel consumption and operational costs.

Table 1. Main accident statistics in Poland 1990-2002

Year	Number of accidents	Killed	Injured	Inhabitants	Killed/100 000inh.	Killed/100 accidents
1990	50 532	7 333	59 611	38 183	19,2	15
1995	56 904	6 900	70 226	38 608	17,9	13
2000	57 331	6 294	71 638	38 644	16,3	11
2002	53 559	5827	67 498	38 640	15,0	11

Source: Main Police Bureau

Table 2 Accident rates in selected countries

Country	Car ownership/1000 inh.	Killed in accidents/ 100 000 inh.
Poland	258	16
Spain	443	15
USA	733	15
France	464	14
Czech Republic	358	14
Hungary	224	12
Italy	545	11
European Union	471	11
Germany	522	9
Japan	404	8
Great Britain	410	6

Source: IRTAD International Accident Database

Cities should resist against this undesirable tendencies in functioning of the transport systems (congestion, long travel times, poor safety and environment, parking problems).

Transportation problems observed in Polish cities, have been earlier experienced in many European cities. What kind of conclusion can be drawn from European lesson? Conclusion that in highly urbanised areas extension of the road network and increase of the parking capacities will not solve problems caused by an increase of motorization. As a result an opinion prevails that instead adjusting capacity of the system (supply) to increasing traffic demands, it is better to adjust demand to supply and environment protection requirements.

Policy based on sustainable development rules, assuming a balance between economic development, achievement of social targets and environment protection recommended by European Conference of Ministers of Transport (ECMT) and OECD were formulated and adopted by city councils in several Polish cities: Cracow (1993), Warsaw (1995), Bialystok (1996), Lodz (1997), Wroclaw (1998), Katowice (1998) and Poznan (1999). The case of Warsaw has been chosen for discussion of main features of adopted policy and its implementation.

WARSAW CASE

Warsaw, the capital of Poland is the city with 1,62 million inhabitants (2,5 mln in agglomeration) and area of 495.0 km². Rate of car ownership is estimated as equal to 460

automobiles per one thousand inhabitants¹. Mobility within the city is close to 2.6-2.8 trips per inhabitant per day. Main characteristics of public transport system are shown in table 3.

Table 3. Main characteristics of PT in Warsaw

Modal split in % (1998):	
• Automobile	32,4
• Public transport	66,0
• Miscellaneous	1,6
Number of public transport vehicles in rush hour (2003)	
• metro	68
• trams (2 wagons)	334
• buses	1075
Public transport network in km (2003)	
• metro	14,2
• tramways	122
• buses	849
Public transport share in % (1998):	
• Bus (<i>decreasing tendency</i>)	58,9
• Tram (<i>increasing tendency</i>)	33,0
• Metro (<i>increasing tendency</i>)	7,7
• Train (<i>decreasing tendency</i>)	0,4
Public transport cost recovery from farebox in % (1998)	57.6
Average travel time to work (min)	35

Transport policy document was elaborated in 1994. In the process of work, opinions of city inhabitants, professionals and policy-makers on basic questions have been surveyed. Fortunately, at this time, a comprehensive Origin-Destination Travel Study was carried out. Experience of “Western cities” was taken as a starting point. Four options were considered ranging from “motorised city” to “car free city”. Finally, “sustainable transport policy” option was proposed for consideration by the City authorities.

Process of reviewing and approval took as long as 18 months. Finally, the Resolution on Transportation Policy was passed by the Warsaw City Council on 27 November 1995. The results of voting were unusual: 52 votes for, 0 against, and 0 abstentions.

The following general objective of Warsaw’s transportation policy has been formulated: *the application of a strategy of sustainable development for the city through the creation of conditions conducive to the efficient and safe transportation of persons and goods, while guarantying priority for public transport. The development of transportation should stimulate economic development and a spatial order in the city, it should improve the city’s prestige and decrease differentiation in development and the quality of life in specific areas of the agglomeration, while fulfilling (under existing and expected economic conditions) the requirements of restricting the nuisance of transportation to the environment.*

Principles of Warsaw transport policy are the following:

1. Implementation of transportation policy should be differentiated on the basis of area character.

¹ This number is not certain. There is discrepancy between official statistics (460 vehicles./1000) and data obtained, for example, from home interviews in O&D Survey.

ZONE I: Warsaw centre and certain areas concentrating facilities generating and attracting traffic:

- Priorities shall be introduced for public transport and pedestrian traffic;
- The efficiency and attractiveness of public transport shall be such so as to stop and reverse the process of transfer of commuters from public transport to individual transportation means;
- The role of existing tramway transportation in city transportation shall be increased, particularly in highest density areas; and
- Automobile traffic shall be restricted, and even eliminated, in certain areas and along selected corridors.

ZONE II: Other intensively built-up areas:

- Greater freedom shall be allowed of the use of the automobile while maintaining the priority given to public transport.

ZONE III: Other areas:

- The road network and supply of parking spaces shall be adapted to needs resulting from the level of motorization.
2. Particular attention should be paid to the quality of public transport linking Zones II and III with the centre of Warsaw.
 3. During the upcoming years, efforts should be concentrated on the more effective utilisation of existing infrastructure and facilities, as well as the repair, modernisation, and maintenance of transportation system elements, bearing in mind limited funds.
 4. New investment projects should only be undertaken in those cases when there exists certainty of rapid project execution and the achievement of appropriate outcomes.
 5. Implementation of transportation policy is dependent on an understanding of objectives and an acceptance of proposed solutions by the citizens of Warsaw. Therefore, a wide-ranging information campaign should be launched, and public opinion should be probed prior to undertaking concrete actions. Unfortunately, limited communication with the public and interest groups belongs to main causes of limited success in implementing measures of adopted transport policy such as traffic calming, priorities for public transport etc..

POLICY MEANS AND MEASURES

In the following paragraphs, excerpts from “Warsaw Transport Policy of 1995” are briefly presented. They are printed in italics. Each point containing specific objectives, solutions and/or measures has been evaluated from a point view of its implementation. Evaluation should be treated as those of the author.

The following marks have been used to describe to which extent the point from the transport policy document has been implemented:

(+) implemented,

(+/- or -/+) action started but partial or insufficient implementation,

(-) action not taken or action taken against policy.

Relating to urban planning and development control

1. *Stimulation of the concentration of jobs and services in the centre and areas well served by public transport (railroad, metro, tramway); this principle is also to be applied to high density residential building construction. (+/-)* Rapid development of the central area well served by rail type transport (positive feature). Urban sprawl additional stimulated by the development of shopping centres in peripheral areas not well served by public transport.
2. *Stimulation of changes in activities distribution (residential, work, services, recreation) in order to limit the need to travel longer distances, and making possible the reaching of journey destination on foot or by bicycle. (+/-)* The restructuring towards the mixed land-uses is observed. At the beginning this process was not steered but the “directions of urban development” adopted in 1998 made it one of main objectives.
3. *Taking into account the needs of pedestrian and bicycle traffic in urban planning, including the provision of convenient and safe access to public transport stations and stops. (-/+)* System of bikeways has been designed. Implementation was started but very slowly. No actions improving access to public transport and bike parking.
4. *Assisting parking policy through the introduction and enforcement (in granting building permits) of parking standards, and setting a minimal (for Zones II and III) and acceptable/maximum (Zone I) number of parking spaces which must be provided by the investor on his site. (-/+)* Introduced but not obligatory on the basis of the “directions of urban development” adopted in 1998 and land development plans guidelines (2001) .
5. *The reserving of parking areas for a “Park and Ride” system (in direct proximity to the peripheral public transport stations and stops) in spatial development plans, as well as the reserving of land for public transport loops. (-/+)* Some reserves in land-use plans. No action to implement.
6. *Co-ordination and planning of transport system for the metropolitan area (the Voivodeship). (-/+)* Plans prepared. Implementation slowed down by the extremely complex administrative structure (four levels of local governments).
7. *The introduction of mechanisms of competition in public transport. (-/+)* So far, the scope of tendering very limited.

Relating to road system

1. *Stopping the degradation of existing road infrastructure (maintenance of pavements and bridges). (+/-)* Actions are carried on but not adequate to the needs because of limited resources and investment priorities.
2. *Modernisation of the traffic management system, including the control system, taking into consideration the need for priority for public transport as well as restrictions on vehicular traffic in selected areas. (+/-)* The project of modern traffic management system (UTC) is developed, system introduction is planned but will not be installed before 2005. System will cover the pilot area then will be extended to the whole city, including urban expressways.
3. *The basic supplementing of the road system through completion of ring roads, routes linking districts, and bridge routes guarantying a smooth flow of traffic and proportional loads for specific routes. (+/-)* Implementation slow because of limited resources. Parts of

north and south express ring road is constructed with a new bridge over Vistula river, East ring section designed, West in analysis.

4. *Adapting the system for use by the disabled. (+/-)* Visible progress in adjusting pavements and crossings as well as PT fleet exchange (mainly buses).
5. *Building of roads essential for the serving of newly built-up areas. (+/-)*
6. *No increasing of the capacity of roads leading to the centre beyond the traffic capacity of that area. (-) !!!* With limited resources for transportation streets are receiving new traffic lanes and multilevel intersections.

Relating to public transport

1. *Stopping the degradation of urban public transport equipment, tram tracks, and the power supply system for trams. (+/-)* Bus fleet is being renewed, renewal of tram fleet has started but is very limited. The scope of repair and upgrading of tracks is widening.
2. *Improving the functional quality and travel comfort ... through selective investment projects (modern vehicles, modernisation of tramways making possible increased speeds, continuation of construction of metro system). The selection of investment directions should be the result of in-depth analysis of economic, financial, and functional effectiveness. (+/-)* For the time being attention is concentrated on one project – metro construction. The first part of the 1st line (in 2003 – 14,2 km) is being expanded to the north centre. Tramways modernisation program was elaborated in 2001 but implementation was not started. It seems that the following scenario will be realised in the coming future: completing the 1st metro line and upgrading the tramway system.
3. *Introduction, within the centre and along the most congested corridors, of priorities for trams and busses (bus lanes, introduction of priorities for approaching public transport vehicles at intersections with traffic lights). Investments aimed at improving bus transport efficiency. (+/-)* Bus dedicated lanes have been introduced in few places, but there are not properly enforced what reduces their efficiency. There is a strong opposition of the automobile lobby. Modern bus traffic management system in preparation.
4. *Rationalisation of routes and time schedules, to better utilise rail-based transportation systems (tramways, railroads, and metro). (-/+)* No deep and sufficient analysis in this point. A project concerning tramways rationalisation is under realisation.
5. *Adapting the system for use by the disabled. (+/-)* Bus and tram fleet is being renewed with low or partially low floor.
6. *The stimulation of investment, organisational, and economic actions targeted at increasing the role of the railroads in serving the agglomeration. (-)* Unfortunately, national railways (PKP) are in difficult financial situation and are reducing the scope and quality of services provided to metropolitan area. Feasibility study for rail system improvement in agglomeration proved its important role but shows huge necessary investments particularly in rolling stock.
7. *Continuation of the reform of the tariff system aimed at the introduction of a modern ticket, valid on all transportation means. (+/-)* Modern ticketing system introduced. Not valid at all transportation means.
8. *Development of a passenger information system providing data on current traffic conditions, approaching vehicles, etc. (-)* Very preliminary plans for building a modern bus and tram traffic management system (including passenger information system).

Relating to freight transport

1. *Restrictions on access by heavy vehicles into selected areas of the city, particularly Zone I. (+/-)* Implemented with regard to some areas. Full implementation depend on completion of ring roads.
2. *Time-based restrictions on commercial traffic — specific days (e.g. Saturdays and Sundays) or specific hours (in residential areas). (-)* Practically not implemented.
3. *Stimulating the development of transshipment terminals, where heavy trucks can be unloaded, with the potential for warehousing and distribution throughout the city by delivery vehicles. (-)* No local government action. Only private initiatives,
4. *Application of environmentally friendly delivery vehicles, e.g. propane-butane or electricity driven. (-)* No action.
5. *Development of container and combined transportation. (-)* No action.

Relating to parking

1. *Rationalisation of the use of existing parking spaces through the introduction of parking fees. (+/-)* After years of preparations, parking charging in central zone were introduced in 1999, starting from the selected areas. No system extension and zone differentiation.
2. *Elimination of illegal parking. (-)* Practically no enforcement. If any connected with charging zone.
3. *Limited development of parking capacity (including multi-level parking garages) only as compensation for decreased possibilities for on street parking; areas to be returned to the pedestrian and other functions. (-/+)* Limited interest of private developers to invest in parking facilities because of low willingness-to-pay.
4. *Control over the number of parking spaces created by investors in order to maintain a balance between the capacity of the street system and the demand for parking spaces. (-/+)* Urban Road Authority is stipulating the number of parking spaces allowed or required. However, this is not based on in-depth analysis. Uniform norms will be applied based on the “directions of urban development” adopted in 1998.
5. *Development of an information system on available parking spaces. (-)* No action.
6. *The enforcement of the obligation of building parking areas by investors (zone II and III) on their sites using their own resources. (+/-)*

Relating to environment and safety

1. *The universal application of environmental impact assessments for each and every transportation infrastructure development project)... (+/-)* Quality of the analysis poor.
2. *Increasing requirements as to the characteristics and technical state of vehicles registered within the limits of Warsaw, as well as increasing the frequency and quality of inspection by vehicle inspection stations, the police, and municipal guard. (-)*
3. *Promoting energy savings and more environmentally friendly means for moving people and goods (public transport in all its forms, bicycle traffic, and pedestrian traffic). (+/-)* Subsidising public transport, metro construction. Programme of creation extensive cycleways prepared. Implementation started.

4. *The application and enforcement of more stringent fume and noise emission standards for vehicles, and the promoting of environmentally friendly fuels. (-)*
5. *Restricting to a minimum the upsetting of valuable urban tissue by new routes. (+/-)* In the “directions of urban development” adopted in 1998 this issue was extensively treated. Long-term plans of the road network system was reviewed and curtailed.
6. *Expanding the scope of application of areas (corridors) free of vehicular traffic, pedestrian traffic areas, and zones of calm traffic (30 km/h) in residential areas. (-/+)* No action to create new pedestrian traffic areas. Owing to local initiatives there is growing use of traffic calming measures (30 km/h zones, sleeping policemen etc.).
7. *Intensification of enforcement of traffic and parking rules by the police and municipal guard. (-/+)* Dealing with driving style of Warsaw drivers has been selected as No.1 priority in the Road Traffic Safety Improvement Programme for the Warsaw Region (GAMBIT) prepared in 1998 for the City and Region authorities. Unfortunately, programme has not been formally adopted. Speed restriction (50km/h) in city centre introduced in 2001 – results not encouraging because of no enforcement.

Relating to economic effectiveness

1. *Using parking fees to supplement the financing of road, parking and public transport maintenance and operation. (+/-)* Revenues from parking charging are used for road maintenance, but not for supporting public transport.
2. *Utilisation of other fees as collected to date (leasing of traffic lanes, driver’s licenses, participatory fees of economic entities, etc.). (+/-)* Revenues from using street space for commercial purposes such as advertising or temporary occupation during building construction are collected by the Urban Road Authority and used to finance road maintenance.
3. *Introducing the financial participation in public transportation costs of employers who benefit from the subsidised services of public transport as used by their employees. (-)* Lack of legal basis.
4. *The creation of a system of charges for use of selected roads (e.g. bridge crossing, and/or access to the central area). (-)* Lack of legal basis.
5. *Bringing about the establishment of an electronic charging system for use of roads and parking areas (the rate should be linked with the level of congestion and the state of the environment). (-)* Lack of legal basis. Nevertheless, political will has been expressed to apply this measure in the further future.

CONCLUSIONS

Evaluation of how the “Transport Policy of 1995” has been so far implemented, gave the following results. Of 44 points (objectives and measures) which were analysed, none was fully implemented, 20 were partially implemented or preparations are advanced, 10 were minimally implemented, in 14 cases no action has been taken or action could not be taken for objective reasons such as lack of legal basis.

In other cities the situation is similar. These results clearly show that adoption of ambitious policy is not sufficient. It seems that among causes of slow and incomplete implementation of the sustainable transport policy following are most important:

- In transition countries the society as a whole is not prepared for constraints/restrictions and, consequently, policy-makers are afraid of reaction to radical measures such as strict enforcement of traffic rules, parking/road charging or giving priorities to tramways and buses in urban traffic etc.
- Spectacular new investment projects attract more attention than more efficient but less visible options such as maintenance and modernisation of existing equipment and infrastructure and better traffic management. With limited financial resources, speed of implementation of new projects, draining city budget, is very slow and effects far from expected. Generally, financial and economic viability of competing projects and actions is not always taken into account.
- New, expensive projects are supported by some interest groups, for example by the construction industry.
- Conservative thinking of professionals is another reason for disregarding feasible and relatively inexpensive solutions such as upgrading of existing tramway system in Warsaw. For decades, this system was considered as old-fashioned and having no chance in competition with private automobile.
- Inadequate communication with the public and policy-makers causes that even the best concepts and proposals are difficult to implement. The role of mass media is crucial here.

Transition from centrally planned to free-market economy had both positive and negative impact on UTP in Poland. *Negative*: total withdrawal of the State, financial problems - ageing fleet and deteriorating infrastructure, the strong pressure to reduce subsidies to relatively well developed urban public transport and suburban railways has led to sharp fare increases, growing congestion affecting tram and bus operation, reduced role of suburban railways, modal shift. The total number of annual passengers carried by urban transport operators fell from 9 billion to 5 billion and the number of passengers served by railways was sharply reduced. *Positive*: formulation of sustainable transport policies by some cities, increased efficiency of companies, growing use of marketing and quality management.

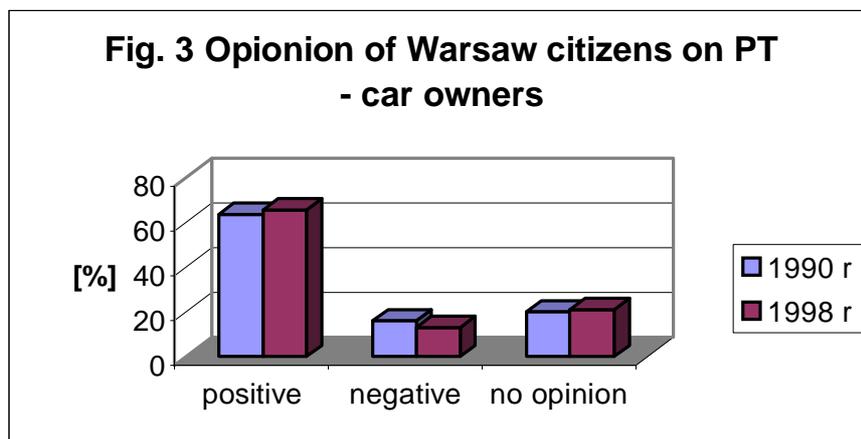
Under pressure of city authorities, productivity of public transport operators is growing and quality of services is improving. To improve efficiency and financial situation of the sector, in addition to increasing mass transport fares, initiatives have been taken to restructure operating companies with a view to improving their performance and/or reducing costs. It is becoming usual for municipalities to retain the regulatory function (service patterns, schedules, fares), often carried through a specialised Transport Authority, leaving operations to company management. Relations between operators and the municipalities are increasingly regulated through contracts/service agreements, based on fixed rates for agreed vehicle km of service and stringent control of performance and service quality.

The future of urban public transport in Poland is not clear. On the one hand, there is growing understanding that even with the high car ownership rates cities cannot function without efficient and attractive public transport. On the other hand, there is a very strong pressure to develop road systems and opposition of some groups against allocating city financial resources to public transport investment and operation and giving priorities for trams and buses in traffic management. Increasing understanding of UPT importance in local governments and by the public.

However, even in this difficult situation, there are reasons for some optimism. Adoption of sustainable transport policies has already been mentioned. Other reasons include ongoing processes of:

- development of capacities of the city governments to manage public transport matters in a more efficient way (transport authorities, tendering, contract, quality requirements etc.);
- restructuring of companies, increasing their efficiency and competitiveness in new circumstances;
- fleet renewal leading to a growing share of modern trams, buses and trolley buses.

What is more, in cities served by tram systems there are great opportunities to use their potentials. This still requires a lot of efforts since in the past tram was considered as obsolete means of transport. Public opinion has not changed as regards treatment of public transport. There is changing attitude to the existing tram systems, which constitute valuable element of transportation systems in the largest cities.



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