

The organizational framework of clean, efficient and safe urban transport

Katarzyna Hebel, Olgierd Wyszomirski

University of Gdansk, Gdansk, Poland

zkm@zkmgdynia.pl

Abstract - The transformation of urban public transport in Poland began in 1992. The most difficult problem was to find the model of organization and management of the urban transport sector in which it would be possible to introduce competition and to maintain the role of the local authorities as the main one.

Gdynia is one of the best examples of introducing competition in to the urban transport system. The restructuring process of the urban transport system in Gdynia has been divided into some stages and is still going on.

The results of introducing competition in Gdynia's urban public transport system are the improvement of both quantity and quality of service. The passenger postulates are estimated in marketing research. They assign the directions of the development of the urban transport system.

1. General assumptions underlying the organization and management of urban transport sector

The current economic policy with respect to the urban transport sector in Poland is based on the law on gminas's self-government of 8 March 1990. The Law stipulates that it is the municipality which is responsible for supplying the needs of the local community with respect to urban passenger transport service. Consequently, the burden of organizing, managing and running urban transport service lies on local authorities both in towns and in the areas adjacent to the towns. Municipalities are entitled to unite with other municipalities, hence forming unions of municipalities, in order to jointly perform their duties, for example in regard of supplying public transportation needs.

Aiming at rationalizing urban transport service, municipalities consider it to be of key importance to define the role of public authorities, as well as the scope of competition in the public transport sector.

The experience gained so far with regard to the scope of public authorities involvement and the competition in the urban transport sector leads us to the following conclusions:

- a) it is not possible to introduce a totally free market system into an urban transport service because of its public utility function;
- b) the specific character of urban transport deriving from its public utility function requires regulatory solutions where the public authorities influence the organization of the service;

- c) public authorities should regulate the sector through subsidies, tariffs and setting timetables, as well as through assigning transportation tasks to various operators;
- d) creating institutional conditions for competition in public transportation within an integrated system of urban transport service seems to be an effective solution for regulating public transportation in towns;
- e) the favourable influence of competition upon the transportation sector derives from the fact that competition forces operators to perform effectively and to provide services that satisfy quality requirements;
- f) the body organizing urban transport and operating on behalf of the local authorities represents the interests of passengers; as a result, it must ensure that the competition does not threaten in the long run the desired trends of public transportation development.

For our young authorities and young market oriented system to solve these problems were difficult.

Only in 15 urban areas in Poland the systems of urban transport were reconstructed.

In most Polish urban areas the old system of joining the tasks of organizing and operating the system and having no competition inside it was kept. The main reason for it is the activity of trade unions which are against the changes. The main cities in Poland in which the new market oriented system was introduced are: Białystok, Gdynia, Katowice, Radom, Szczecin, Warszawa, Wrocław.

Gdynia is one of the best examples of introducing competition into urban transport system because in this town new system has been operated for ten years.

2. The restructuring process of the urban transport system in Gdynia

The restructuring process of the urban transport system in Gdynia may be divided into the following stages:

1992

- appointing the Public Transport Executive in Gdynia (ZKM) with the legal status of a municipality budget enterprise with the purpose of organizing public transport;
- introducing competition in the sector of bus transportation through contracting operators from outside the municipal transport enterprise (for example Państwowa Komunikacja Samochodowa or private operators in bus transport);

1994

- liquidation of Gdynia's Miejski Zakład Komunikacji (Municipal Transport Enterprise), a municipal budget enterprise which had been the organizer and operator of urban transport until 1992, but only an operator after that year;
- establishing three one-man liability companies using the assets of the dissolved Miejski Zakład Komunikacji:
 - Municipal Transportation Company in Gdynia, operating buses and trolleybuses;
 - Bus Transport Company in Gdynia, providing only bus transport services;
 - Municipal Transport Fleet Repair Company in Gdynia, providing major repair of buses and trolleybuses and manufacturing new trolleybuses.

1998

–Dividing the Municipal Transportation Company in Gdynia in two companies:

- the municipal Transportation Company in Gdynia, which operates only buses and
- the Trolleybus Transport Company in Gdynia, which operates trolleybuses.

It was necessary for rationalization and accurate counting the costs of trolleybuses transport.

The next , still unrealized stage of the restructuring process of the urban transport system in Gdynia is the privatization of the communal operators companies. The Municipal Transport Fleet Repair Company was privatized at the beginning of the year 2003.

3. The organization of urban transport in Gdynia

Gdynia municipal transport system is regulated by the local authorities. The regulatory body appointed by the authorities is the Public Transport Executive. It contracts operators companies, who compete with one another.

The main tasks of the Executive, as an independent organizer are:

- the marketing research of urban public transport;
- the working out of timetables;
- the contracting the operators companies;
- the distribution of the tickets for urban public transport;
- the ticket's control;
- the preparation the tariff's assumptions and projects;
- the control of quantity and quality of urban public transport;
- the carried on stop's services;
- the information about the urban public transport for passengers.

The Public Transport Executive works mainly in Gdynia and also in 5 others municipalities, which comprises about 350 000 inhabitants (Gdynia, Rumia, Sopot, Kosakowo, Wejherowo Gmina, Żukowo). With the other municipalities the Public Transport Executive in Gdynia has contracts for the organization of urban public transport.

In the year 2002 in Gdynia's 10 companies operated in Gdynia's urban public transport system.

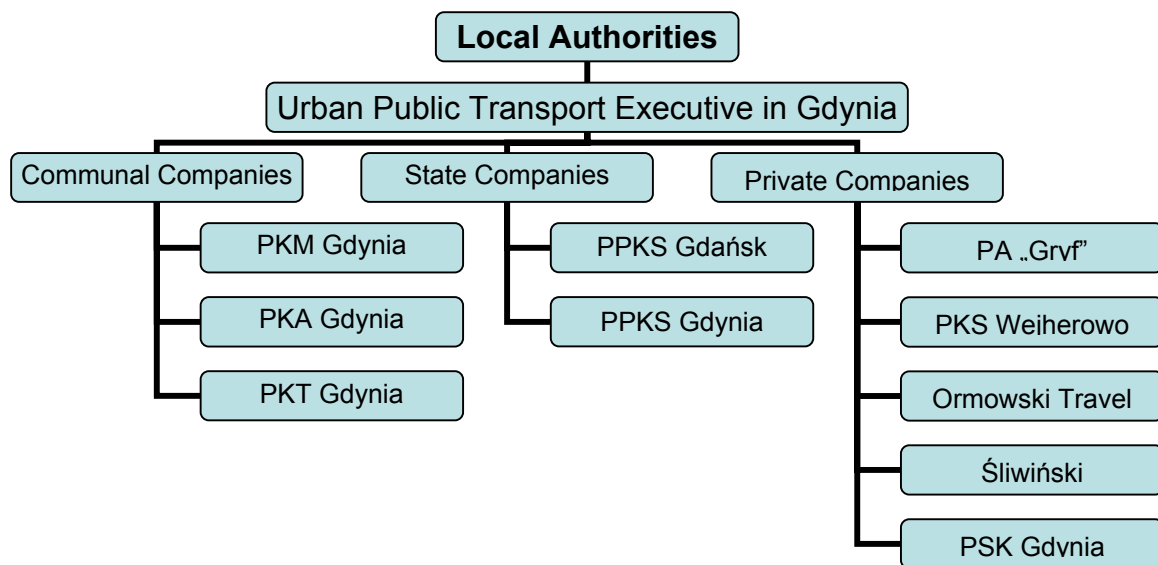


Fig.1 The organization of Urban Transport in Gdynia (2002 year)

Their participation in the market was as following in 2002:

- PKM Gdynia - 33,63%;
- PKA Gdynia - 23,57%;
- PKT Gdynia - 20,82%;
- State Companies - 6,7%;
- Private Companies - 15,28%.

4. The range of urban transport in Gdynia

In the year 2002 the volume of services achieved almost 20 millions vehiclekilometers (19,6065) in which 79,2% it were buses'vkm and 20,8 it were trolleybuses'vkm.

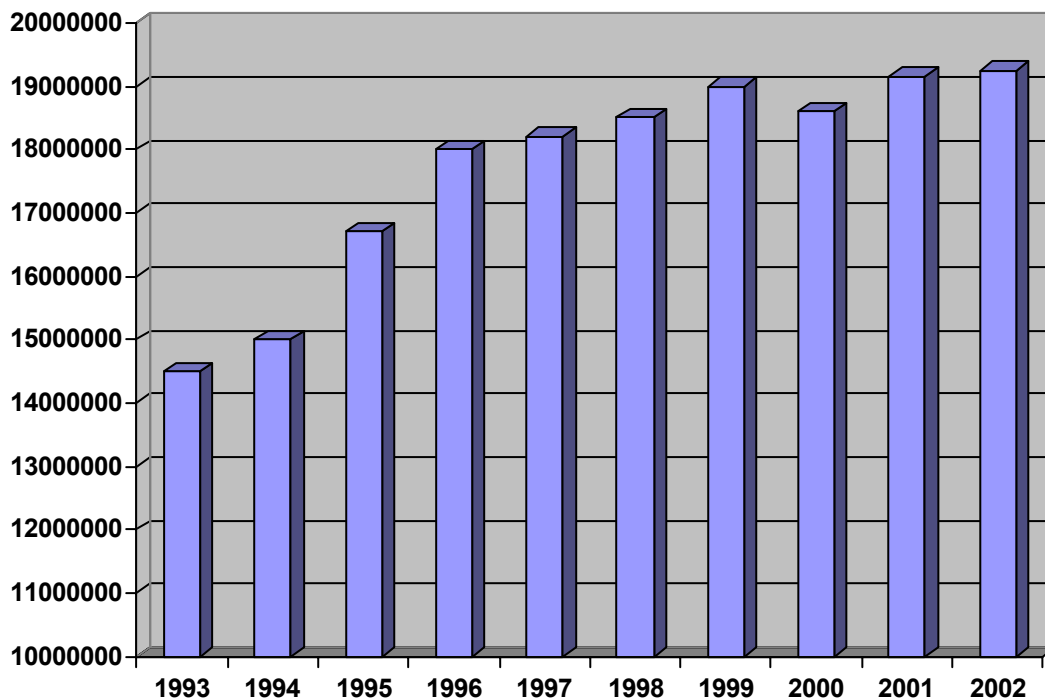


Fig.2. Vehicle kilometers of public transport in Gdynia in the year's 1993-2002

The modal split was:

1) in Gdynia in 2002:

- public transport - 55%;
- private cars - 45%;

2) in Sopot in 2001:

- public transport - 50%;
- private cars - 50%;

3) in Rumia in 2001:

- public transport - 53%;
- private cars - 47%.

In the whole transportation system are operated:

- 1) 265 buses (in it 150 low floor buses);
- 2) 79 trolleybuses (in it 5 low floor trolleybuses).

The low floor vehicles were introduced in Gdynia in 1995, at first buses later on trolleybuses. Such number of low floor buses is necessary mainly out of two reasons:

the ecological aspects and the passenger's wishes, especially the old and the handicapped ones.

ecology and also because of passenger wishes, especially old people and handicapped people.

Table 1: Low floor buses in Gdynia's urban transport (1993-2002)

Year	Low floor buses	Whole number of buses	The share of low floor busses (%)
1993	-	245	-
1994	-	244	-
1995	40	273	14,7
1996	60	268	22,4
1997	60	264	22,7
1998	81	268	30,2
1999	84	268	31,3
2000	103	264	39,0
2001	125	262	47,7
2002	150	265	56,6

Source: ZKM in Gdynia

5. The results of introducing competition into Gdynia's urban public transport system

Introducing competition into Gdynia's urban public transport system resulted in the increase in quantity and quality of transport services.

The quality survey carried out by ZKM in Gdynia shows that the percentage of default carriages dropped from 6 % in 1992 to less than 0.01 % in 2002, and the percentage of buses and trolleybuses leaving stops before the scheduled time dropped from over 8 % in 1992 to 0,06 % in 2002. The system of urban transport was rationalized in terms of routes of transport lines, as well as the frequency of service. Timetables are based on the results of market research, which indicate the need to launch new connections, or to change the routes or the frequency of service. The work performed by the municipal transport grew from 14.7 m to 19,6 m vehicle-kilometers, that is, by 33 % from 1993 to 2002. The number of passengers increased from 98 m in 1993 to 114 m in 1998, that is by 16 % and dropped to 107 m in 2002, that is by 6 %. The reason of the decrease in the number of passengers are the decrease of average mobility and changes in the modal split.

In 1993 the Executive introduced changes in the tariff system following marketing principles. It changed thoroughly the system of season tickets and replaced fixedroute tickets with network tickets valid within the boundaries of at least one town.

In marketing research general rating of the quality of the services (scale 2-5) in 2002 was 4,05. It grew by almost 20% from 1994.

Table 2: General rating of quality of the services in years 1994-2002 (scale from 2 to 5)

Year	graduate
1994	3,39
1996	3,86
1998	3,88
2000	4,01
2002	4,05

Source: Market research by University of Gdansk and ZKM in Gdynia

The passenger postulates, beginning with the most important ones in Gdynia's urban public transport in 2002 are:

- punctuality;
- availability;
- frequency;
- direct connection;
- low cost;
- comfort.

Table 3: Graduation of satisfying passenger postulates by each vehicle in public transport in Gdynia in 2000 (scale from 2 to 5)

Passenger postulate	Vehicle		
	Bus	Trolleybus	City rail
Low cost	2,75	2,77	2,43
Fast	3,72	2,98	3,91
Comfort	3,87	3,29	3,28
Clean	3,74	3,46	2,29
Punctuality	4,23	4	3,73
Security	3,56	3,4	2,33

Source: Market research by University of Gdansk and ZKM in Gdynia

6. The directions of development of urban transport in Gdynia

At present in Gdynia's urban transport two main problems should be solved:

- realization of the transport policy (which has been on paper since 1998) with regard to its objectives, principles and directions of development in order to rationalize the modal split between public and private transport;
- integration of the public transport in the whole Gdansk conurbation consisting of 8 cities served by three main public transport companies:
 - ZKM Gdansk (buses and trams);
 - ZKM Gdynia (buses and trolleybuses);
 - PKP SKM w Trójmieście (trains).

At the end of 1998 new authorities of Gdansk, Gdynia and Sopot (main cities of Gdansk conurbation) decided that the urban transport in the three cities should be integrated including urban railway. At first the ticketing system should be integrated.

Because of some political and financial problems the aim won't be reached soon.