

CHAPTER 8 PKP REGIONAL

8.1 ANALYSIS OF PRESENT STATE AND ISSUES

(1) Outline of Company Service Offer

PKP Regional is responsible for the operation of all passenger trains other than those of Intercity – i.e. the vast majority of the passenger trains on the network. As such, it may be seen as covering a number of separate businesses, as under:

- A national network of fast longer-distance services, some operating on a frequent and regular-interval basis (see below).
- An intensive suburban service covering a number of routes radiating from Warszawa.
- A dense and complex network of local train services covering the major conurbations in Silesia.
- A range of other services in all parts of the country, including some of a purely rural nature.

The company is obliged by regulation to publish separately the results achieved on its inter-voivodship trains (defined as those passing through the territory of at least three voivodships), but not the remaining service groups. 362 inter-voivodship trains are operated daily, 8.8% of the company total; however, the category accounts for almost 50% of the company's passenger-km and revenue. It should be noted that not all inter-voivodship trains form part of the fast longer-distance network referred to above; neither are all trains in that network inter-voivodship trains.

Services operated by the company include also a small number of overnight international services; where such a train includes seating accommodation, the lead responsibility for it is allocated to PKP Regional, even if it may also convey sleeping or couchette cars on behalf of Intercity.

In 2002, some 250 million journeys were made by the company's services, representing around 15.5 billion passenger-km. The company has seen substantial reductions in its carryings over recent years; in 1995, some 400 million passenger journeys were made on a somewhat larger operational network.

(2) Operational movements

At the start of the timetable commencing in December 2002, excluding seasonal services, the company operated 4,079 trains per day. However, a serious financial situation in late 2002 led to the development of a Recovery Plan by the company. As finally put forward, the Plan envisaged the withdrawal of 1,050 trains per day; all these services met less than 30% of their operating costs. The cancellations would have entailed complete suspension of services on a few routes, but more commonly involved a "thinning" of services on routes which would continue in operation. There was considerable opposition to this plan; finally, following an intensive period of

negotiation, 116 of these trains were withdrawn with effect from 15 July, and a number of others curtailed in itinerary and/or days of running.

As mentioned above, the company operates a number of inter-urban services on a regular interval basis; of particular note are the services between Warszawa and Łódź (hourly on weekdays, two-hourly at weekends); Warszawa and Lublin (two-hourly); and Warszawa and Białystok (also two-hourly). Recent service developments have included institution of long-distance services on routes also served by Intercity; these include Warszawa–Poznań–Szczecin and Warszawa–Gdańsk-Gdynia.

A further recent development has been the introduction in May 2003 of the Regio-Plus network – suburban services, operating in several parts of the country, operating on a limited-stop basis, and (unlike the company’s other suburban services) providing first-class accommodation. Initially, only one train per direction per day has been provided on any Regio-Plus link.

(3) Competitive Framework

PKP Regional’s competition is mainly from road, both through increasing private car ownership and from State- and privately-owned bus services. However, given the present under-developed state of the road network, and the steady increase in road congestion, the company is still able to offer journey times that are competitive. On the main routes, its service frequencies are better than those of the competition.

(4) Organisational Aspects – Marketing

The company has marketing sections in its Headquarters, and in each of the 16 regional offices. The Headquarters marketing team consists of 18 people; including staff at regional offices, the total company marketing strength is some 75 individuals.

The Marketing section at Headquarters contains the following sections:

- Service planning
- Co-operation with local Government
- Promotion, publicity and advertising
- Market research.

Other work of relevance to the total marketing activity is undertaken by the Sales and Tariffs sections. The main responsibilities of the Sales section cover the overall control of standards of service provided by the company’s own booking offices, ticket-selling agencies (including those of the Intercity Company) and information centers.

A similar pattern of organization and tasks exists in each of the regional offices, except that there is no Tariff section, and in some locations the Marketing and Sales sections are combined under one Head of Department.

At Headquarters level, the Heads of Marketing, Sales and Tariffs report to the Commercial Director. At regional office level, the Heads of Marketing and Sales report

to the Deputy Director for Commercial Affairs.

(5) Tariffs and Prices

The company's fares are based on the lowest two of the three tariff categories applied to PKP passenger carryings – the Ordinary (Osobowy) and Fast (Pospieszny) tariffs. The tariff applied to any individual train is dependent on the train category; the Fast tariff is around 1.65 times the Ordinary.

A tariff increase was implemented with effect from 10 May 2003, when fares in both categories were raised by 7% for journeys up to 100 km, and 4% for journeys above that distance. The difference is partly explained by the fact that the previous price change (implemented in July 2002) did not alter fares for journeys up to 100 km.

The structure of the tariffs is in general on a strict kilometer-band basis, with no scope (other than through commercial discounts in the form of special tariff arrangements) for reflecting "market prices" to individual destinations. Exceptions exist, however, in the Warszawa and Krakow suburban areas, where a zonal fare system has been established; it is anticipated that this will facilitate ticket inter-availability with the urban transport networks.

Under an agreement with the Intercity Company, in order to avoid a need for complex detailed analysis, revenue for international passengers is (with some exceptions) divided on an equal basis between the two companies.

Information on ticket sales analysis, carryings and revenues for each month is generated from the sales system administered by PKP Informatyka, and is received by Intercity management within 10 days of the month end. Analysis of international passenger carryings is received with 4 months' delay, due to the need to await information from other countries.

The tariff structure can be utilized for the estimation of travel time effect, although trial tests on some sections should be undertaken for estimating the demand evaluation.

Following tariff table is acquired from PKP Regional. Tax of 7% is included in all ticket prices. The ticket price is decided not only by speed difference but also by the degree of car accommodation, train image, etc. (Refer to Attachment 8.1)

(6) Ticket Sales Pattern

Currently, PKP Regional has its own ticket offices at 1,193 stations – around 40% of the total. Other sales of PKP Regional tickets are made through the Intercity Company's ticket offices – though these are located in eight major stations only – and through a network of agents appointed by the company. These agents – totalling around 600 outlets – are mostly located in or close to stations. The smallest stations have no ticket selling facilities, and tickets are bought from the conductor on the train.

According to the company's most recent analysis, 75% of receipts are taken through its own outlets.

No other sales outlets are used at present; there are no facilities for telephone sales, and

no use is made of ticket vending machines.

8.1.1 Income and Cost Structure

According to its income statement PKP Regional has a huge deficit, which was mainly caused by huge operational costs that amounted to 3,222 million PLN. The largest costs are outsourcing costs and energy costs, most of which are provided by PKP group companies. As mentioned in the previous chapter, it is clear that the huge operational costs are not only a matter for PKP Regional but also a matter for the PKP group companies.

Table 8.1.1 Income (as of July 2002)

Item of Income	thousands PLN
Total revenues without subsidies	1,469,720.54
Subsidies to discounts	203,619.70
Local governments subsidies	256,775.49
Loss	1,044,970.61
Total revenues	1,930,115.73
Total costs	2,942,733.79

Data source: PKP Regional

Table 8.1.2 Cost (as of July 2002)

Item of costs	thousands PLN
Operation costs	2,942,733.79
PLK	793,519.75
Cargo	475,427.57
Energetyka	447,690.33
Remaining PKP Group companies	249,509.69
Salaries and wages	516,011.91
Social insurance and other benefits	137,309.90
Costs of cleaning rolling stock	56,783.31
Cost of rolling stock repairs	95,236.28
Depreciation	61,172.36
Remaining costs	111,172.49

Data source: PKP Regional

8.1.2 Operation Issues

8.1.2.1 Transportation Situation

- Road network is expanding rapidly in parallel with the increase of passenger road vehicles.
- PKP railway network km is extremely large-scaled when compared to other country and Poland is confronting with the finance problem to construct/reconstruct and to

maintain the two enormous transportation systems.

- The average length of rail journeys is increasing nowadays because the share of long-distance passengers increases in the role of PKP passenger transport.

Table 8.1.3 Passenger Transport and car number

(Unit: 1,000 vehicles)

	1990	1995	2000	2001
Railway passenger transport in 1000	789,922	465,901	360,687	332,218
Railway passenger transport in million p-km	50,373	26,635	24,092	22,469
Average passenger km	64	57	67	68
Passenger road vehicles in 1000	5,261	7,517	9,991	10,503
Buses in 1000	92	85	82	82

Data Source: Polish central statistical office'

8.1.2.2 Employment

Table 8.1.4 Employment

Group	Activity description	Number of emoloyed
Group-0	Superintendence, administrative and technological service.	2,910
Group-1	Transportation	11,974
	including:	
	Conductors	6,079
	Ticket office	3,630
	Baggage forwarding' department	830
	Other services	1,435
Group-2	Maintenance of infrastructure	38
Group-3	Exploitation and maintenance of rolling-stock	5,189
	including:	
	Service and maintenance of rolling-stock	1,892
	Maintenance and repair of trains	3,297
Group-5	Technical service	401
Group-6	Other services	1,347
TOTAL: groups 0 to 6		21,859

Data source : PKP Regional

8.1.2.3 Operation issues

- There is a lack of flexibility in train planning. Examples of less than satisfactory planning include running of services run on an “all stations” basis over substantial distances, and the lack of consistent application of the even-interval timetable principle. Timetables on some lines are already based on even intervals, but with various irregularities in timings and/or intervals between trains. Trains on other lines appear to be scheduled on an entirely random basis.
- Study Team sees a need for a clearer distinction in management terms between long-distance (offering higher quality) and short-distance services. The present distinction, as enforced by regulation, between regional and Inter-voivodship is

unhelpful; it has the particular weakness that some high-quality services (Warszawa – Łódź, for instance) fall within the regional category.

(1) Intervoiod trains

The data of train km – profit are varied in wide range, but longer distance train is admitted to be more profitable in case of intervoiod trains, although the profit of each train is depending on the condition of marketing areas. (See Figure 8.1.1)

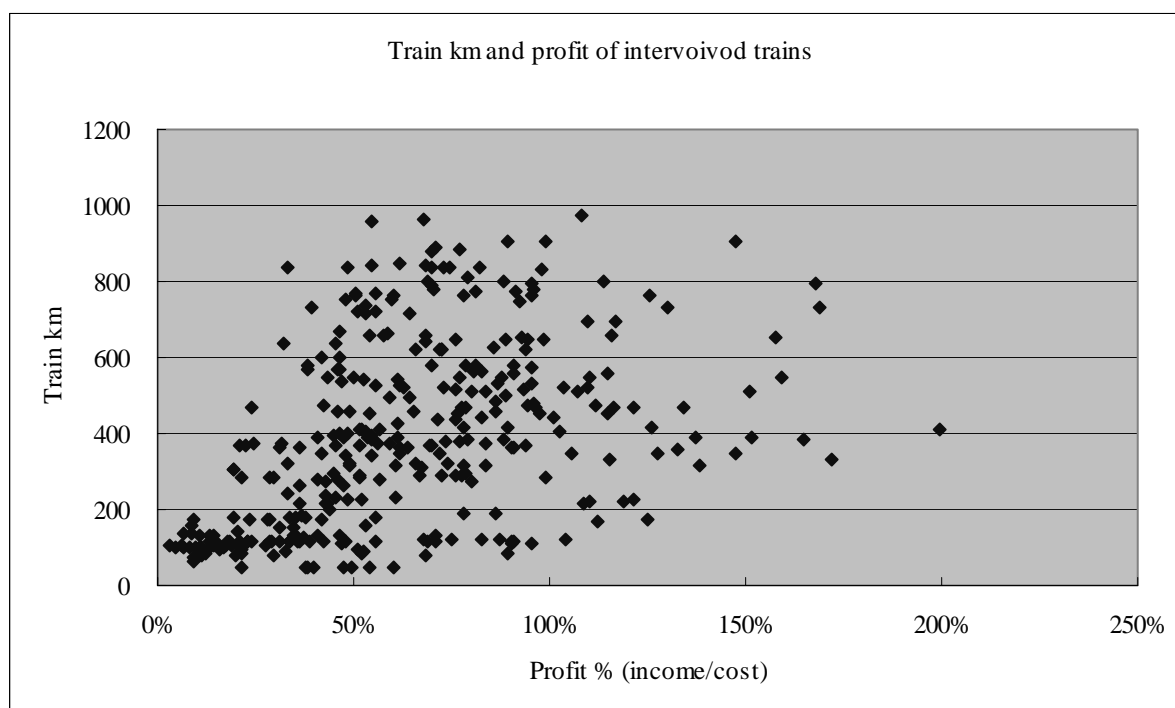


Figure 8.1.1 Relation between Profit and train km of intervoiod trains

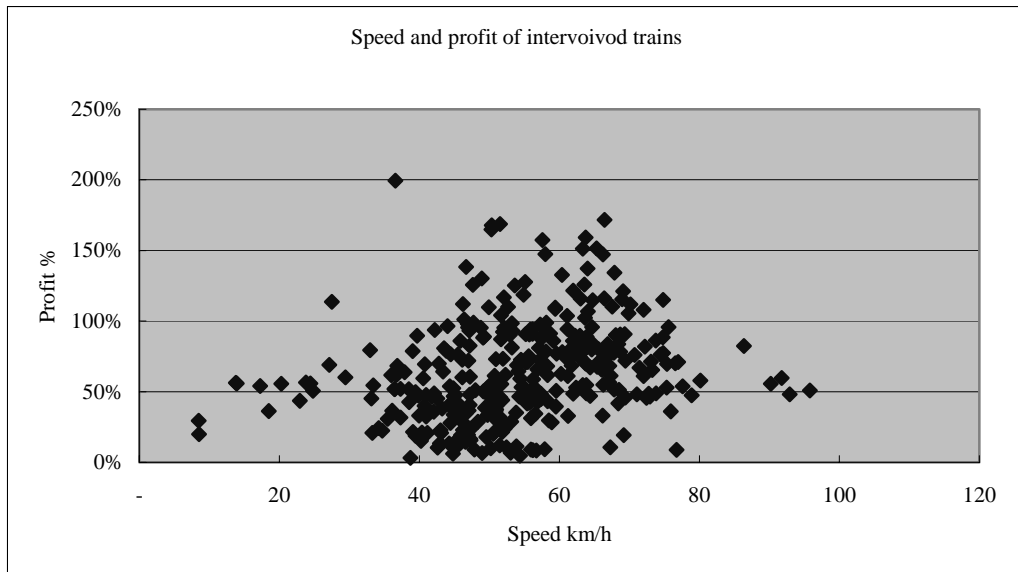


Figure 8.1.2 Relation between Profit (Income/Cost) and Speed of Intervoivod Trains

In case of grouping the train behavior, the influence of train speed is affecting the profit of train operation. (See Figure 8.1.2) But for having the formula to show the influence of train speed on profit, the classification of trains by same categories of operation lines is required. The test runs on some lines are required for having the conviction to rise up the train speed in actual cases.

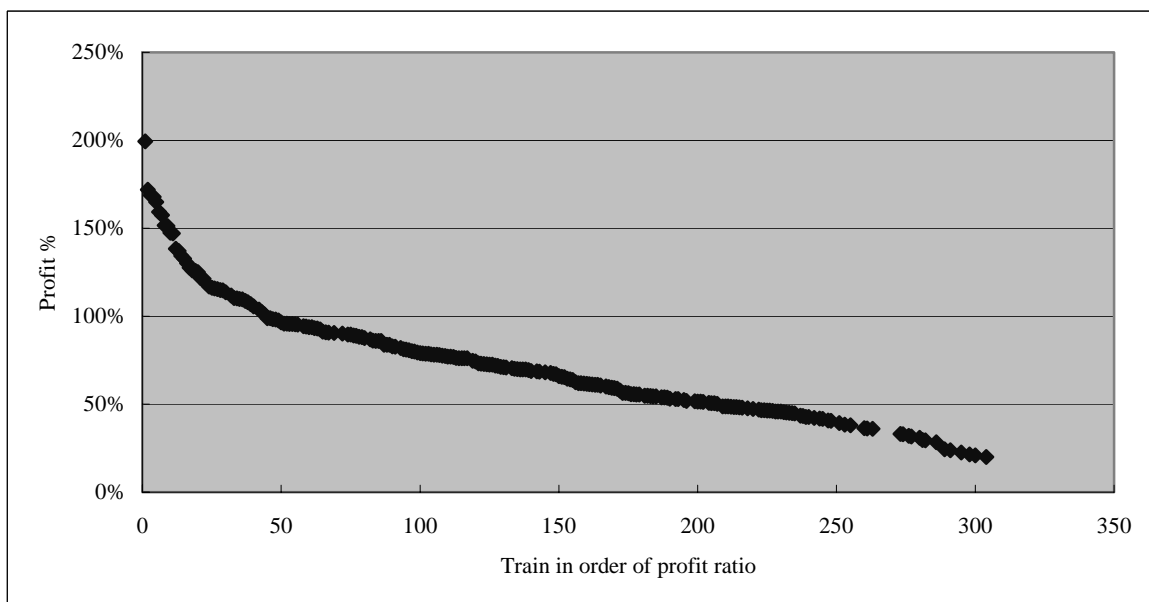


Figure 8.1.3 Profit Distribution of Intervoivod Trains

The profit of intervoivod trains is distributed from 0 % to 175 % but main region is between 50 % and 100 % proportionally. (See Figure 8.1.3)

(2) Voivod trains

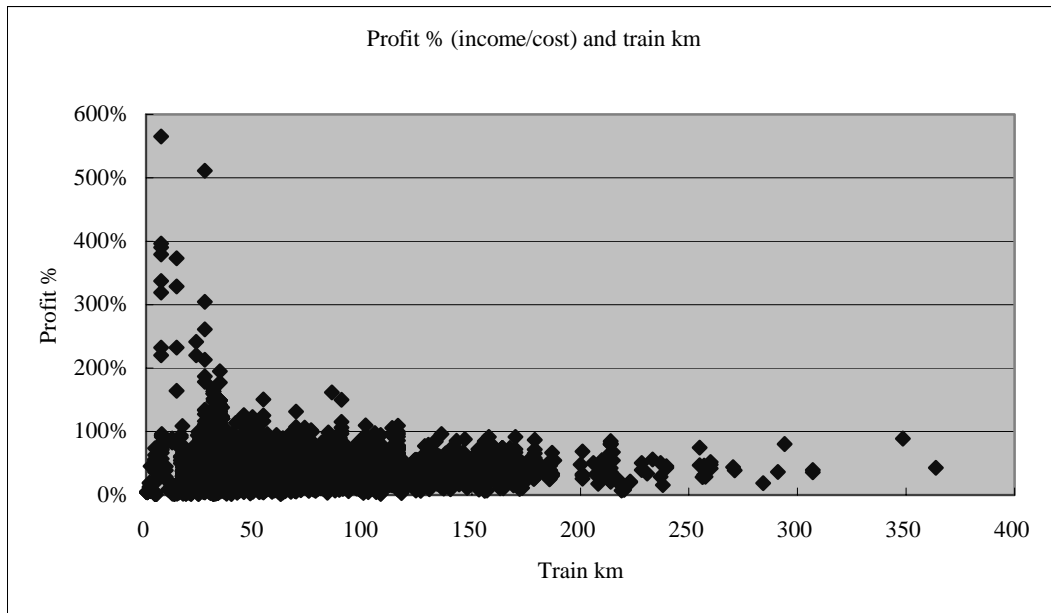


Figure 8.1.4 Relation between Profit and Train km in case of Voivod Trains

On some sections with short distance trains, such as frontier sections, trains with high profit are admitted but the Voivod train's profit is depending on each section. The relation between train km and profit cannot be clarified. (See Figure 8.1.4)

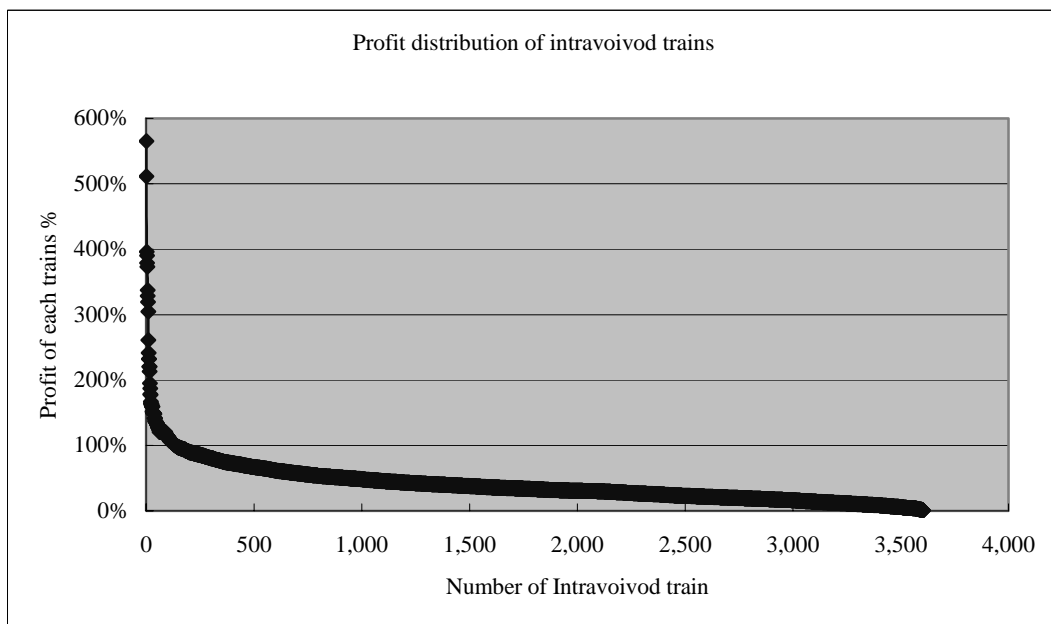


Figure 8.1.5 Profit Distribution of Voivod Trains

The profit of Voivod trains is distributed from 0 % to 500 % but the major profit of trains exists between 20 % and 80 %. The profitable trains are very scarce. The operation of total Voivod trains is acting a very severe pressure on the management of PKP Regional. (See Figure 8.1.5)

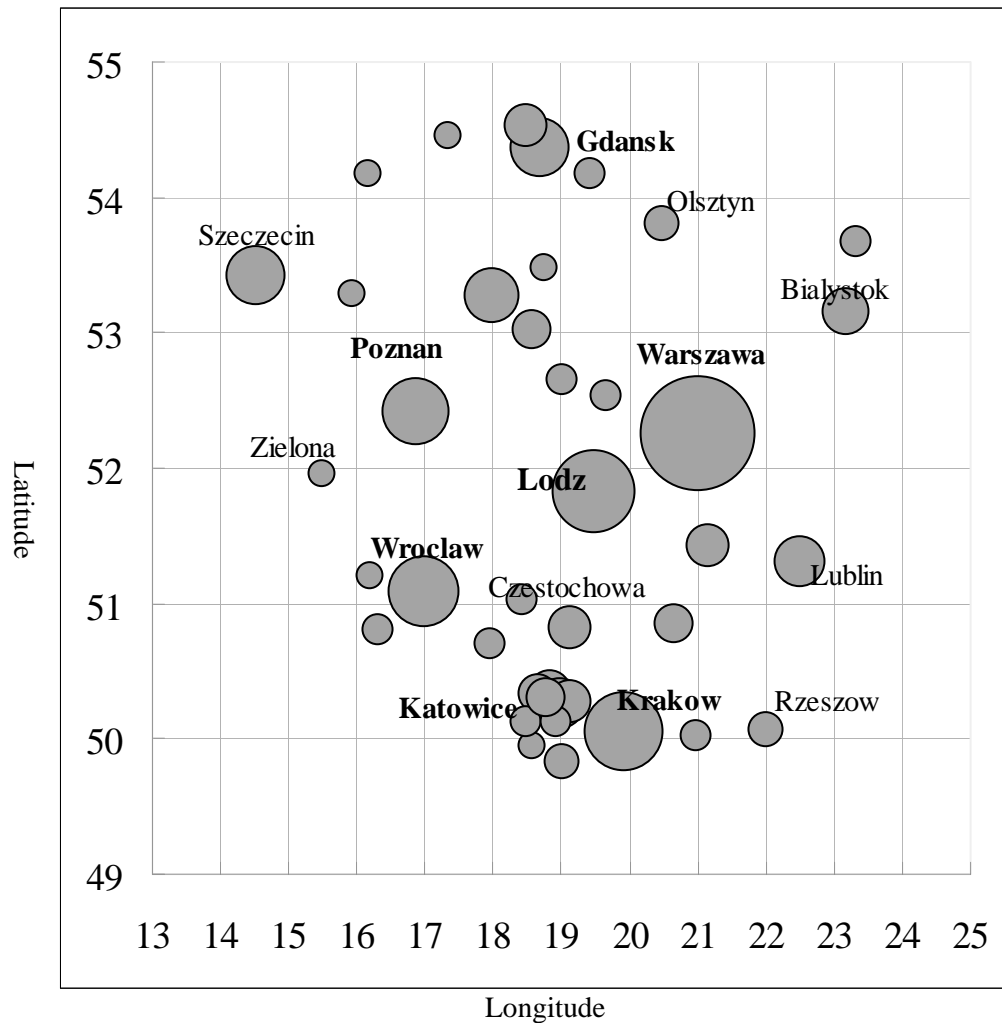


Figure 8.1.6 Allocation of Big Cities in Poland

Like the cities in Europe, the cities of Poland are distributing profitably to the intercity train operation service. The distances between cities are approximately between 100 and 200 km.

8.1.3 Marketing Issues

8.1.3.1 Market Information

A market research survey was undertaken in late 2002 by an external agency on behalf of the company. This sought to define such aspects as age profile and journey purpose of PKP Regional's customers; it showed, for instance, that 28% of passengers were travelling to/from work or educational establishment, 15% on business, 25% for touristic reasons and 32% on private journeys.

The company also contributed to a further syndicated survey, based on household interview, which was undertaken in January 2003. 1,100 interviews were held, to provide a representative sample of the Polish population as a whole, and questions were designed to provide information on travel habits and attitudes to the company in general. However, it did not cover rail users specifically; in view of this, further

research has been in progress recently, covering public transport users exclusively (but still with a representative sample).

The company accepts that there remain gaps in its market knowledge, and hopes to be able to establish an ongoing programme of research activities.

8.1.3.2 Problems of Internal Trades within PKP Group

At present, approximately 67 % of operational costs are due to internal trades within the PKP group. Even except for TAC, the internal trades represent 40 % of the operational costs.

Detailed information on the effects of internal trading has been presented in Chapter 3.

8.1.3.3 Ability of Cost Estimation

At present, PKP Regional rents locomotives and drivers from PKP Cargo for the regional railway business.

However, the amount of the services, which are necessary for the business, is not determined by PKP Regional but PKP Cargo, because PKP Regional does not have any function, with which estimate the necessary number of locomotives and drivers for PKP Regional railway services.

PKP Regional also does not have the ability to investigate the adequacy of the claimed amounts of energy costs from PKP Energetyka.

Fair trades will contribute to the improvement of the business operation of not only PKP Regional but also the service providers, because the service providers can recognize the inefficiency of the management of their companies and make efforts to improve their business through fair trades.

8.1.3.4 Tariff Compensation

The company is required by law to offer discounted fares to various categories of passengers; it's most recent survey, referred to above, showed 29% of its passengers as travelling on such discounts. State compensation is received in respect of revenue lost through this legislation, but only at 68% of the total amount that would in principle be due; the figure for 2002 was PLN 203.6m.

The company has full freedom (subject only to consumer legislation requirements) to offer any commercial discount arrangements that may be judged as beneficial to its business. A range of such discounts already exists; this covers, for example, group travel, senior citizens, and students under the age of 26. The survey referred to above show some 16% of passengers as travelling under these arrangements.

8.1.3.5 Issues Affecting Marketing Activity and Outcomes

A number of specific issues have been identified which affect the marketing capability and effectiveness of PKP Regional. The principal issues are as follows:

- The lack of a strong and incisive corporate identity for the company. The current identity is little changed from that of the former unified PKP, and fails to communicate the new approaches to the provision of regional rail services. Furthermore, it is not being consistently applied across the country.
- The absence of realistic marketing and promotional budgets. One consequence of this is that most of the company's efforts are directed at those who are already its customers, with too little emphasis on communication with non-customers.
- A lack of customer-friendly "access" to the network – particularly with regard to inconsistent standards of information provision on stations, and the inability to buy tickets through other than traditional booking office/agency means.
- Uncompetitive journey times, caused mainly by reduced track maintenance standards. As an example, the fastest journey time between Gdańsk and Łódź (which may be considered as Poland's second and third cities) represents an average speed of 66.8 km/h only. The company has no doubt that reduced speeds are losing it business, in circumstances where journey times by the main competing modes are tending to improve.
- The generally unsatisfactory conditions found at stations, especially at platform level. The situation is, of course, complicated by the fact that the stations are not in PKP Regional's ownership – indeed, ownership of main buildings and platforms is in different hands.

8.1.3.6 Service Quality Issues

The standards of punctuality and reliability offered by PKP Regional's services are generally at a reasonable level – the most recent measures show 97.6% absolute punctuality for regional trains, although only 87.1% for inter-regional.

8.1.3.7 Stations

As mentioned above, an unsatisfactory situation exists with regard to standards at stations. Many stations present an unwelcoming appearance, both in terms of their general condition and the frequently heavy covering of graffiti; some even lack name boards. (The condition of Warszawa Srodmiescie, one of the key stations in the Warszawa suburban network, should be a particular cause for concern.)

8.1.3.8 Passenger information systems

Furthermore, passenger information systems are in many instances far from comprehensive – even, for example, at key stations such as Warszawa Zachodnia and Łódź Fabryczna. It is appreciated that a particular difficulty exists with regard to stations, in that improvements to facilities will be for other parties to implement; however, PKP Regional must take a proactive role in ensuring that solutions to such problems are identified and developed.

8.1.4 Rolling Stocks

Another problem is posed by the unsatisfactory and outdated standards of

accommodation provided by the company's rolling stock, which make the company unable to present the modern and developing image that it would wish. This is chiefly due to the age of the stock (average age of all stock is some 23 years), and is compounded by the lack of effective response to the graffiti problem.

For longer-distance services, the quality of the rolling stock is not totally unsatisfactory, although further refurbishment is called for, unless a case can be made for early investment in new stock. Some refurbishment has already taken place.

For short-distance services, however, the picture is much less satisfactory. On electrified routes, the company's fleet of elderly electric multiple-units offers standards of interior comfort which fall well below those generally expected as the current norm (this applies even to those units which have been refurbished). Some trains, in addition, are heavily covered in graffiti, leading to a general impression of decline and neglect. For marketing reasons, if for no other, the company must seek urgent solutions to the graffiti problem.

Table 8.1.5 Age of Rolling Stock of PKP Regional

Type of carriage	Number of carriages by age in years							Rolling stock	
	to 5	6-10	11-15	16-20	21 -25	26-30	older than 30	Number	Number converted
With seats I class	0	0	120	253	397	0	0	770	770
With seats II class	0	0	393	853	277	506	173	2,202	2,202
With seats I/II class	0	0	0	0	1	0	0	1	1
Double deck combined	0	0	0	0	0	601	157	758	758
Double deck single	0	0	148	0	0	0	0	148	148
Luggage-passenger	0	0	0	0	52	0	0	52	52
Bar - modernized	0	0	0	0	0	84	0	84	84
Luggage	0	0	0	0	0	72	0	72	72
Remaining	0	0	3	7	8	22	5	45	45
Carriages -Total	0	0	664	1,113	735	1 285	335	4,132	4,132
3-carriaged EMU	0	6	129	143	257	196	283	1,014	3,042
4 - carriaged EMU	0	13	9	2	1	30	3	58	232
EMU - Total	0	19	138	145	258	226	286	1,072	3,274
Grand total	0	19	802	1,258	993	1,511	621	5,204	7,406

Average age of PKP Regional rolling stock (Carriage)= 22,1 years old

Average age of PKP Regional rolling stock (EMU)= 24,6 years old

Average age of PKP Regional rolling stock (Total)= 23,2 years old

Note: Above data are calculated by Study Team

Table 8.1.6 Car km of PKP Regional by Type

Coach km	960,499
EMU unit km	277,507
<i>EMU car (3car unit) km</i>	<i>77, 245</i>
<i>EMU car (4car unit) km</i>	<i>7, 702</i>
<i>Converted EMU car km</i>	<i>85, 946</i>
Total car km	1,238,006
<i>Total converted car km</i>	<i>1,812,445</i>

Note: Based on the PKP Regional data and shown the converted car km in Italic

8.1.5 Relations with Voivodships

8.1.5.1 Obligation to Operate Unprofitable Train Operations

There are several factors that prevent PKP Regional from stopping unprofitable train operations. PKP Regional is confronting with the difficulty to cease the operation of unprofitable train.

8.1.5.2 Fund availabilities to voivodship

Contracts between PKP Regional and voivodships are funded by the subsidies from the central government to voivodships. However, the amounts of subsidies from central government to each voivodship are determined regardless of the costs needed to operate regional transportation systems. Therefore, those amounts are not enough to compensate the actually necessary costs.

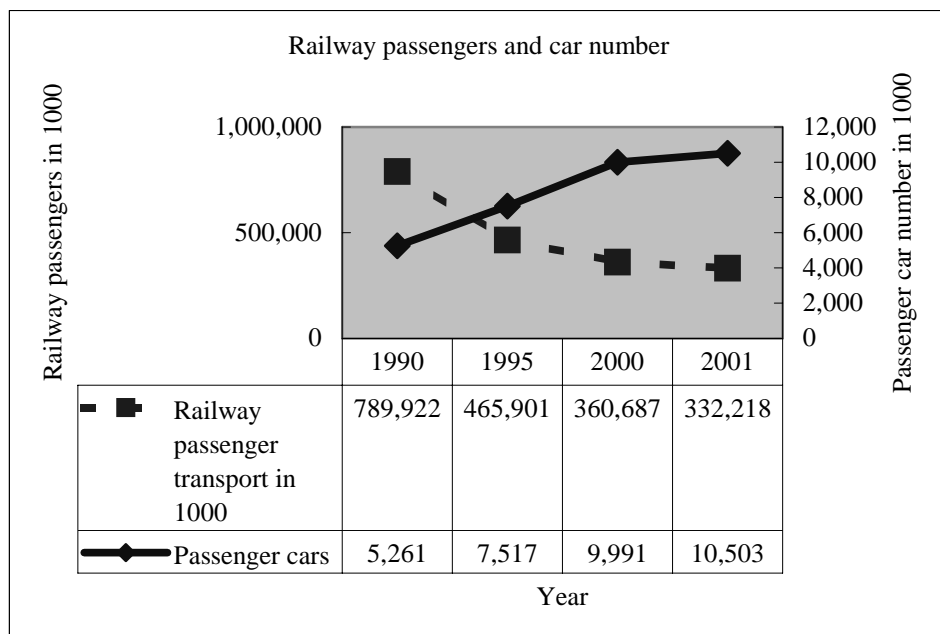
8.2 POTENTIAL SOLUTIONS

8.2.1 Requirement of downsizing/concentration

8.2.1.1 Downsizing and Concentration

In case of passenger transport of railways, especially the regional transport, the pressure of 10 million passenger cars, with the convenience of flexible door-to-door area transport, are replacing the former role of regional railways for networking all areas of Poland and forcing it to work among big cities and in/around major cities.

This represents a very important chance for PKP Regional to utilize the real power of mass transportation.



Data Source: Polish Central Statistical Office

Figure 8.2.1 Trend of Passengers and Passenger-km

Table 8.2.1 Trend of Road Vehicles

	As of 31 XII			
Road vehicles	1,990	1,995	2,000	2,001
Passenger cars	5,261	7,517	9,991	10,503
Buses	92	85	82	82
Lorries and road tractors	1,045	1,354	1,879	1,979
Ballast and agricultural tractors	1,192	1,212	1,253	1,257
Motorcycles and scooters	1,357	929	803	803

a According to registers by voivodships.

b Including vans

Data source: Polish central statistical office

8.2.1.2 Lines by 3 Variants.

(1) Trains and line km in most dense area of PKP Regional lines – Variant 1

Variant one is designed for expressing the most profitable operation area of PKP Regional. Route length is approximately 6000 km.

(2) “Variant 1 sections” of PKP Regional + Intercity – Variant 2

Passenger companies are PKP Regional and PKP Intercity. When two companies’ trains are operated on the most benefitable lines, the track length for two companies’ most benefit able operation will become 6200 km.

(3) New Regional + Fast train through Voivodship companies – Variant 3

Furthermore profit able Fast trains are running on thin operation sections. If these trains are admitted to operate with the subsidy of Voivodship companies, the track length becomes approximately 9000 km.

The subsidy for these areas will become heavy burden to the Voivodship companies.

The related data and figures are shown in detail in the chapter 8.3.

8.2.1.3 Cost Structure

The cost to PKP Regional of PLK, PKP Cargo (leasing locomotives/drivers) and energy Supply Company is larger than 50% of total cost. When the cost for other related companies is included, the payment to group companies becomes 66%.

The internal costs of PKP Regional comprise salaries/wages, social insurance, cleaning of rolling stock, rolling stock repairs, depreciation, etc. That is equal to the amount of the deficit of PKP Regional.

The whole income has to be paid to outer companies of PKP Group and no money remains for inner payment for the above own activities.

That is to say that all income will be spent on the payment to the outer cost of group

companies.

(1) Reduction of operation cost

The difference between cost and income of PKP Regional is too big and fundamental improvements are required to avoid the collapse of total railway system.

(2) Short term plan:

- Withdrawal of least economic regional trains
- Cutting down excessive schedule allowance and rationalizing terminal operation system (related to PLK and PKP Cargo companies)
- Necessity of decreasing TAC charges
- Necessity of decreasing lease charge of locomotives and drivers
- Necessity of decreasing the charge for traction power.

Creation of clean image by protecting the rolling stock from graffiti invaders is also important effort as for commercial activity.

(3) Long term plan

- To close the sections with few passengers and to enforce the train operation service on major lines, such as the Warszawa urban area and the sections among big cities.
- To reorganize the divisional offices of PKP Regional
- To concentrate the car maintenance depots
- To reform the traditional design of rolling stock
- To introduce new lightweight/maintenance free EMU to replace the aged rolling stock; for saving the energy consumption, for decreasing power consumption and for the maintenance of track, etc.

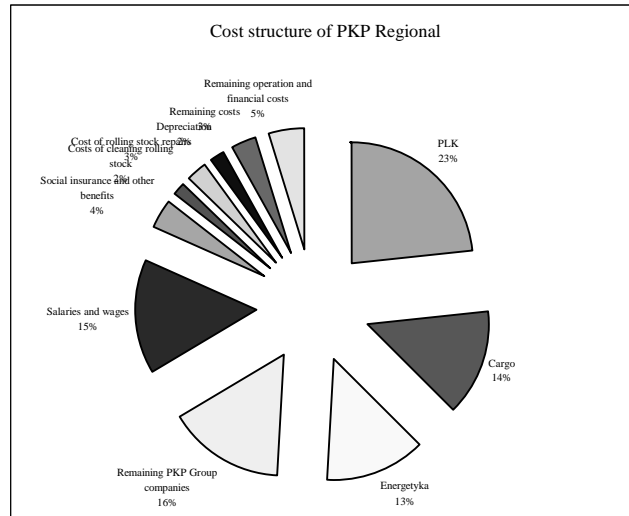


Figure 8.2.2 Cost Structure of PKP Regional

8.2.1.4 Income Structure

The total income of PKP Regional is approximately 69% of the total cost.

The loss of management of PKP Regional is 31% of total cost by including the subsidies from Government and local Government.

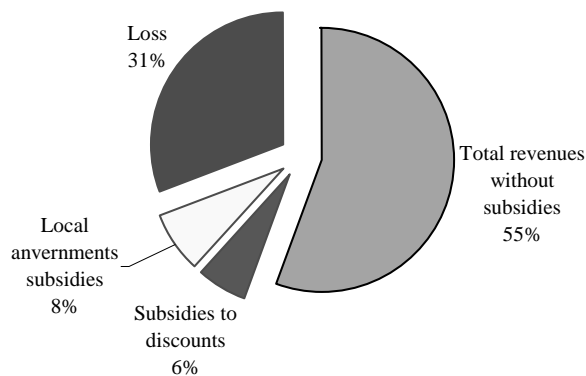


Figure 8.2.3 Income Structure of PKP Regional

8.2.1.5 Income and Cost Structure of Regional Trains In 2002

(1) Trains with revenue more than 100% of cost

Train operation cost should be calculated by including the cost of returning operation or train set usage. The trains with 100% and more revenue/cost rate are 135 trains.

The table of profitable trains prepared by PKP Regional is shown in the following. The number of trains profitable by that way of calculation is 116. The profitable trains mean

the cost performance is calculated by considering the rotation of each train set, etc.

Table 8.2.2 List of Lines of Which Profitable Passenger Trains Operate

Number of order	Line number according to D29 instruction	Section on which profitable trains operated	Length of section	Origin-destination	length of origin-destination	Number of trains in operation on the origin -destination section km	operation work train - km
1	1	Warszawa - Zyrardow	49	Warszawa - Grodzisk Mazowiecki	35	33	1,155
				Warszawa - Zyrardow	49	2	98
2	1	Piotrkow Tryb. - Czestochowa	86	Piotrkow Tryb. - Czestochowa	86	1	86
				Czestochowa - Gliwice	116	1	116
3	137	Czestochowa - Gliwice	116	Katowice - Gliwice	27	1	27
				Warszawa - Minsk Mazowiecki	45	3	135
4	2	Warszawa - Mirisk Mazowiecki	45	Warszawa - B4onie	27	3	81
5	3	Warszawa - Bnbie	27	Warszawa Wilenska - Tluszcz	34	29	986
				Warszawa Wilenska - Wyszkw	54	3	162
6	6	Malkinia - Bialystok	90	Malkinia - Bialystok	90	4	360
				Lapy - Bialystok	23	2	46
7	6	Warszawa - Otwock	31	Warszawa - Otwock	31	15	465
8	7	Lublin - Chelm	73	Lublin - Chelm	73	1	73
				Gdynia Chylonia - Malbork	76	1	76
9	9	Gdynia Chylonia - Malbork	76	Tczew - Gdansk	32	5	160
				Zebrzydowice - Cieszyn	17	1	17
10	90	Zebrzydowice - Cieszyn	17	Zebrzydowice - Cieszyn	17	1	17
11	136	Kedzierzyn Kozle - Opole	41	Kedzierzyn Kozle - Opole	41	1	41
12	139	Katowice - Zwardon	113	Katowice - Zwardon	113	1	113
13	143	Wroclaw - Olesnica	34	Wroclaw - Olesnica	34	2	68
				Poznan - Leszno	69	1	69
14	271	Poznan - Rawicz	101	Poznan - Rawicz	101	1	101
				Wroclaw - Jelcz	27	1	27
15	277	Wroclaw - Jelcz	27	Wroclaw - Jelcz	27	1	27
16	353	Poznan - Gniezno	51	Poznan - Gniezno	51	1	51
17	353	Ilawa - Olsztyn	69	Ilawa - Olsztyn	69	1	69
				Bialogard - Kolobrzeg	36	2	72
18	404	Bialogard - Kolobrzeg	36	Bialogard - Kolobrzeg	36	2	72
19					Total	116	4,654

The line number is shown by PLK numbering system

(2) Trains with revenue less than 30% of operation cost

The revenue by trains with less than 30% cost is 455,310.35PLN out of a total revenue of 5,146,626.63 PLN; the train km by trains with less than 30% cost is 95,757.60 km and the total train km is 394,794.52 km. (Data resource: PKP Regional)

The comparisons of factors between the train 30% and the total are as follows:

- Number of trains under 30% is 37.6% of the total.
- Train km of trains under 30% is 24.3% of the total.
- Revenue of trains under 30% is 8.8% of the total.
- Cost of trains under 30% is 25.7% of the total.

The cost is approximately proportional to train km but in case of number of trains and revenue the data are quite different value. Here exists the importance of downsizing of train operation network.

Table 8.2.3 PKP Regional Passenger Trains in the Time Table 2002/2003

	Number of Trains	Exploitation Work (Train-km/24hr)	Revenue (PLN)	Cost (PLN)
Trains which covers less than 10%	222	10,244.59	19,630.74	262,815.72
Trains which covers less than 30%	1,398	95,757.60	455,310.35	2,380,375.44
Trains by actual trains	3,717	394,794.52	5,146,626.63	9,270,919.23
Ratio of 30% and total train	37.60%	24.30%	8.80%	25.70%

The improvement measures are matters of concern not only to the organization of PKP Regional but also to the total railway system of PKP Group.

8.2.2 Marketing Actions

At this stage, the following are seen as solutions which may be adopted to deal with the above issues:

8.2.2.1 Corporate Identity

A new corporate identity should be developed and applied as quickly as reasonably possible across all elements of the company's activity.

There will be an important role for company marketing management to give the lead on principles for consistent introduction and maintenance of the new identity in all its aspects. Some inconsistent approaches have been noted to the implementation of the current identity, in terms of both printed material and station signage.

8.2.2.2 Management Structure

A clear management structure should be established for the management of the fast longer-distance train network (i.e. those covered by the "Fast" train tariff), headed by a Product Manager at Headquarters level.

Attempts should be made to escape from the requirement to identify separately regional and inter-voivodship carryings, and arrangements should be put in place to measure the financial results achieved by individual service groups.

8.2.2.3 Marketing and Promotional Budgets.

Realistic marketing budgets should be established, to enable the company to market itself in a professional manner. An allocation of 0.5% of customer revenue – a low level of spending by general marketing standards – would provide a budget of some PLN 7.5 million. It is appreciated that this is probably beyond the company's current means, but ways must be found to make more funding available for promotional spending.

Increases in spending on marketing must be accompanied by the production of detailed promotional/communications plans, to ensure that the enhanced budgets are being used effectively.

A stronger emphasis on marketing to non-customers is required, which should form part of a comprehensive strategy to broaden the dissemination of information.

8.2.2.4 Ticketing

To encourage development of rail business in urban areas, discussions on ticket inter-availability with urban transport operators should be developed. Such inter-availability existed in Warszawa until the early part of 2003, but the agreement lapsed. Partial inter-availability exists with the Katowice urban operator.

Experiments with automatic ticket vending should begin as quickly as possible in selected suburban locations.

8.2.2.5 Service Development

The company should press for infrastructure improvements to achieved reduced journey times and increase capacity, setting clear priorities for the implementation of improvements and the journey times/capacity increases which it is desired to achieve.

To ensure that the company is seen to be “on the move”; a programme of short-term improvements should be developed and implemented. This programme may, for instance, particular involve communications plan development.

8.2.2.6 Travel Speed

As proven in the world railways, the speed difference is an important factor for gathering passengers.

Although the price difference among various types of trains exists, the share-trend of higher speed trains is strong when compared to normal trains. Speed gives good influence on the passenger share between road and railway service.

However, journey times are at present uncompetitive, a situation caused in the main by infrastructure problems.

8.2.2.7 Compensation System for Discounted Tickets

The discounted ticket system is regulated by the Railway Transportation Law. Losses caused by the discounted ticket system are compensated by the government. However, only a part of the loss can be compensated due to a shortage of governmental budgets at present. Therefore, PKP Regional (and PKP Intercity) bear a part of losses of the discounted ticket system. The loss to PKP Regional caused by the discounted ticket system in the fiscal year 2002 amounted to 109 million PLN. The entitlements to the discounted tickets are not determined from the point of view of PKP’s management policy but Polish governmental policy. Therefore, losses from the discounted ticket system should not be charged to the PKP group. In order to avoid this problem, the government of Poland should reduce the discounting rate to correspond with the governmental budgets.

8.2.3 Productivity Raise-up

8.2.3.1 Endeavor with PKP Group Companies

The PKP Group companies should strive to increase productivity by implementing the following points.

- Decrease of TAC expense charged by changing calculation system
- Increase of the efficiency of locomotives and drivers
- Decreasing loss time of train operation

Smooth running without braking/acceleration for energy saving

8.2.3.2 Improvement of Operation System of PKP Regional Trains

PKP Regional trains could improve their operation system by implementing the following points.

- Transfer of inefficient lines/trains of PKP Regional to road transport with cooperation of voivodship.
- Replacement of aged passenger coaches into new lightweight/energy-saving EMU trains: increase of maximum speed, increase of passenger demand, increase of rotation efficiency of rolling stock and reduction of track/coach maintenance cost.
- Modernization of rolling stock design.
- Adoption of systematized rapid trains on major strategic lines.

8.2.3.3 Train Operation System

The following are observations about the train operation system.

(1) System.

The trains are not fitted to the nowadays demand structure; the trains are operated for the concept of serving the whole of society.

People feel that some trains are operated for the railway men and their family not for the society, as a local newspaper announces.

(2) Improved service system

Short-term actions should concentrate on two aspects of service planning. Firstly, all-day “outer suburban” type services should be introduced to serve main routes – e.g. routes radiating from Warszawa (the Regio-Plus service has begun this process, but is limited in extent and operates in peak hours only). Secondly, service planning should concentrate on more rigorous application of even intervals across the network.

(3) Situation of operation system

Working system of train operation is not fitted for the total operational railway system but for the profit of each railway company.

(4) Shortening travel time

Intensify the important section for increasing passengers by higher speed rapid trains

Rationalizing the allowance time of train operation (for driver control, track maintenance and for train diagramming)

8.2.3.4 Railway Network and Concentration

(1) Concentration

As shown in the beginning, concentration is a very important measure for the management of PKP Regional.

In big cities, city center is located near to the railway station and road network is also connected fairly well to the station. This represents the heritage of historical role of the railway.

In case of small stations, roads are running, generally, a little far from stations. This brings some problems to the transference of railway transport to road. Anyhow major customers in local areas are using passenger cars, minibuses, etc., and the role of railway to serve all inhabitants had passed already.

The comparatively few railway carriages are scattered thinly in almost zones of Poland. They should be concentrated to the required areas of urban lines, like Warszawa, and of lines among big cities, etc.

The total urban transportation system equipped with tram or with bus services is organized relatively well in big cities of Poland.

(2) PKP Regional railway transportation

The most effective measures for PKP Regional are considered to work in among big cities and to adopt rapid transit system in those areas.

- Change the concept of train operation system among big cities
- Ascertain the effect of rapid train operation
- Select the suitable line sections for innovation of train operation system

The performance of train profit/cost is calculated by income of each train to average cost. The extraordinary cases more than 120% are omitted for understanding the income/cost situation. Voivod train number exceeding the 120% is only 88 trains that means the trains with more than 120% is 2.5% of all regional trains.

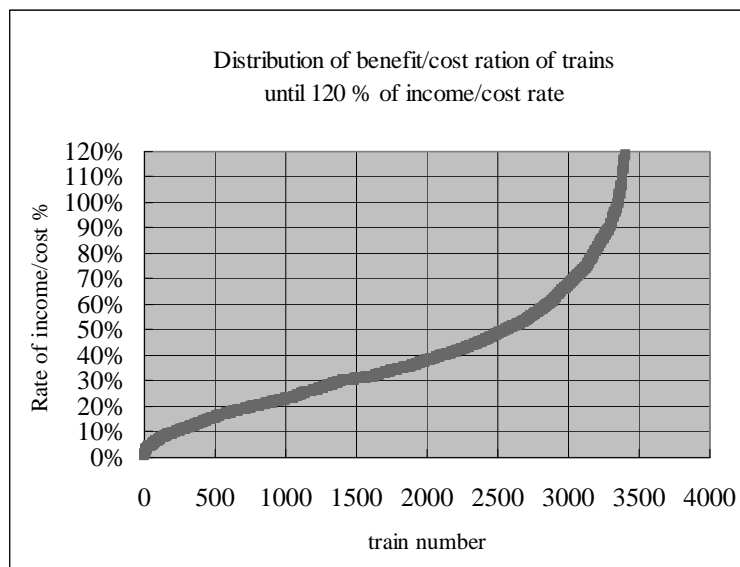


Figure 8.2.4 Distribution of Profit/Cost Ratio of Voivod trains until 120% Rate of Income/Cost

The effect of cost reduction will be assumed by the above data of 0 to 120% income/cost rate.

(3) Cost reduction

Table 8.2.4 Transition of Cost of PKP Regional (As of 2002)

Item of costs	Value 1000 PLN	2004		2010 without case		2010 with case	
Total costs	3,383,885.52		1,692,493		1,692,493		1,397,294
Operation costs	3,221,733.79						
PLK	793,519.75	0.5	396,760	0.5	396,760	0.4	317,408
Cargo	475,427.57	0.5	237,714	0.5	237,714	0.4	190,171
Energetyka	447,690.33	0.5	223,845	0.5	223,845	0.375	167,884
Remaining PKP Group companies	528,509.69	0.5	264,255	0.5	264,255	0.4	211,404
Salaries and wages	516,011.91	0.5	258,006	0.5	258,006	0.45	232,205
Social insurance and other benefits	137,309.90	0.5	68,655	0.5	68,655	0.45	61,789
Costs of cleaning rolling stock	56,783.31	0.5	28,392	0.5	28,392	0.45	25,552
Cost of rolling stock repairs	95,236.28	0.5	47,618	0.5	47,618	0.45	42,856
Depreciation	61,172.36	0.5	30,586	0.5	30,586	0.5	30,586
Remaining costs	111,172.49	0.5	55,586	0.5	55,586	0.4	44,469
Remaining operation and financial costs	162,151.73	0.5	81,076	0.5	81,076	0.45	72,968

Data source: PKP Regional

Estimation data are prepared by Study Team

(4) Personnel**Table 8.2.5 Employment plan of PKP Regional**

Group	Activity description	Actual	Rate in 2004	2004	Rate in 2004	2005	Rate in 2004	2006	Rate in 2004	2010
Group-0	Superintendence, administrative and technological service.	2,910	0.70	2,037	0.60	1,746	0.50	1,455	0.40	1,164
Group-1	Transportation	11,974		8,596		7,398		5,980		5,712
	including:									
	Conductors	6,079	0.75	4,559	0.65	3,951	0.50	3,040	0.50	3,040
	Ticket office	3,630	0.80	2,904	0.70	2,541	0.60	2,178	0.60	2,178
	Baggage forwarding' department	830	0.50	415	0.40	332	0.40	332	0.25	208
	Other services	1,435	0.50	718	0.40	574	0.30	431	0.20	287
Group-2	Maintenance of infrastructure	38	1.00	38	0.80	30	0.50	19	0.50	19
Group-3	Exploitation and maintenance of rolling-stock	5,189	0.70	3,632	0.60	3,113	0.55	2,854	0.50	2,595
	including:									
	Service and maintenance of rolling-stock	1,892	0.70	1,324	0.60	1,135	0.55	1,041	0.50	946
	Maintenance and repair of trains	3,297	0.70	2,308	0.60	1,978	0.55	1,813	0.50	1,649
Group-5	Technical service	401	1.00	401	0.80	321	0.50	201	0.50	201
Group-6	Other services	1,347	0.60	808	0.60	808	0.50	674	0.50	674
TOTAL: groups 0 to 6		21,859		15,512		13,417		11,182		10,364
		100%		71%		61%		51%		47%
	Real number of personnel belonged to PKP Regional	21,859		0		0		0		10,364
		100%		50%		50%		50%		47%
	Excess personnel paid by government			15,512		13,417		11,182		0

8.2.3.5 Efficiency Raise-up

In addition, as has been mentioned already, the generally unsatisfactory and outdated quality of the rolling stock used by PKP Regional makes the company unable to present the modern and developing image that it would wish.

The main solution to the rolling stock problem lies in investment in new stock, which inevitably will take time to bring to fruition. In the short term, effective methods should be devised both to clean off existing graffiti, and to reduce the opportunities for its recurrence. It is acknowledged that some progress has already been made in this direction.

The introduction of new rolling stock will be done to fit the actual transportation market in Poland.

* In case of EMU replacement for Ordinary trains will be done by new EMU 140km/h.

* In case of coach replacement for Fast trains will be done by new EMU 160km/h.

Table 8.2.6 Car renewal program of PKP Regional until 2010

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Conventional coaches car number	4,132	3,797	3,540	3,283	3,026	2,769	2,512	2,365	2,218	2,071
Conventional EMU car number	3,274	2,757	2,615	2,473	2,331	2,189	2,034	1,879	1,724	1,569
Number of conventional cars	7,406	6,554	6,155	5,756	5,357	4,958	4,546	4,244	3,942	3,640
New EMU 160 Car introduced	0	0	216	432	648	864	1,080	1,296	1,296	1,296
New EMU 160 Car introduced by each year	0	0	216	216	216	216	216	216	0	0
Number of conventional coaches	4,132	3,797	3,540	3,283	3,026	2,769	2,512	2,365	2,218	2,071
Conventional coach + EMU 160	4,132	3,797	3,540	3,283	3,026	2,899	2,772	2,755	2,738	2,721
Coach withdrawn in each year	335	257	257	257	257	257	147	147	147	147
Excess coach from targeted number of 2000	2,132	1,797	1,540	1,283	1,026	899	772	755	738	721
Number of EMU conventional	3,274	2,757	2,615	2,473	2,331	2,189	2,034	1,879	1,724	1,569
EMU conventional replaced in each year	517	517	142	142	142	142	155	155	155	155
EMU 140 car introduced	0	0	216	432	648	864	1,080	1,296	0	0
EMU 140 introduced in each year	0	0	216	216	216	216	216	216	0	0
Conventional EMU + EMU 140	3,274	2,757	2,701	2,645	2,589	2,533	2,471	2,409	2,347	2,285
Excess EMU can be used by voivod companies	1,978	1,461	1,405	1,349	1,293	1,237	1,175	1,113	1,051	989
Total car number as excess (coach+EMU)	3,406	2,554	2,241	1,928	1,615	1,432	1,243	1,164	1,085	1,006
Investment for new EMU 160 by year (million PLN)	0	0	360	360	360	360	360	360	0	0
Accumulated Investment for new EMU 160 (million PLN)	0	0	360	720	1,080	1,440	1,800	2,160	0	0
Investment for new EMU 140 by year (million PLN)	0	0	324	324	324	324	324	324	0	0
Accumulated investment for EMU 140 (million PLN)	0	0	324	648	972	1,296	1,620	1,944	0	0
Total accumulated investment for New EMU (million PLN)	0	0	684	1,368	2,052	2,736	3,420	4,104	0	0

By introducing new EMU train sets and by introducing rapid train system, the attractiveness of passengers and the cost reduction will be promoted remarkably. Train diagram by rapid system is shown in the following section.

Cost reduction will be realized by improving the rotation efficiency of rolling stock and train crews, by economizing the energy consumption and by lessening the track destruction by light weight EMU.

The increasing traffic demand will be brought about by shortening the travel time of passengers.

Table 8.2.7 Profitable case and Break even case of Voivod and Intervoivod Train Operation

Profitable Voivod trains

Case	Profitable		Break even		Total	
	train number	Train km	train number	Train km	train number	Train km
without effort	135	4,997	328	17,545	3,604	267,859
with effort of +35%	545	35,313	1,203	90,693	3,604	267,859

Profitable Intervoivod trains

Case	Profitable		Break even		Total	
	train number	Train km	train number	Train km	train number	Train km
without effort	44	21,013	127	62,487	337	131753
with effort of +25%	118	57,451	307	128,499	337	131753

Total regional trains

Case	Profitable		Break even		Total	
	train number	Train km	train number	Train km	train number	Train km
without effort	179	26,010	455	80,032	3,941	399,612
with effort	663	92,764	1,510	219,192	3,941	399,612

The train number in 2006, 2010 and 2015 can be estimated approximately by the data of profit able and break-even calculation shown in the Table 8.2.8.

The precise data of remaining trains should be summed up by using the results of each line analysis because the train operation diagram is formed by the complicated rotation of train sets and the train operation cost is connected with the track access charge (TAC).

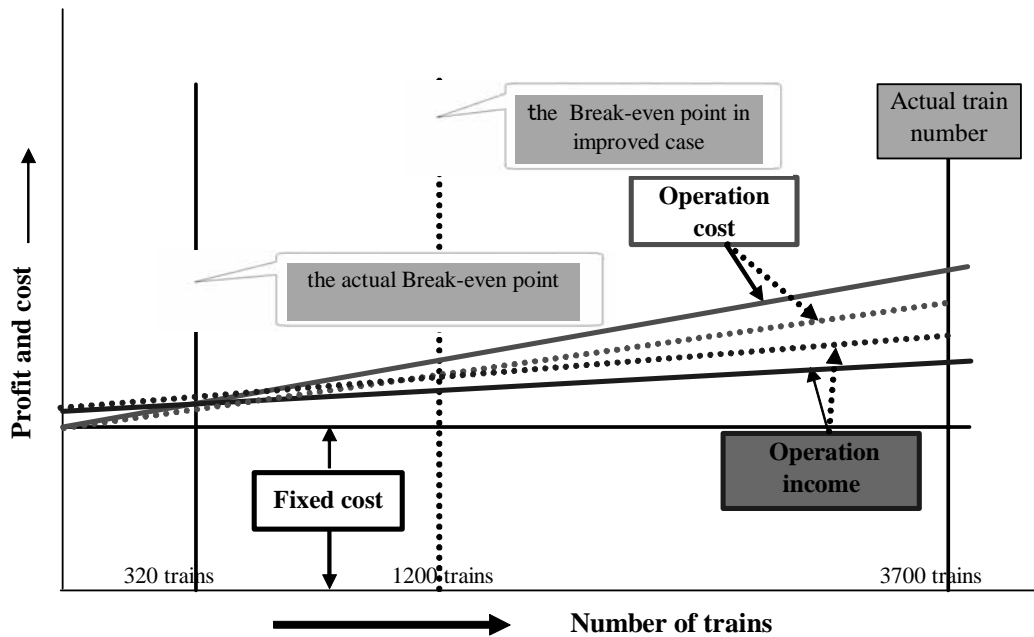
The transition of train number and the relation of profit able and break-even point are roughly shown in the following Figure 8.2.5 and Figure 8.2.6.

The Voivod and Inter-voivod trains will become 450 without effort of improvement. But with sincere effort of various improvement, especially the introduction of new rolling stock and speed up etc, the train number of break even will become 1500

In case of PKP Regional, the main item of management target will be how to realize the break-even operation, that means without subsidy.

In the other following chapter 8.3.4, actual analysis of train operation in each area will be shown to explain the necessity of subsidy for keeping the train service in plenty of areas. That matter will be decided by the talking with the Voivodship companies including the conditions of various matters, amount of Subsidy, the price of TAC, the leasing charge of rolling stock and drivers, etc.

Above data of break even point are indicating the profit and cost analysis. That is to say, the data show the possible train numbers without subsidy.



Note: Dotted lines are for improved case

Figure 8.2.5 Transition of Profit and Break-even of Voivod trains

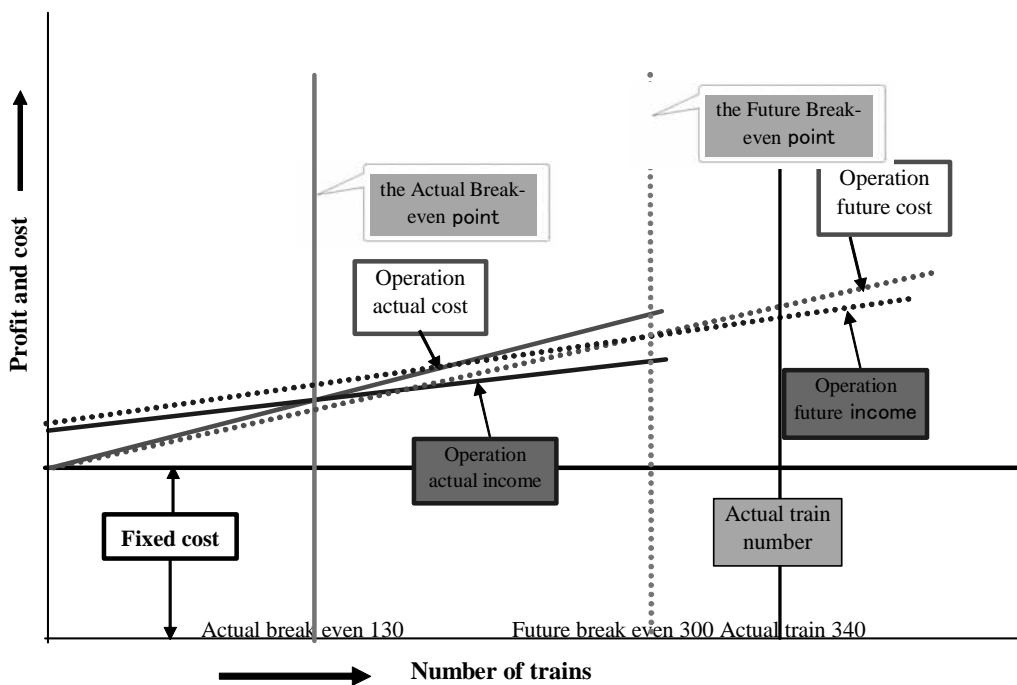


Figure 8.2.6 Transition of Profit and Break-even of Inter - Voivod trains

The targets of Inter-Voivod trains is how to realize “Maximum Profit” and of Voivod trains is to aim at the Break-even point.

8.2.4 Acquisition of Finance

Fundamentally the acquisition of fund to solve the rolling stock backlog will be charged by Government. Maintenance and operation cost will be assigned to the new PKP Regional company.

8.2.4.1 Utilization of EU Funding

One idea is utilizing the EU funding to solve backlog of rolling stock in passenger companies, that will be realized as for the actual fund for railway infrastructure innovation by adding 25% Government Capitals.

8.2.4.2 Tax Exemption During Reconstruction Period

Exemption of Tax from PKP Regional during the reconstruction period until 2010 might be one idea. The fund will be used for removing accumulated backlog of rolling stock in long past days.

8.3 RECOMMENDATIONS

PKP Regional's new management scale is introduced in the followings.

- Variant 1 – Most dense transportation area in PKP Regional

The transportation volume and train number in the dense network area

- Variant 2 – dense area of PKP Regional + Intercity

Including all lines currently used by Intercity to Variant 1 network

- Variant 3 – dense network of PKP Regional and its Fast train lines

Including also all lines on which PKP Regional operates Fast (Pospiesny) trains

8.3.1 Variant 1 –Most Dense Network”

The most dense network where can be operated in high cost performance is shown in the following Figure 8.3.1. The each route length and trains are shown in the Attachment 8.3.1. The number of trains is counted for one direction. The classified density of transportation volume is shown in colour.

The summed up track length of variant 1 is approximately 6,000 km.

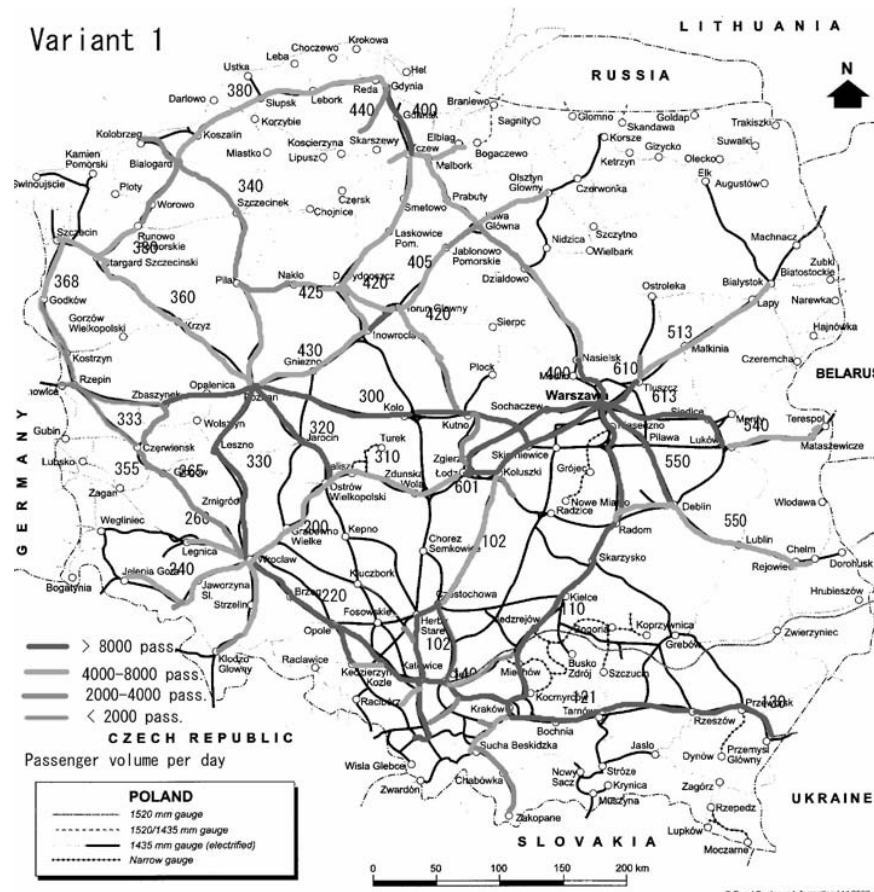


Figure 8.3.1 Variant 1 – Proposed “Commercial Network” for PKP Regional

8.3.2 Variant 2 – the Dense Area of PKP Regional and Intercity Route

The route of Variant 2 which is shown in the Figure 8.3.2 is including all lines currently used by Intercity to “Variant 1 network”. The detail track length, density of traffic volume and the trains of Variant 2 are shown in the Attachment 8.3.2. The train number of each type is counted by one direction. The summed up track length is approximately 6,200 km.

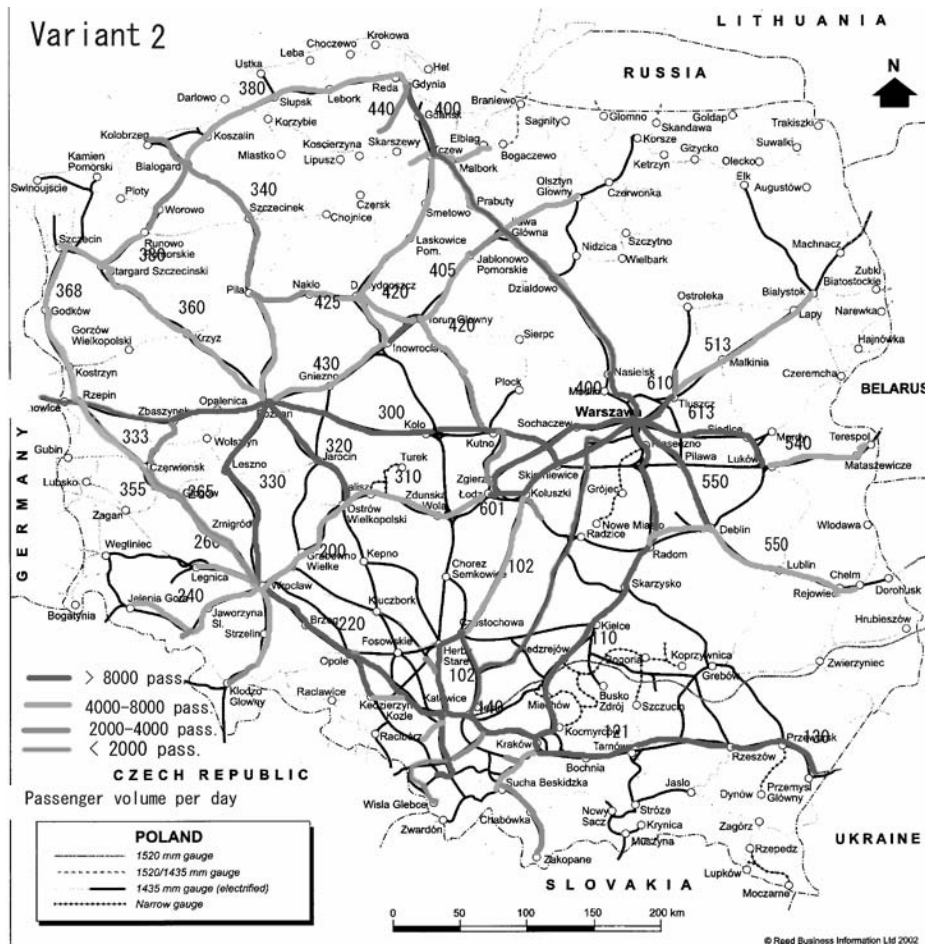


Figure 8.3.2 Variant 2 – including All Lines Currently used by Intercity to Variant 1 Network

8.3.3 Variant 3 – the Dense Network of PKP Regional and its Fast Train Lines

As for the “variant 2”, the variant 3 is including also all lines on which PKP Regional operates “Fast (Pospieszny) trains”. In the Figure 8.3.3, the transportation volume on each line is shown by colour and the track length and number of trains by type are shown in the Attachment 8.3.3. The track length of variant 3 becomes approximately 9000 km.

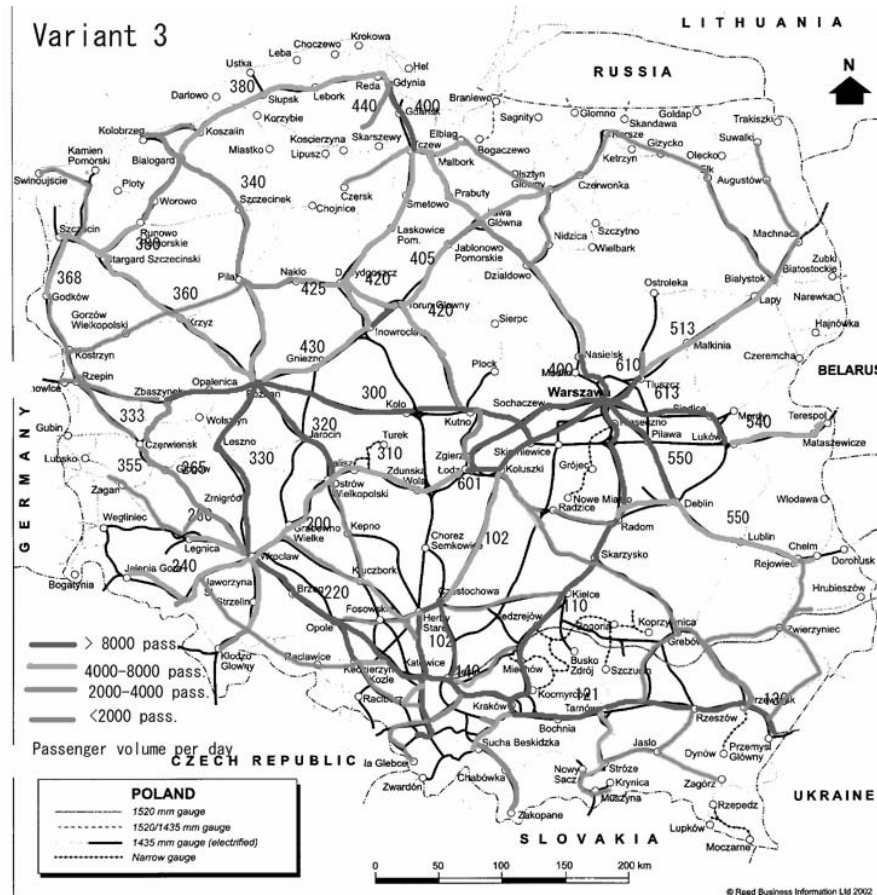


Figure 8.3.3 Variant 3 – as Variant 2, including also All Lines on which PKP Regional Operates Fast (Pospieszny) Trains

8.3.4 Traffic Analysis of some Voivod Area

The total railway transportation of 15 Voivod areas shall be studied in detail but here some major areas in Poland are shown in the following items (Table 8.3.1).

In this analysis, various kinds of cases are compared. Even after downsizing of the network of each, however, it is required to improve productivity and develop customer considerably in order to gain profit from the service. Detail data can be referred in Attachment 8.3.4.

Table 8.3.1 Profit train by Downsizing

Area	Case	Number of train			
		Total	Profit train	Break-even	Under Break-even
Warszawa	Without	266	64	122	144
	With	266	136	266	0
Łódź	Without	46	0	0	46
	With	46	11	24	22
Kraków	Without	117	1	1	116
	With	117	19	37	80
Katowice	Without	99	5	10	24
	With	99	24	57	42
Poznań	Without	106	15	25	81
	With	106	61	106	0
Wrocław	Without	46	0	0	46
	With	46	11	24	22

Without: Downsizing is not implemented but it expects income increase by 15%.

With: Downsizing shall be implemented and it is estimated 35% up profit by improving productivity (25%) and cost reduction (10%) and furthermore it expects income increase by 15%.

8.4 SOME EXAMPLES OF THE SEPARATED RAILWAY LINES

8.4.1 Examples of Japanese cases

- a. Aoi Mori Railway (25.9 km in Aomori prefecture)
- b. IGR Railway (Iwate Ginga Railway) (82 km in Iwate prefecture)

The above companies were created by local self – governments, at the same time when super express Shinkansen started to operate on 100 km section from Morioka city to Hachinohe. At the beginning, these sections were regarded as lines of North – East main line of national importance. After some time, the company JR East came to the conclusion that the operation of super express Shinkansen would take over passengers of long – distance trains which would make these sections unprofitable, therefore they decided to suspend their operation on these sections. Then, in order to provide inhabitants of the region with transport, self – governments decided to create their own railway companies in cooperation with authorities of cities which were located along the railway line. They started to perform transport service in December 2002, at the same time when super express Shinkansen started to operate to Hachinohe.

(The line is marked on the diagram with a dotted line). Despite a big volume of transport, it was not easy to manage these companies. A big deficit was also anticipated and in such case shareholders of the company would support it with subsidies essential to balance financial result.

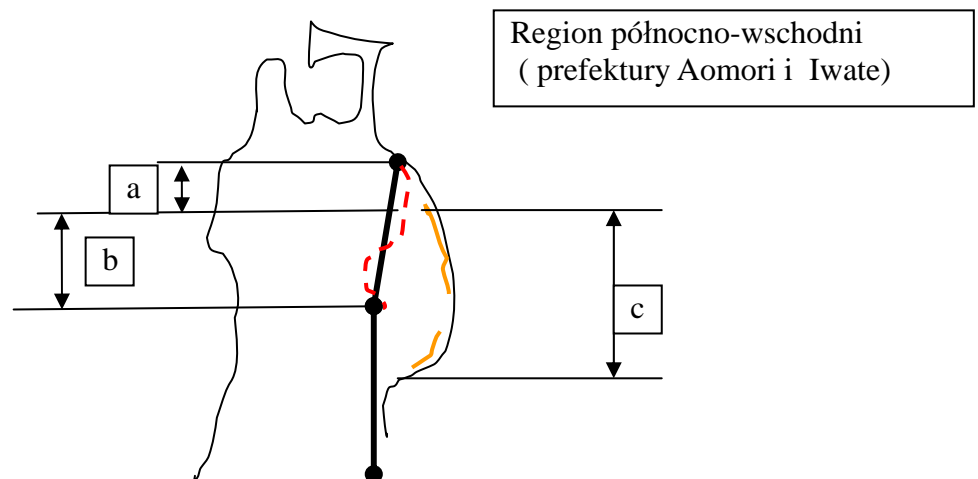


Figure 8.4.1 Region map of 3 private sectors

c. Sanriku Jukan Tetsudo case

Sanriku Railway (71 km + 36.6 km) – is marked on the diagram with a yellow color.

Railway line which goes along eastern coast of Iwate prefecture and which was transferred from National Japanese Railway in 1989.

The railway company was created in cooperation with authorities of cities located along these lines. It is administered by authorities of Iwate prefecture. Shareholders of the company are: authorities of Iwate prefecture and 28 cities, which are interested in transport, organizations of farmers, fishermen and foresters. Deficit resulting from operation is covered by shareholders with subsidies.

There are approximately 40 sections which were transferred from former National Japanese Railway to local self – governments. Majority of these lines are administered by authorities of prefectures in cooperation with such shareholders as authorities of districts which are located along these lines and big local enterprises.

Almost all companies are unprofitable. However, they obtain subsidies from budgets of prefectures. The deficit resulting from operation is sometimes covered by special funds which were created when companies were formed.

8.4.2 An example of Transferred to the Bus Service

Using buses instead of trains as alternatives might make it easier for PKP Regional to improve productivity and terminate unprofitable train operations. Based on the data of the contracts that PKP Regional has made with bus operators in the case of emergency, the average price per bus km is 2.6 PLN. The costs necessary to operate trains one km is 24.8 PLN and nearly 9.5 times higher than the price of bus operations. If those bus operations can be used as alternatives, operational costs can be drastically reduced and the termination of unprofitable train operation will become easy.

Furthermore, replacement of rail services by bus need not necessarily represent a total

withdrawal of rail from the market. A number of instances exist where, in the case of total or partial withdrawal of train services, bus services have been instituted on which rail tickets are valid. This may be seen as a useful precedent to follow.

8.5 SUGGESTIONS FOR SPECIAL STUDIES

8.5.1 System Design of Urban Transportation System

As already stated, PKP Regional operates an intensive suburban system in and around the Warszawa conurbation, and plays a significant role in the total transport requirements of the area. The company's role within the transport networks of other conurbations is less clearly defined.

It appears to the Study Team that opportunities may exist for strengthening the role of the railway in some other major centers – e.g. Kraków, Łódź etc. It is suggested that an investigation should be undertaken of the potential scope for rail service development in such areas, through construction of new stations and improvements in service patterns.

8.5.2 Development of Warszawa Transportation

Despite the well-established network of the railway in the total Warszawa transportation scheme, it is believed that scope still exists for further development. In order to alleviate increasing road congestion, the attractiveness of public transport in general and rail in particular, must be enhanced.

Reference has been made already to development of ticket inter-availability with the bus/tram/metro operator, which should be pursued with all possible speed. Other options for service development, of which further investigation will be made, include opportunities for improved co-ordination between railways and the other modes, and possibilities for construction of new stations.

Situations are various on each line and here some examples will be shown in the following.

Line 530/610 section of eastern part of Warszawa

This line is used for commuter and for among big cities in east north of Warszawa. Now the passenger to/from intermediate small station is few and gradually transferred to the parallel road. The relation between rail and road is thin. Road is constructed a little far from the railway line.

Trains are operated 3 – 4 times per hour on most congested section. The major trains are ordinary passenger trains of 85% and Rapid trains of 14%. The travel speed of all trains is relatively low; ordinary trains are between 39.2 – 49.4 km/h and rapid trains are 49.4 – 57.6 km/h. When we analyzed the data, we found that 75% of the 1,050 trains had income on this section that was 30% more than cost of operation.

Because of the high population of Warszawa city, the meaning of urban transport is relatively high. The population of major centers will be increased after the innovation

of train diagram service of uniform interval rapid train service is carried out and it will take some time interval of 1-2 years for revealing the effect.

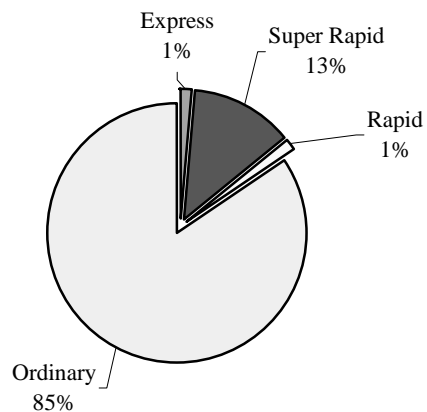


Figure 8.5.1 Trains on line 610 between Warszawa Wilenska and Tlsucz

A uniform rapid train diagram can bring out the cost reduction and income increase of PKP Regional at the same time.

Cost can be cut down by speed up and, at the same time, the income will be increased by shortening the travel time.

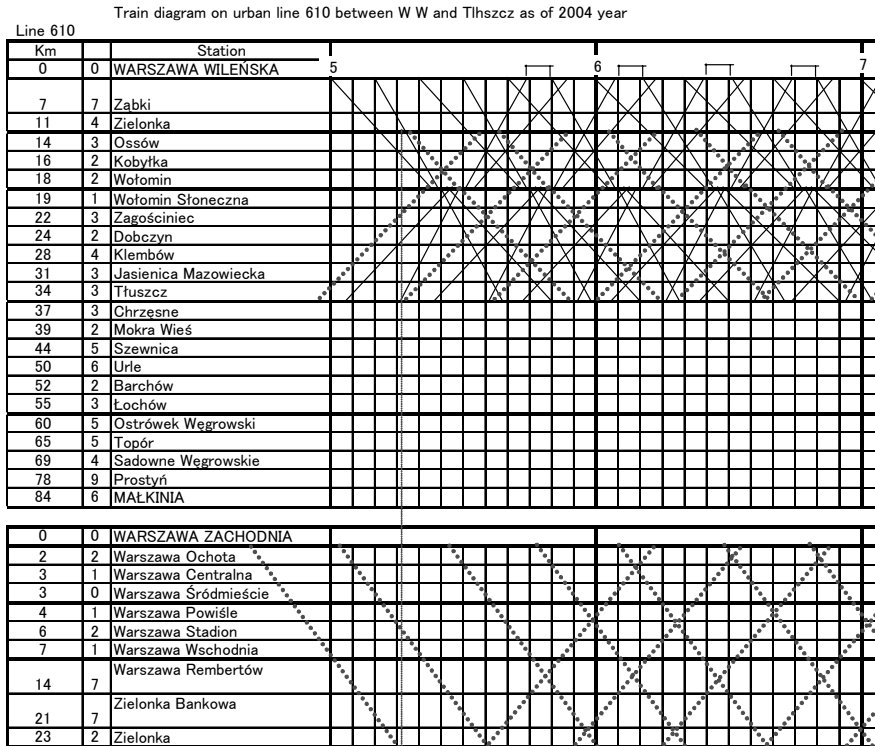
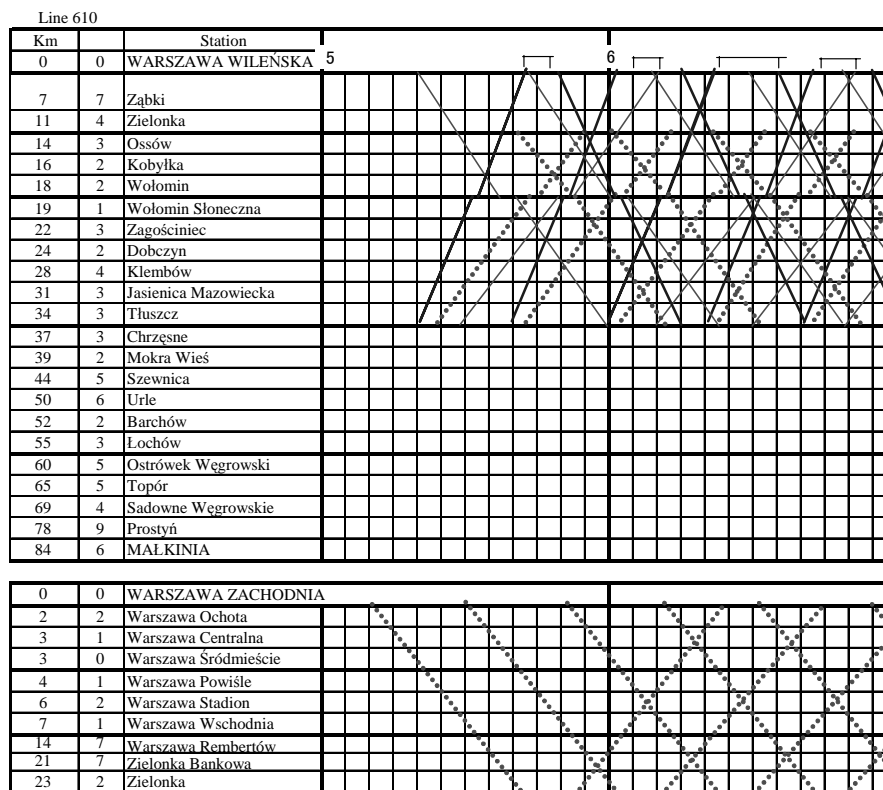


Figure 8.5.2 Train Diagram with Conventional Type EMU



2 stations abolished between W Z and Zielona
4 stations abolished between W Wilenska and Tłuszcz

Figure 8.5.3 Train Diagram with Conventional New EMU 140

Two examples of rapid train operation diagram which can be introduced in the suburban railway line 610 Warszawa Wilenska – Tluszcz.

One is for near future, other is for the time of 2010, when innovation of rolling stock will be completed by the project schedule.

The sections for test run for ascertaining the effect will be selected in/around lines of big cities and among trunk lines between big cities.

8.5.3 Reconstruction of Main Stations

The company should exert pressure for the rapid enhancement of standards at stations, once again setting a clear programme of priorities and results the programme is intended to achieve. The situation is, of course, complicated by the fact that the stations are not in PKP Regional's ownership.

As a particular aspect of the strategy for station improvement, a programme should be developed, and discussed with the other parties involved, for the extension of modern information systems.

8.5.4 Excess Personnel

As seen in the former table 8.2.5, the employment of PKP Regional will have excess number of personnel in the transition period by proceeding down-sizing to realize self sustaining commercial operation. The excess personnel in transition period should be treated as for the measure of rationalization program that the fund will be supplied from government.

8.5.5 Management of Locomotives and Drivers

Locomotives and drivers are managed by PKP Cargo.

In future, the transference of the personnel and locomotives to passenger companies will be adequate for the commercial management of operation companies.

Because of the healthy condition of PKP Cargo in past time, Cargo Company has been charged to absorb the abundance of passenger transport and the actual transportation method is not favourable to cargo transportation too.

The finance condition of PKP Regional Company is not easy condition for receiving excess personnel and rolling stocks. The PKP Regional company is situated how to eliminate the burden and to rise up the efficiency of operation service.

The transportation market shows the prospective for new operation system of passenger trains but it requires adopting new competitive EMU trains. Largely the excess locomotives will be put aside for the survival of railway business and many drivers will be asked to be trained for operating new EMU.

ATTACHMENT 8.1**Tariff Table of PKP Regional**

(May 2003)

Distance (km)	Normal train		Fast train	
	Kl. 2	kl. 1	kl. 2	kl. 1
Km	PLN (with VAT 7%)			
Up to 5	2.20	3.30	3.60	5.40
6-10	2.90	4.35	4.70	7.05
11-15	3.50	5.25	5.70	8.55
16-20	4.20	6.30	6.80	10.20
21-30	5.30	7.95	8.60	11.90
31-40	6.30	9.45	10.30	15.45
41-50	7.40	11.10	12.10	18.15
51-60	8.50	12.75	13.90	20.85
61-70	9.50	14.25	15.40	23.25
71-80	10.40	15.60	17.00	25.50
81-90	11.40	17.10	18.50	27.75
91-100	12.30	18.45	20.10	30.15
101-120	15.00	22.50	24.75	37.13
121-140	16.44	24.66	27.14	40.71
141 -160	17.85	26.78	29.45	44.18
161-180	19.10	28.65	31.52	47.28
181-200	20.40	30.60	33.66	50.49
201-220	21.40	32.10	35.52	53.28
221-240	22.30	33.45	37.02	55.53
241-260	23.10	34.65	38.35	57.53
261-280	23.80	35.70	39.52	59.28
281-320	24.60	36.90	40.84	61.26
321-360	25.50	38.25	42.33	63.50
361-400	26.20	39.30	43.48	65.22
401-440	26.86	40.29	44.87	67.31
441-480	27.36	41.04	45.69	68.54
481-520	27.85	41.78	46.51	69.77
521-560	28.30	42.45	47.26	70.89
561-600	28.80	43.20	48.10	72.15
601-640	29.30	43.95	48.93	73.40
641-680	29.80	44.70	49.77	74.66
681-720	30.30	45.45	50.60	75.90
721-760	30.81	46.22	51.43	77.15
761-820	31.40	47.10	52.44	78.66
821-880	32.00	48.00	53.44	80.16
881-940	32.40	48.60	54.11	81.17
941-1000	32.80	49.20	54.78	82.17

ATTACHMENT 8.3.1**Track Length and Train Number in case of Variant 1**

(5923 km)

Major section	section no.	Section km	Passenger no. per day	Number of trains by one way			
				Ordinary train	Fast	Night sleeper train	Intercity train
Grodzisk Maz- Zawiercie/Kozlow	CMK100			0	4	2	30
Zawierce-Katowicie-Kedzierzyn K	101	108	8001and more	44	34	10	13
Koluski-Czestochowa-Zawiercie	102	167	8001and more	32	22	2	0
Tunel-Katowice Zawodzie	105	91	2001-4000	13	1	0	0
Krakow-Kielce-Radom	110	217	8001and more	32	20	6	1
Deblin-Radom	111	57	4001-8000	3	11	4	0
Krakow GI-Tarnow	120	78	8001and more	53	18	14	8
Tarnow-Przemysl	121	167	8001and more	27	13	3	2
Krakow-Sucha Beskidzka-Zakopane	135	68	4001-8000	35	8	5	3
Katowice-Krakow	140	78	8001and more	25	20	7	8
D G Zabkowice –Trzebinia	120 & 140	22	8001and more	15	38	6	7
Skawina-Spytkowice	141	27	2001-4000	16	0	0	0
Katowice-Zywiec	151	76	8001and more	43	11	3	4
Katowice-Rybnik	152	46	4001-8000	17	1	0	0
Lodz-Bednary	200	69	8001and more	24	6	4	1
Wroclaw-Ostrow Wielkopolski	200	106	4001-8000	27	7	6	1
Gliwice-Opole-Wroclaw	220	152	8001and more	18	11	7	3
Opole-Kedzierzyn K.	220	39	8001and more	14	8	5	4
Wroclaw-Kamieniec Z.-Klodzko	230	94	4001-8000	23	8	0	0
Wroclaw-Jelenia Gora	240-1	126	4001-8000	17	5	2	0
Boguszow Gorce – Mieroszow	240-2	11	2001-4000	2	0	0	0
Wroclaw-Legnica	260	66	4001-8000	23	5	2	0
Wroclaw-Glogow	265	100	2001-4000	11	4	0	0
Kunowice-Rezepin-Zbaszynek	300	93	2001-4000	26	16	4	19
Zbaszynek-Poznan-Kutno	300	254	8001and more	24	2	1	6
Lodz Kaliska-Ostrow Wielkopolski	310	137	4001-8000	20	5	4	1
Ostrow Wielkopolski-Poznan	320	114	8001and more	28	11	4	0
Wroclaw-Leszno-Poznan	330	165	8001and more	28	9	4	8
Zbaszynek-Czerwiesk	333	44	2001-4000	3	6	0	0
Kolobrzeg-Pila	340	171	2001-4000	20	15	3	0
Pila-Poznan	340	96	4001-8000	7	9	2	0
Glogow-Czerwiesk-Kostrzyn	355	156	4001-8000	17	8	1	1
Stargard Szczecinski-Poznan	360	174	4001-8000	18	9	5	6
Szczecin-Kostrzyn	366	104	8001and more	9	1	0	0
Gdynia-Bialogard-Szczecin	380	202	4001-8000	26	21	4	2
Dzialdowo-Ilawa	400	60	2001-4000	7	8	3	16
Ilawa-Malbork	400	69	4001-8000	7	6	3	16
Malbork-Gdynia	400	72	8001and more	18	13	3	17
Torun-Jablonowo Pomorski	405	58	4001-8000	26	10	1	0
Jablonowo Pomorski-Olsztyn	405	105	4001-8000	14	10	1	0
Inowroclaw-Torun	405	35	8001and more	11	3	1	0

Bydgoszcz-Torun -Kutno-Lodz	420	229	4001-8000	22	11	2	2
Pila-Bydgoszcz	425	87	4001-8000	9	7	0	0
Tczew-Starogard G.	426	24	4001-8000	12	1	0	0
Tczew-Bydgoszcz	430	128	4001-8000	16	12	7	2
Bydgoszcz-Inowroclaw	430	46	4001-8000	10	11	6	2
Inowroclaw-Poznan	430	107	8001and more	19	9	3	2
Gdynia-Somonino-Kosciierzyna	440	67	2001-4000	11	0	0	0
Malbork-Elblag	505	29	4001-8000	14	5	1	0
Tluszcz-Wyszkow	519	21	0-2000	14	1	0	0
Malkinia-Bialystok	530	90	4001-8000	32	9	1	1
Siedlce-Lukow-Terespol	540	89	8001and more	39	5	5	0
Chelm-Rejowiec-Lublin-Deblin	550	145	4001-8000	30	10	5	3
Pllawa-Deblin	550	49	8001and more	14	8	9	3
Warszawa Z-Srod.-Warszawa W	600	9	8001and more	137	0	0	0
Warszawa Z-Central-Warszawa W	600a	9	8001and more	10	71	22	67
Warszawa-Skierniewice-Koluszki-Lodz Kaliska	601	147	8001and more	80	38	3	1
Lowicz-Skierniewice	603	22	8001and more	13	1	1	0
Warszawa-Radom	605	108	8001and more	21	9	2	1
Kutno-Lowicz-Warszawa Zs	606	123	8001and more	36	9	7	16
Warszawa Wola-Nasielsk	608	60	8001and more	33	13	9	15
Nasielsk-Dzialdowo	608	88	4001-8000	19	14	3	17
Warszawa Wil.-Tluszcz	610	34	8001and more	60	10	0	1
Tluszcz-Malkinia	610	50	4001-8000	20	8	0	0
Warszawa Wschodnia-Siedlce	613	88	8001and more	49	3	12	0
Warszawa W-Pillawa	614	50	8001and more	39	7	1	1
Total	2 628	5,973		1,499	644	218	267
%	100%			57%	25%	8%	10%

ATTACHMENT 8.3.2**Track Length and Train Number in case of Variant 2**

(6,179km)

Major section	section no.	section km	Passenger no. per day	Number of trains by one way			
				Ordinary train	Fast	Night sleeper train	Intercity train
Grodzisk Maz- Zawiercie/Kozlow	CMK 100	258	8001and more	0	4	2	30
Zawiercie-Katowice-Kedzierzyn K	101	108	8001and more	44	34	10	13
Koluski-Czestochowa-Zawiercie	102	86	8001and more	32	22	2	0
Tunel-Katowice Zawodzie	105	91	2001-4000	13	1	0	0
Krakow-Kielce-Radom	110	217	8001and more	15	15	3	0
Deblin-Radom	111	57	4001-8000	3	11	4	0
Krakow GI-Tarnow	120	78	8001and more	53	18	14	8
Tarnow-Przemysl	121	167	8001and more	27	13	3	2
Krakow-Sucha Beskidzka-Zakopane	135	68	4001-8000	35	8	5	3
Katowice-Krakow	140	78	8001and more	25	20	7	8

D G Zabkowice -Trzebinia	120 & 140	22	8001and more	15	38	6	7
Skawina-Spytkowice	141	27	2001-4000	16	0	0	0
Wisla G-Goleszow	146	20	2001-4000	9	0	0	1
Goleszow-Bielsko B G	147	29	2001-4000	11	0	0	1
(Katowice)-Czechowice D-Zebrzydowide	150	30	4001-8000	30	5	4	5
Katowice-Zywiec	151	76	8001and more	43	11	3	4
Katowice-Rybnik	152	46	4001-8000	17	1	0	0
Lodz-Bednary	200	69	8001and more	24	6	4	1
Wroclaw-Ostrow Wielkopolski	200	106	4001-8000	27	7	6	1
Gliwice-Opole-Wroclaw	220	152	8001and more	18	11	7	3
Opole-Kedzierzyn K.	220	39	8001and more	14	8	5	4
Wroclaw-Kamieniec Z.-Klodzko	230	94	4001-8000	23	8	0	0
Wroclaw-Jelenia Gora	240-1	126	4001-8000	17	5	2	0
Boguszow Gorce - Mieroszow	240-2	11	2001-4000	2	0	0	0
Wroclaw-Legnica	260	66	4001-8000	23	5	2	0
Wroclaw-Glogow	265	100	2001-4000	11	4	0	0
Kunowice-Rzepin-Zbaszynek	300	93	2001-4000	26	16	4	19
Zbaszynek-Poznan-Kutno	300	254	8001and more	24	2	1	6
Lodz Kaliska-Ostrow Wielkopolski	310	137	4001-8000	20	5	4	1
Ostrow Wielkopolski-Poznan	320	114	8001and more	28	11	4	0
Wroclaw-Leszno-Poznan	330	165	8001and more	28	9	4	8
Zbaszynek-Czerwiesk	333	44	2001-4000	3	6	0	0
Kolobrzeg-Pila	340	171	2001-4000	20	15	3	0
Poznan-Pila	340	96	4001-8000	7	9	2	0
Glogow-Czerwiesk-Kostrzyn	355	156	4001-8000	17	8	1	1
Stargard Szczecinski-Poznan	360	174	4001-8000	18	9	5	6
Szczecin-Kostrzyn	366	104	8001and more	9	1	0	0
Gdynia-Bialogard-Szczecin	380	202	4001-8000	26	21	4	2
Dzialdowo-Ilawa	400	60	2001-4000	7	8	3	16
Ilawa-Malbork	400	69	4001-8000	7	6	3	16
Malbork-Gdynia	400	72	8001and more	18	13	3	17
Torun-Jablonowo Pomorski	405	58	4001-8000	26	10	1	0
Jablonowo Pomorski-Olsztyn	405	105	4001-8000	14	10	1	0
Inowroclaw-Torun	405	35	8001and more	11	3	1	0
Bydgoszcz-Torun -Kutno-Lodz	420	229	4001-8000	22	11	2	2
Pila-Bydgoszcz	425	87	4001-8000	9	7	0	0
Tczew-Starogard G.	426	24	4001-8000	12	1	0	0
Tczew-Bydgoszcz	430	128	4001-8000	16	12	7	2
Bydgoszcz-Inowroclaw	430	46	4001-8000	10	11	6	2
Inowroclaw-Poznan	430	107	8001and more	19	9	3	2
Gdynia-Somonino-Koscierzyna	440	67	2001-4000	11	0	0	0
Malbork-Elblag	505	29	4001-8000	14	5	1	0
Tluszcz-Wyszkow	519	21	0-2000	14	1	0	0
Malkinia-Bialystok	530	90	4001-8000	32	9	1	1
Siedlce-Lukow-Terespol	540	89	8001and more	39	5	5	0
Chelm-Rejowiec-Lublin-Deblin	550	145	4001-8000	14	8	9	0
Pllawa-Deblin	550	49	8001and more	30	10	5	3
Warszawa Z-Srod.-Warszawa W	600	9	8001and more	137	0	0	0
Warszawa Z-Central-Warszawa W	600a	9	8001and more	10	71	22	67
Warszawa-Skierniewice-Koluszki-Lodz Kaliska	601	147	8001and more	80	38	3	1

Lowicz-Skierniewice	603	22	8001and more	13	1	1	0
Warszawa-Radom	605	108	8001and more	21	9	2	1
Kutno-Lowicz-Warszawa Zs	606	123	8001and more	36	9	7	16
Warszawa Wola-Nasielsk	608	60	8001and more	33	13	9	15
Nasielsk-Dzialdowo	608	88	4001-8000	19	14	3	17
Warszawa Wil.-Tluszcz	610	34	8001and more	60	10	0	1
Tluszcz-Malkinia	610	50	4001-8000	20	8	0	0
Warszawa Wschodnia-Siedlce	613	88	8001and more	49	3	12	0
Warszawa W-Pillawa	614	50	8001and more	39	7	1	1
Total	2,665	6,179		1,532	644	219	270

ATTACHMENT 8.3.3

Track length and train number in case of Variant 3

(8,877 km)

Track length and trains on lines Variant 3

8,877 km

20-Jan-04

Major section	section no.	Section km	Passenger no. per day	Number of trains by one way			
				Ordinary train	Fast	Night sleeper train	Intercity train
Grodzisk Maz- Zawiercie/Kozlow	CMK100			0	4	2	30
Zawierce-Katowicie-Kedzierzyn K	101	108	8001and more	44	34	10	13
Koluski-Czstochowa-Zawiercie	102	167	8001and more	32	22	2	0
Tunel-Katowice Zawodzie	105	91	2001-4000	13	1	0	0
Kielce-Czestochowa	109	113	2001-4000	8	4	1	0
Krakow - Tunel	110	52	4001-8000	2	1	0	0
Tunel - Kielce	110	80	2001-4000	12	1	0	0
Kielce - Radom	110	85	4001-8000	13	4	2	0
Deblin-Radom	111	57	0-2000	3	11	4	0
Tomaszow M-Radom	113	90	0-2000	4	1	1	0
Koluszki - Tomaszow M	114	26	0-2000	8	2	0	0
Tomaszow M - Skarzysko K	114	88	2001-4000	6	1	0	0
Skarzysko K - Stalowa Wola	115	127	0-2000	17	4	0	0
Stalowa Wola - Przeworsk	115	75	2001-4000	5	2	1	0
Krakow Gl-Tarnow	120	78	8001and more	53	18	14	8
Tarnow-Przemysl	121	167	4001-8000	27	13	3	2
Grebów-Sobów-Debica	125	83	0-2000	4	1	0	0
Tarnow-Krynica	130	150	2001-4000	9	2	1	1
Stroje - Jaslo	131	46	0-2000	11	4	0	0
Jaslo - Zagorz	131	69	2001-4000	10	1	1	0
Rzeszow-Jaslo	132	71	0-2000	7	1	0	0
Krakow - Sucha Beskidzka	135	68	2001-4000	32	7	5	3
Sucha Beskidzka - Zakopane	135	79	0-2000	16	8	5	3

Katowice-Krakow	140	78	8001and more	25	20	7	8
D G Zabkowice -Trzebinia	120 & 140	22	8001and more	15	38	6	7
Skawina-Spytkowice	141	27	2001-4000	16	0	0	0
(Katowice)-Czechowice D-Zebrzydowide	150	30	4001-8000	30	5	4	5
Katowice-Zywiec	151	76	8001and more	43	11	3	4
Katowice-Rybnik	152	46	4001-8000	17	1	0	0
Nedza-Rybnik	152a	28	2001-4000	13	1	0	0
Rybnik-Pszczyna	154	38	0-2000	12	1	0	0
Kedzierzyn K-Nedza	160	23	0-2000	13	1	0	0
Opole-Fosowskie	170	31	2001-4000	10	2	0	0
Fosowskie - Lubliniec	175	24	0-2000	5	3	2	0
Lubliniec - Czestochowa	175	40	2001-4000	9	12	3	0
Katowice-Kluczbork	180	119	2001-4000	15	4	1	0
Lodz-Bednary	200	69	2001-4000	24	6	4	1
Wroclaw-Ostrow Wielkopolski	200	106	0-2000	27	7	6	1
Kluczbork-Olesnica	210	63	0-2000	10	1	1	0
Gliwice-Opole-Wroclaw	220	152	2001-4000	18	11	7	3
Opole-Kedzierzyn K.	220	39	4001-8000	14	8	5	4
Wroclaw-Kamieniec Z.-Klodzko	230	94	4001-8000	23	8	0	0
Kedzierzyn K-Jaworzyna S	235	172	0-2000	7	1	0	0
Wroclaw - Walbrzych	240	79	4001-8000	12	5	1	1
Walbrzych - Jelenia Gora	240	47	2001-4000	14	5	1	1
Boguszow Gorce - Mieroszow	240	11	2001-4000	2	0	0	0
Wroclaw-Legnica-Zagan	260	140	4001-8000	23	5	2	0
Wroclaw-Glogow	265	100	2001-4000	11	4	0	0
Legnica-Rudna G	267	40	0-2000	4	1	0	0
Kunowice-Rezepin-Zbaszynek	300	93	0-2000	26	16	4	19
Zbaszynek-Poznan-Kutono	300	254	2001-4000	24	2	1	6
Lodz Kaliska-Ostrow Wielkopolski	310	137	4001-8000	20	5	4	1
Kluczbork - Ostrow Wielkopolski	320	87	0-2000	13	9	1	0
Ostrow Wielkopolski - Poznan	320	114	4001-8000	19	10	1	0
Wroclaw-Leszno-Poznan	330	165	8001and more	28	9	4	8
Zbaszynek-Czerwiensk	333	44	0-2000	3	6	0	0
Kolobrzeg-Pila	340	171	0-2000	20	15	3	0
Pila-Poznan	340	96	2001-4000	7	9	2	0
Kostrzyn - Gorzow	345	43	2001-4000	7	1	0	0
Gorzow - Pila	345	118	0-2000	4	4	0	0
Glogow-Czerwiensk	355	67	2001-4000	17	8	1	1
Czerwiensk-Kostrzyn	355	89	0-2000	5	1	1	0
Zagan-Zary	358	13	0-2000	8	1	1	1
Stargard Szczecinski-Poznan	360	174	2001-4000	18	9	5	6
Szczecin - Gryfino	366	25	4001-8000	19	3	0	0

Gryfino - Kostrzyn	366	79	2001-4000	9	3	0	0
Szczecin D-Swinoujscie	370	102	0-2000	11	1	1	0
Gdynia-Bialogard-Szczecin	380	202	4001-8000	26	21	4	2
Koszalin-Kolobrzeg	382	43	0-2000	6	1	1	1
Dzialdowo-Ilawa	400	60	0-2000	7	8	3	16
Ilawa-Malbork	400	69	2001-4000	7	6	3	16
Malbork-Tczew	400	19	2001-4000	18	7	3	17
Tczew - Gdynia	400	53	8001and more	10	12	3	17
Torun-Jablonowo Pomorski	405	58	0-2000	26	10	1	0
Jablonowo Pomorski -Ostroda	405	66	0-2000	11	9	0	0
Ostroda-Olsztyn	405	39	4001-8000	11	9	0	0
Inowroclaw-Torun	405	35	4001-8000	11	3	1	0
Bydgoszcz-Torun	420	51	4001-8000	4	9	3	0
Torun -Kutno	420	110	0-2000	8	10	3	0
Kutno-Lodz	420	68	2001-4000	5	5	2	0
Pila- Naklo	425	60	4001-8000	8	6	0	0
Naklo - Bydgoszcz	425	27	2001-4000	8	6	0	0
Tczew-Starogard G.	426	24	4001-8000	8	6	0	0
Starogard G.-Chojnice	426	73	0-2000	8	6	0	0
Tczew-Laskowice P	430	76	2001-4000	11	14	4	1
Laskowice P - Bydgoszcz	430	52	4001-8000	14	16	4	1
Bydgoszcz-Inowroclaw	430	46	2001-4000	10	11	6	2
Inowroclaw-Poznan	430	107	8001and more	19	9	3	2
Gdynia-Somonino-Koscierzyna	440	67	2001-4000	11	0	0	0
Dzialdowo-Olsztyn	500	84	0-2000	6	3	0	0
Malbork-Elblag	505	29	4001-8000	15	7	1	0
Elblag-Olsztyn	505	99	0-2000	8	7	1	0
Olsztyn-Elk	510	167	0-2000	9	1	1	0
Tluszcz-Wyszkow	519	21	0-2000	14	1	0	0
Malkinia-Bialystok	530	90	4001-8000	15	7	1	0
Bialystok-Suwalki	530	140	0-2000	8	7	1	0
Bialystok-Elk	535	104	0-2000	8	1	0	0
Siedlce-Lukow	540	28	0-2000	14	3	5	0
Lukow-Terespol	540	89	4001-8000	16	5	5	0
* Chelm-Rejowiec-Lublin-Deblin	550	145	4001-8000	30	10	5	3
Rejowiec-Belzec	554	123	0-2000	1	3	0	0
Zwierzyniec-Stalowa W P	556	71	0-2000	0	1	0	0
Zawada-Zamosc	557	9	0-2000	4	2	0	0
Warszawa Z-Srod.-Warszawa W	600	9	8001and more	137	0	0	0
Warszawa Z-Central-Warszawa W	600a	9	8001and more	10	71	22	67
Warszawa Z-Skierniewice-Koluszki-Lodz Kaliska	601	147	8001and more	80	38	3	1
Lowicz-Skierniewice	603	22	2001-4000	13	1	1	0

Warszawa-Radom	605	108	4001-8000	21	9	2	1
* Kutno-Lowicz-Warszawa Zs	606	123	8001and more	36	9	7	16
Warszawa Wola-Nasielsk	608	60	8001and more	33	13	9	15
* Nasielsk-Dzialdowo	608	88	4001-8000	19	14	3	17
Warszawa Wil.-Tluszcz	610	34	8001and more	60	10	0	1
Tluszcz-Malkinia	610	50	4001-8000	20	8	0	0
Warszawa Wschodnia-Siedlce	613	88	4001-8000	49	3	12	0
Warszawa W-Pilawa	614	50	8001and more	39	7	1	1
Total	3,170	8,877		1835	800	245	290

ATTACHMENT 8.3.4

The Transportation Analysis of Major Voivodship Areas

(1) Mazowiecki – Warszawa area

1) Transportation volume

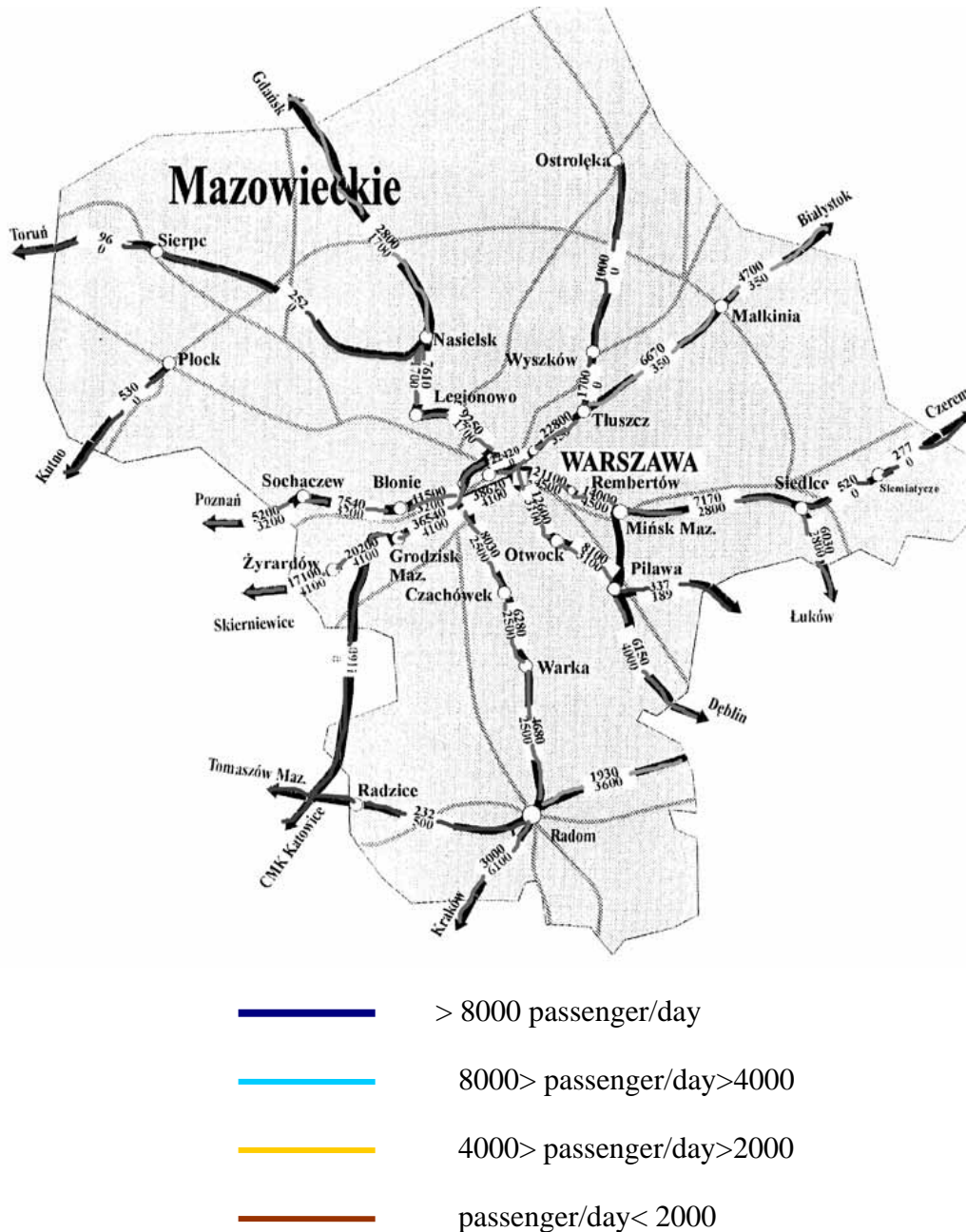


Figure A8.3.4-1 Transportation Volume in Mazowiecki (Warszawa) Area

2) Profit analysis of Warszawa suburban lines

Table A8.3.4-2 Profit Analysis of Warszawa Suburban Lines

One way analysis

Warszawa total lines	total train	Profit train	Break-even train	Under-break even	Sum of loss
Without case +0%	266	42	84	182	-9,355.45
With case +35% +0%	266	101	191	75	-2,658.97
Without case +10%	266	53	110	156	-7,442.20
With case +35% +10%	266	119	247	19	-745.70
Without case +15%	266	64	122	144	-6,485.50
With case +35% +15%	266	136	266	0	210,90

Minsk Maz line	total train	Profit train	Break-even train	Under-break even	Sum of loss
Without case +0%	18	1	2	16	-289,380.00
With case +35% +0%	18	8	17	1	-5.86
Without case +15%	18	6	9	9	-167.90
With case +35% +15%	18	11	18	0	115.62

Otwock line	total train	Profit train	Break-even train	Under-break even	Sum of loss
Without case +0%	18	7	15	3	-20.15
With case +35% +0%	18	13	18	0	156.06
Without case +15%	18	11	18	0	44.50
With case +35% +15%	18	15	18	0	239.76

Wilenska line	total train	Profit train	Break-even train	Under-break even	Sum of loss
Without case +0%	49	12	27	22	-817.51
With case +35% +0%	49	31	49	0	140.90
Without case +15%	49	19	37	12	-406.80
With case +35% +15%	49	40	49	0	551.65

Grodzisk Maz. Line	total train	Profit train	Break-even train	Under-break even	Sum of loss
Without case +0%	34	20	31	3	-68.73
With case +35% +0%	34	26	34	0	347.77
Without case +15%	34	20	34	0	109.80
With case +35% +15%	34	27	34	0	526.27

3) Trains on line 610 Warszawa Wilenska – Malkinia

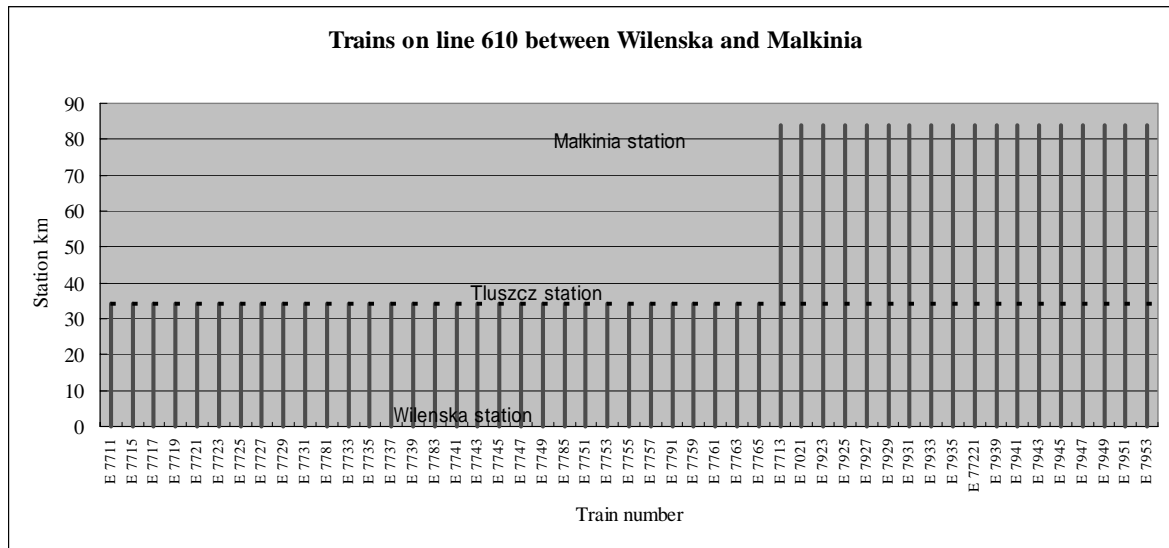


Figure A8.3.4-2 Transportation volume in Mazowieckie (Warszawa) area

Trains are shown for the one way of trains between Warszawa Wilenska an Malkinia station. They are regional ordinary trains and Fast trains run from Warszawa Zachodnia that will arrive at Bialstok. Some ordinary trains will start Warszawa Zachodnia and join at Zielonka station and arrive at Tluszcz station.

The situation of two type trains is so complicate that the train diagram on this line is schematically shown in the train diagrams in the Figure 8.5.2.

(2) Lodzkie (Lodz area)

1) Transportation volume

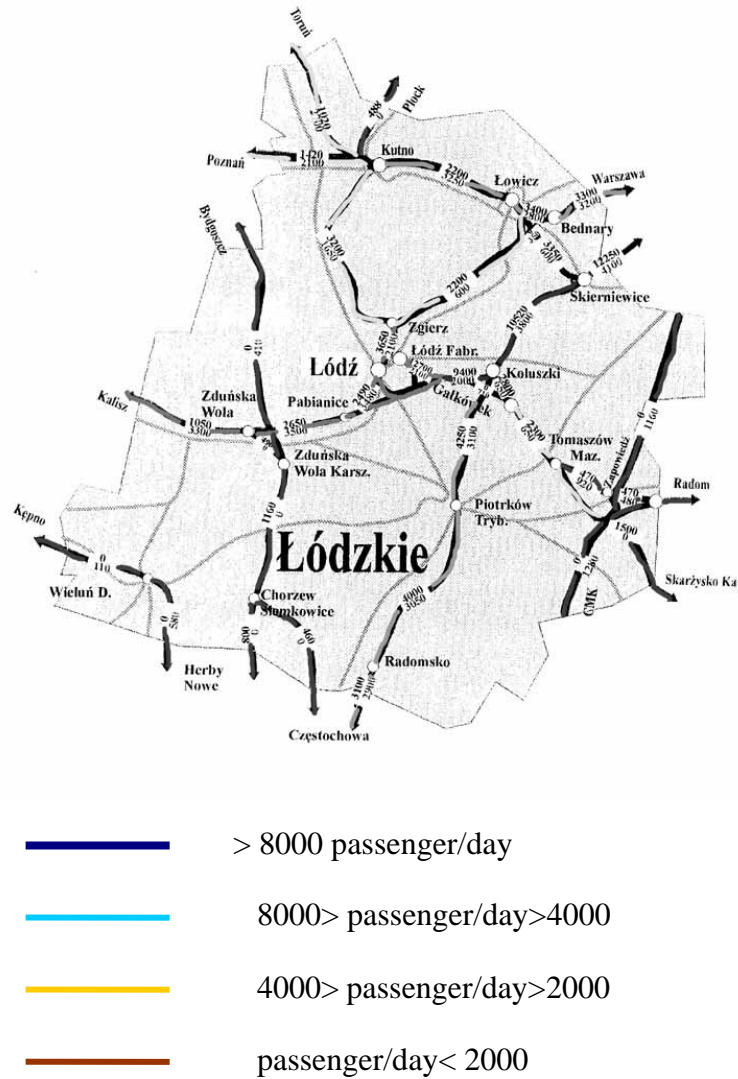


Figure 8.3.4-3 Transportation Volume in Lodzkie (Lodz) Area

2) Profit analysis of Lodz area suburban lines

Table A8.3.4-3 Profit analysis of Lodz suburban lines

Lodz area	total train	Profit train	Break-even train	Under-break even
Without case +0%	46	0	0	46
With case +35% +0%	46	1	1	45
Without case +15%	46	0	0	46
With case +35% +15%	46	11	24	22

3) Trains on line 601 Warszawa –Łódź**Table A8.3.4-4 Trains on line 601 between Warszawa and Łódź**

Train number	Train type	Train number	Train type	Train number	Train type
Ex 3117	Express	E 7719	Ordinary	E 7791	Ordinary
28	Fast	E 7721	Ordinary	E 7759	Ordinary
79101	Fast	E 7723	Ordinary	E 7761	Ordinary
41503	Fast	E 7725	Ordinary	E 7763	Ordinary
79101	Fast	E 7727	Ordinary	E 7765	Ordinary
79105	Fast	E 7729	Ordinary	E 7713	Ordinary
77109	Fast	E 7731	Ordinary	E 7021	Ordinary
79103	Fast	E 7781	Ordinary	E 7923	Ordinary
77105	Fast	E 7733	Ordinary	E 7925	Ordinary
E 77107	Fast	E 7735	Ordinary	E 7927	Ordinary
79501	Fast	E 7737	Ordinary	E 7929	Ordinary
E 721	Ordinary	E 7739	Ordinary	E 7931	Ordinary
E 741	Ordinary	E 7783	Ordinary	E 7933	Ordinary
E 723	Ordinary	E 7741	Ordinary	E 7935	Ordinary
E 725	Ordinary	E 7743	Ordinary	E 77221	Ordinary
E 727	Ordinary	E 7745	Ordinary	E 7939	Ordinary
E 729	Ordinary	E 7747	Ordinary	E 7941	Ordinary
E 70143	Ordinary	E 7749	Ordinary	E 7943	Ordinary
E 731	Ordinary	E 7785	Ordinary	E 7945	Ordinary
E 733	Ordinary	E 7751	Ordinary	E 7947	Ordinary
E 7711	Ordinary	E 7753	Ordinary	E 7949	Ordinary
E 7715	Ordinary	E 7755	Ordinary	E 7951	Ordinary
E 7717	Ordinary	E 7757	Ordinary	E 7953	Ordinary

Trains on 601 are shown in the above table and in the following figures. The profitable trains of PKP Regional are running but not so many. They should be enforced by transforming the unprofitable ordinary trains into the rapid trains.

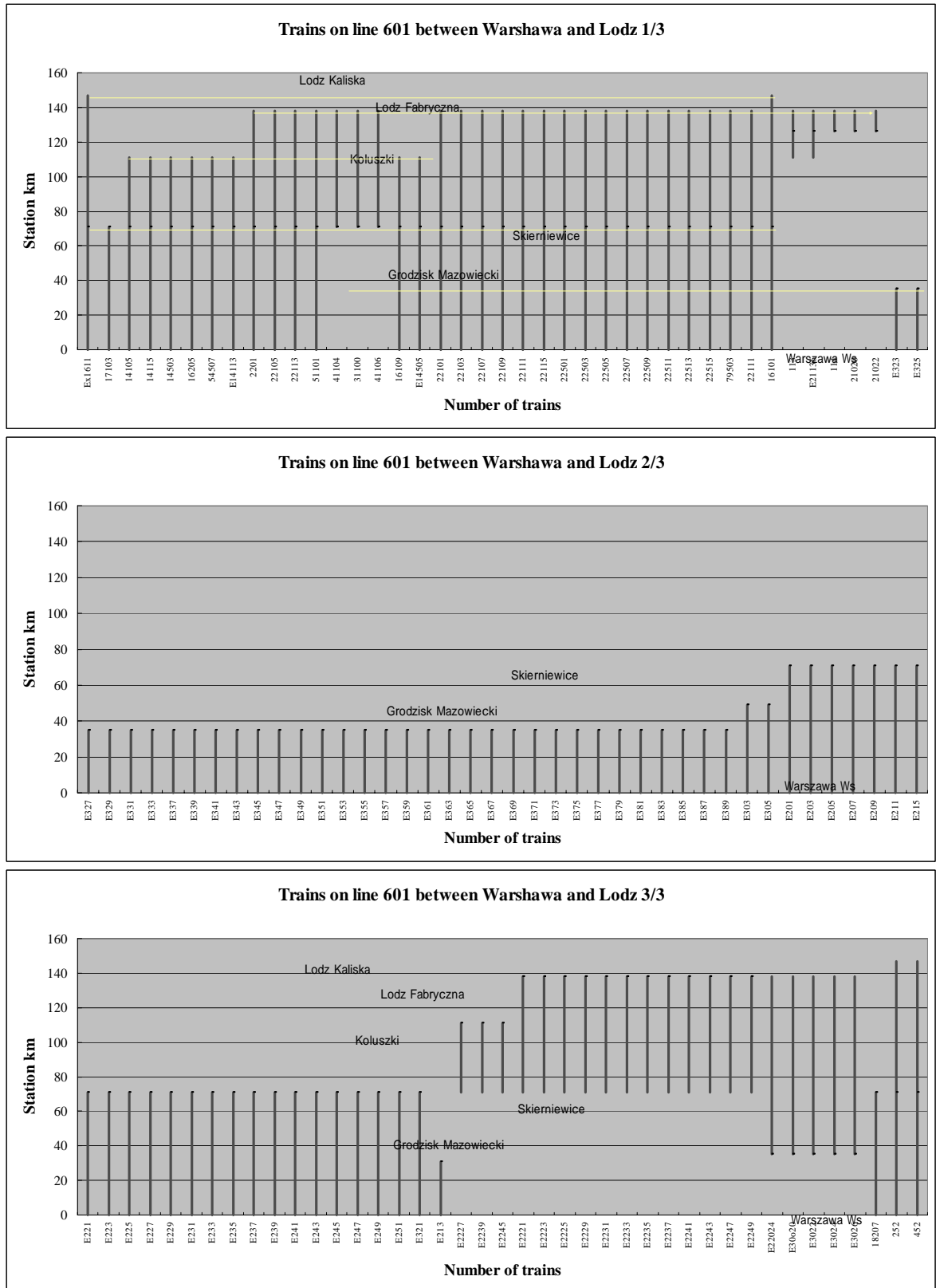


Figure A8.3.4.-4 Trains on line 601 Warszawa - Lodz

(3) Malopolskie (Krakow area)

1) Transportation volume

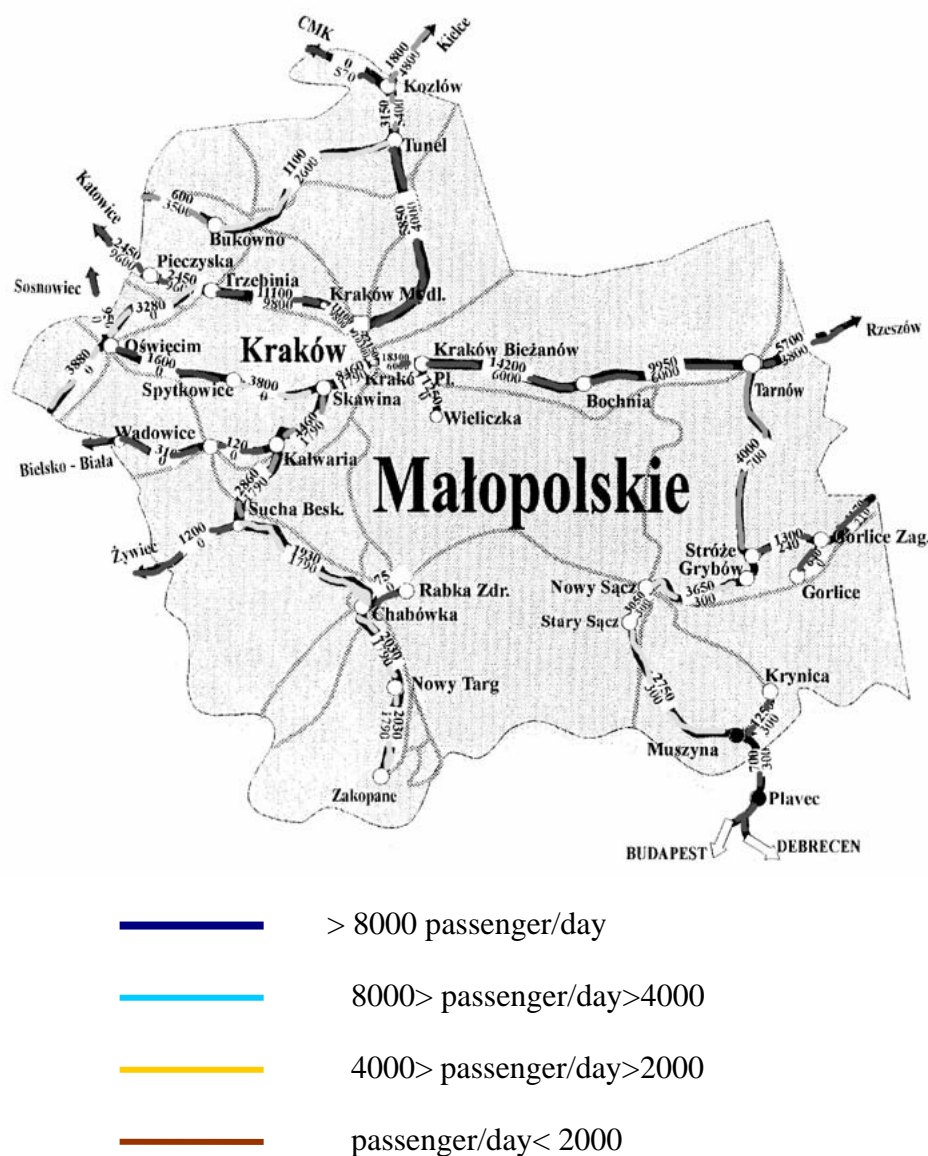


Figure 8.3.4-5 Transportation volume in Malopolskie (Krakow) area

2) Profit analysis of Krakow urban lines

Table A8.3.4-5 Profit analysis of Krakow urban lines

Krakow urban lines	total train	Profit train	Break-even train	Under-break even
Without case +0%	117	0	0	117
With case +35% +0%	117	4	9	108
Without case +15%	117	1	1	116
With case +35% +15%	117	19	37	80

3) Trains on line 120 Krakow – Tarnow

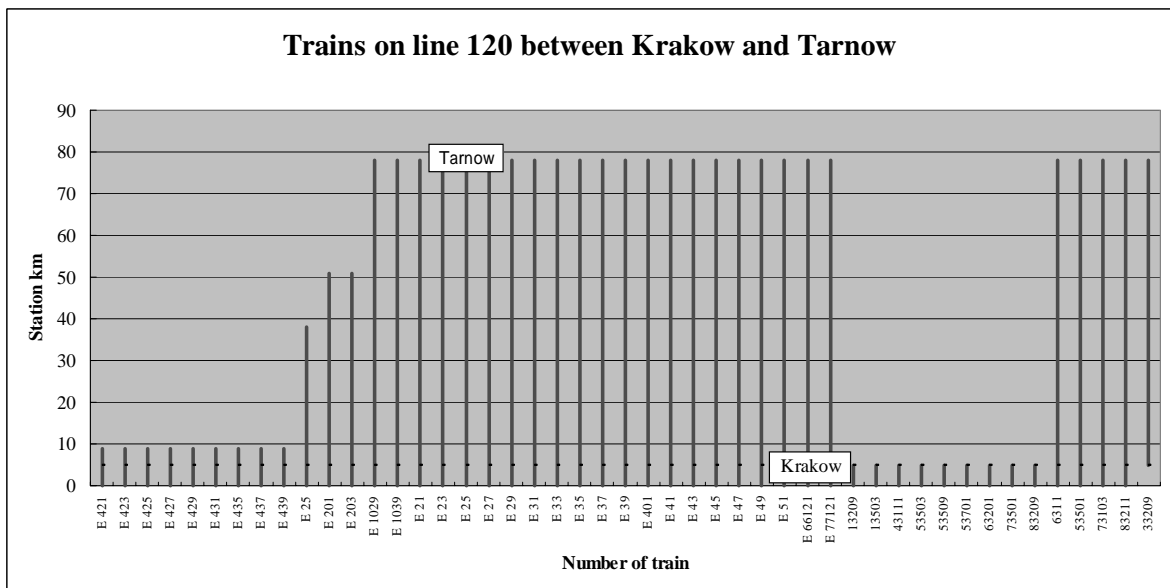
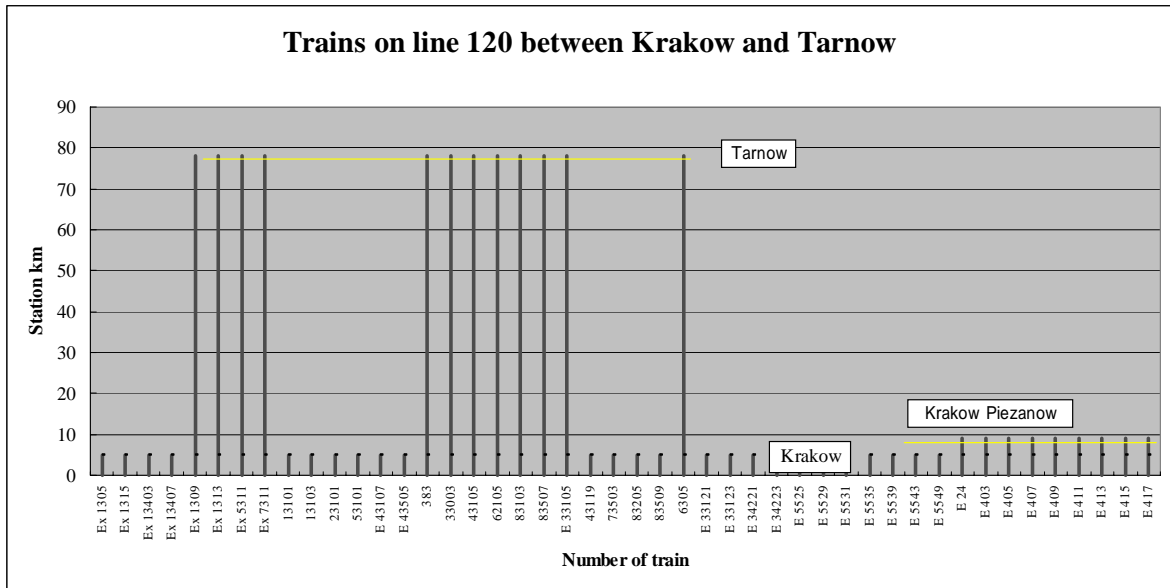


Figure A8.3.4-6 Trains on line 120 Krakow – Tarnow

(4) Slaskie (Katowice area)

1) Transportation volume



Figure A8.3.4-7 Transportation volume in Slaskie (Katowice) area

2) Profit analysis of Katowice area urban lines**Table A8.3.4-6 Profit analysis of Katowice urban lines**

Katowice urban lines	total train	Profit train	Break-even train	Under-break even
Without case +0%	99	1	4	95
With case +35% +0%	99	12	29	70
Without case +15%	99	5	10	24
With case +35% +15%	99	24	57	42

3) Trains on line 140 Krakow – Katowice**Table A8.3.4-7 Trains on line 140 between Krakow and Katowice**

Number	Type name	Number	Type name	Number	Type name
EC204	EuroCity	E43113	Fast	E3022	Ordinary
IC241	InterCity	E43107	Fast	E43122	Ordinary
Ex7310	Express	43105	Fast	E103	Ordinary
Ex8310	Express	E43506	Fast	E43130	Ordinary
Ex83400	Express	43142	Fast	E43132	Ordinary
73700	Night Express L	6304	Fast	E105	Ordinary
83702	Night Express L	83507	Fast	E43124	Ordinary
53701	Night Express L	54101	Fast	E43134	Ordinary
E43504	Fast	E4322	Ordinary	E43136	Ordinary
83204	Fast	E4324	Ordinary	E3024	Ordinary
E43102	Fast	E43141	Ordinary	E43138	Ordinary
73102	Fast	E4326	Ordinary	E43126	Ordinary
83102	Fast	E4330	Ordinary	E101	Ordinary
83100	Fast	E4332	Ordinary	73500	Sleeper train
E334	Fast	E4334	Ordinary	63200	Sleeper train
63100	Fast	E4336	Ordinary	6310	Sleeper train
43200	Fast	E4338	Ordinary	449 73003	Sleeper train
62106	Fast	E4340	Ordinary	53501	Sleeper train
73502	Fast	E3020	Ordinary	83211	Sleeper train
43503	Fast	E43120	Ordinary	43010	Sleeper train

Trains of PKP Intercity and PKP Regional are running between Krakow and Katowice. Ordinary type of trains are relatively few because of the rapid improvement of road transportation.

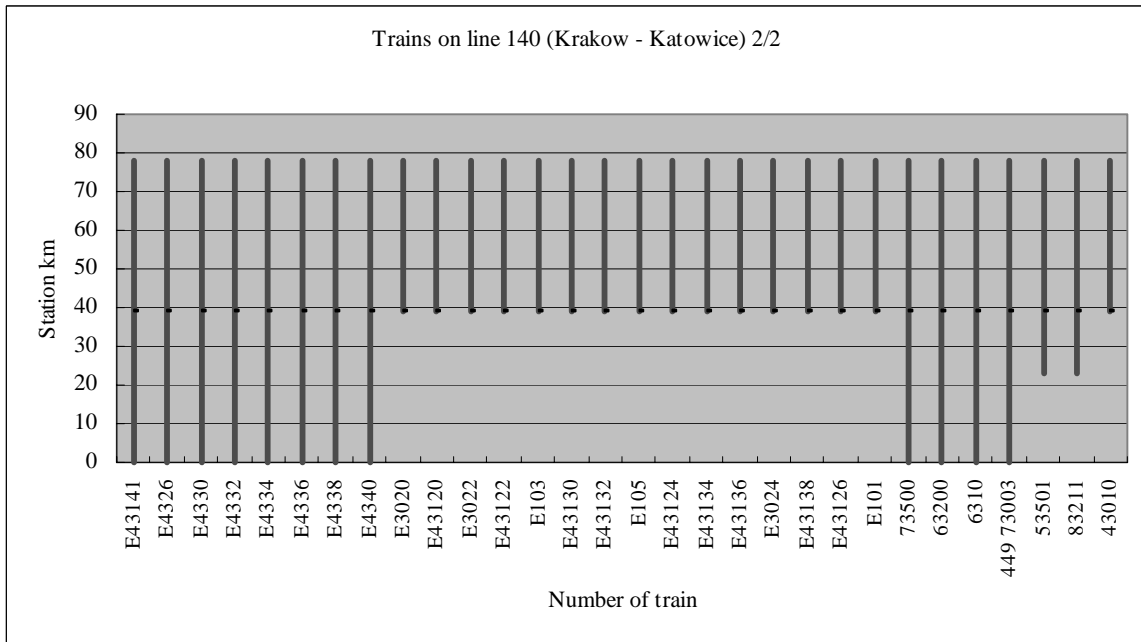
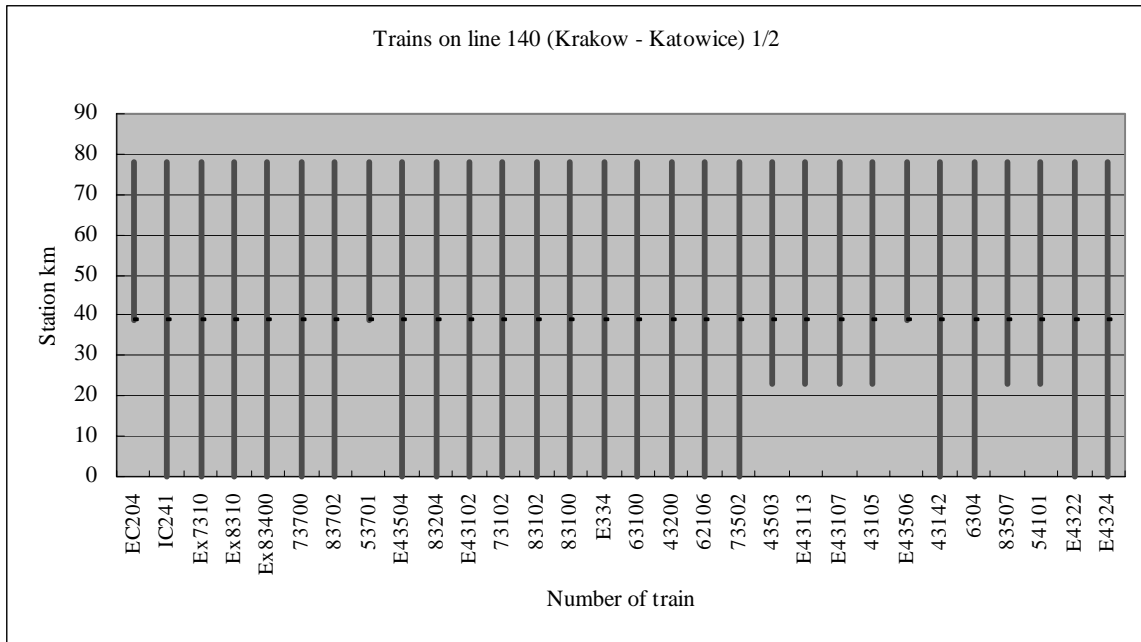


Figure A8.3.4-8 Trains on line 140 Katowice - Krokow

(5) Wielkopolskie (Poznan area)

1) Transportation volume

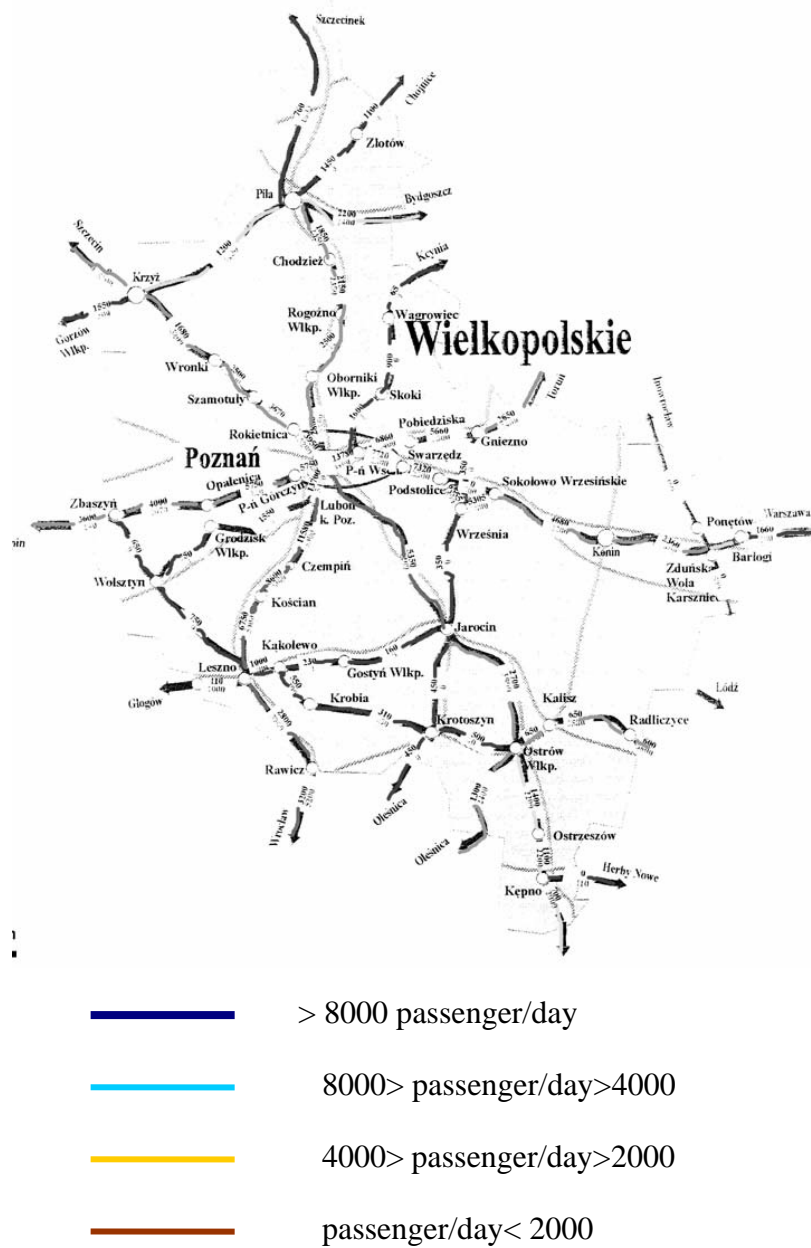


Figure A8.3.4 - 9 Transportation volume in Wielkopolskie (Poznan) area

2) Profit analysis of Poznan area suburban lines**Table A8.3.4-8 Profit analysis of Poznan urban area**

Poznan urban lines	total train	Profit train	Break-even train	Under-break even
Without case +0%	106	1	2	104
With case +35% +0%	106	42	79	27
Without case +15%	106	15	25	81
With case +35% +15%	106	61	106	0

3) Trains on line 300 Warszawa – Poznan- Rzepin**Table A8.3.4-9 Trains on line 300 between Warsaw and Rzepin**

Train number	Train type	Train number	Train type	Train number	Train type
EC46	EuroCity	18109	Fast	133	Ordinary
EC44	EuroCity	17103	Fast	139	Ordinary
EC40	EuroCity	246	Fast	143	Ordinary
EC48	EuroCity	E77113	Fast	E141	Ordinary
IC1507	InterCity	57103	Fast	331	Ordinary
IC1601	InterCity	77109	Fast	241	Ordinary
IC1701	InterCity	77117	Fast	E335	Ordinary
IC18403	InterCity	25103	Fast	243	Ordinary
IC2601	InterCity	18503	Fast	245	Ordinary
IC1703	InterCity	17113	Fast	E231	Ordinary
IC1603	InterCity	135	Fast	E231	Ordinary
IC1801	InterCity	137	Fast	E233	Ordinary
IC1705	InterCity	77207	Fast	235	Ordinary
Ex1811	Express	17041	Ordinary	5984	Ordinary
Ex1813	Express	17131	Ordinary	E2231	Ordinary
Ex1613	Express	17133	Ordinary	E2233	Ordinary
Ex1713	Express	17135	Ordinary	2235	Ordinary
Ex1711	Express	17137	Ordinary	18207	Sleeper train
18701	Night Express L	17139	Ordinary	344	Sleeper train
15109	Fast	E57521	Ordinary	1284	Sleeper train
28101	Fast	76937	Ordinary	248	Sleeper train
15119	Fast	E131	Ordinary		

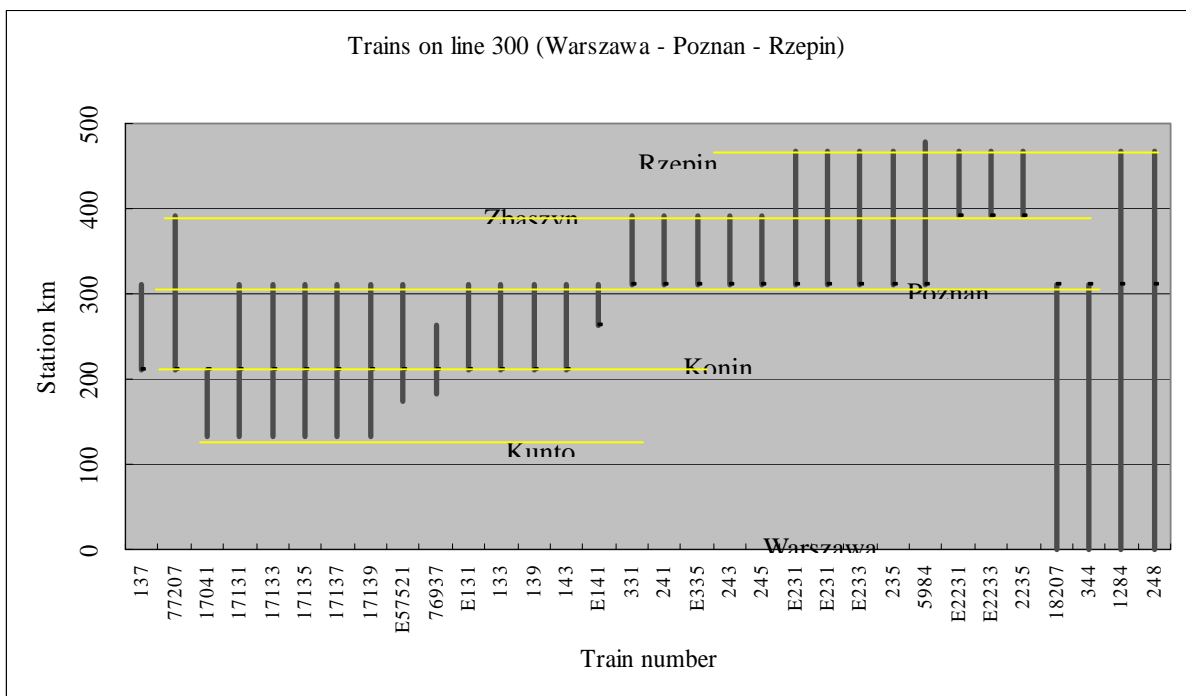
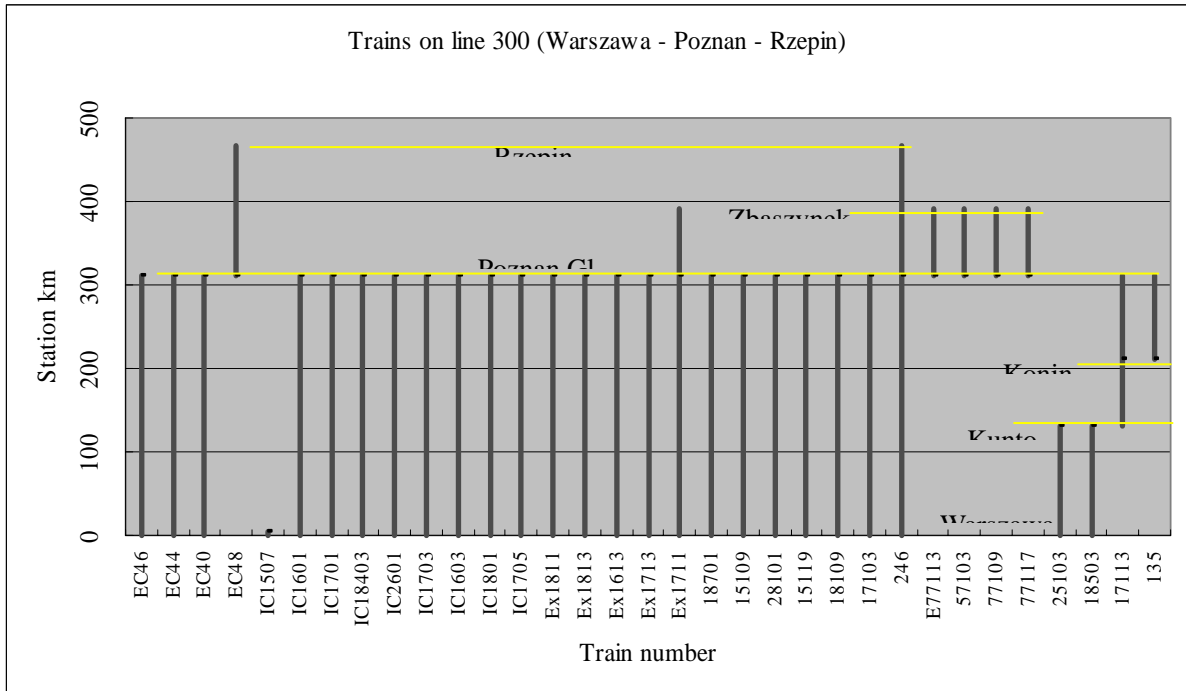


Figure A8.3.4 -10 Trains on line 300 Warszawa W - Rzepin

(6) Dolnoslaskie (Wroclaw area)

1) Transportation volume

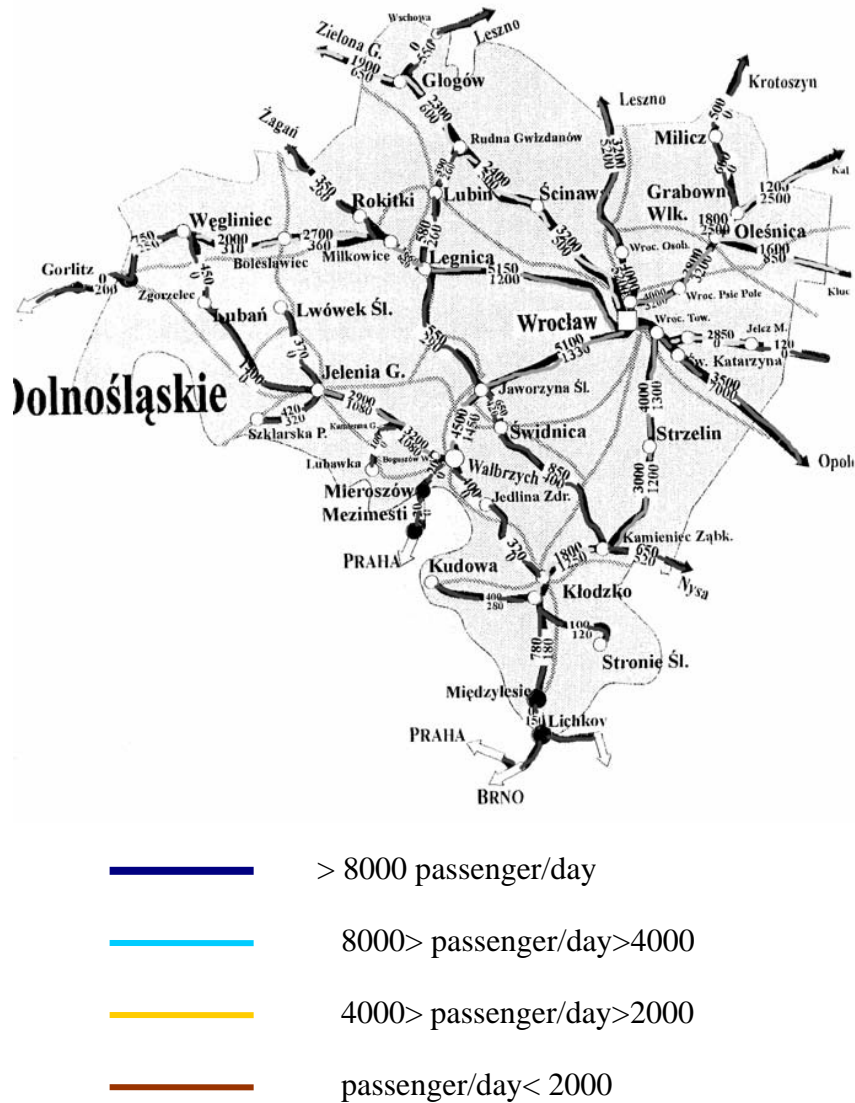


Figure 8.3.4-11 Transportation volume in Wrocław area

2) Profit analysis of Wrocław area

TableA 8.3.4-10 Profit analysis of Wrocław suburban area

Wrocław urban lines	total train	Profit train	Break-even train	Under-break even
Without case +0%	46	0	0	46
With case +35% +0%	46	1	1	45
Without case +15%	46	0	0	46
With case +35% +15%	46	11	24	22

3) Trains on line 200 Warszawa – Wrocław**Table A8.3.4-11 Trains on line 200**

Train number	Train type	Train number	Train type
16103	Fast	76533	Ordinary
16105	Fast	76535	Ordinary
16503	Fast	E76537	Ordinary
16101	Fast	E76539	Ordinary
16503	Fast	76541	Ordinary
E17323	Fast	E6433	Ordinary
E17421 R P	Fast	E1221	Ordinary
E17423 R P	Fast	111	Ordinary
26103	Fast	E1111	Ordinary
E5021	Ordinary	E11123	Ordinary
E17321	Ordinary	E113	Ordinary
E5023	Ordinary	E1123	Ordinary
E5025	Ordinary	E115	Ordinary
E5027	Ordinary	E1125	Ordinary
E5029	Ordinary	E1113	Ordinary
E5031	Ordinary	E117	Ordinary
1729	Ordinary	E119	Ordinary
E17221	Ordinary	E1115	Ordinary
E1733	Ordinary	E121	Ordinary
E17223	Ordinary	E1127	Ordinary
1735	Ordinary	E123	Ordinary
E17225	Ordinary	E1129	Ordinary
E17227	Ordinary	4633	Ordinary
26103	Ordinary	E125	Ordinary
E17229	Ordinary	252	Sleeper train
E17231	Ordinary	26201	Sleeper train
76531	Ordinary		

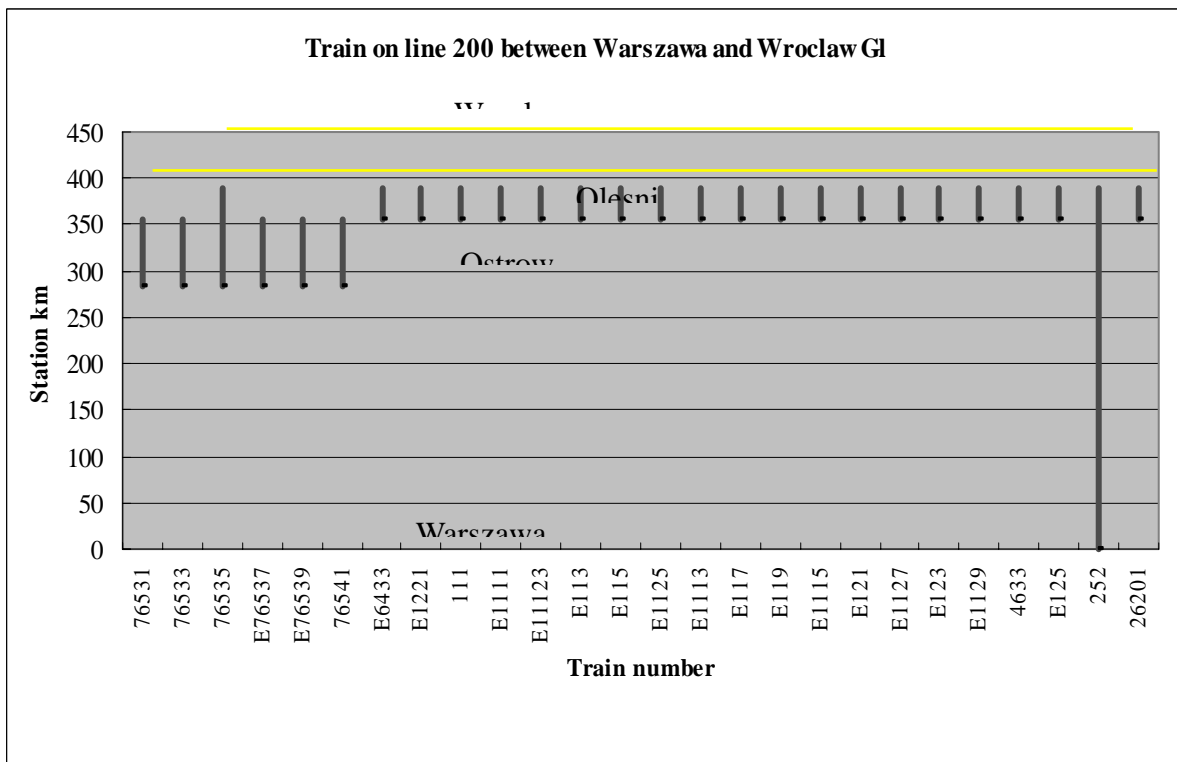
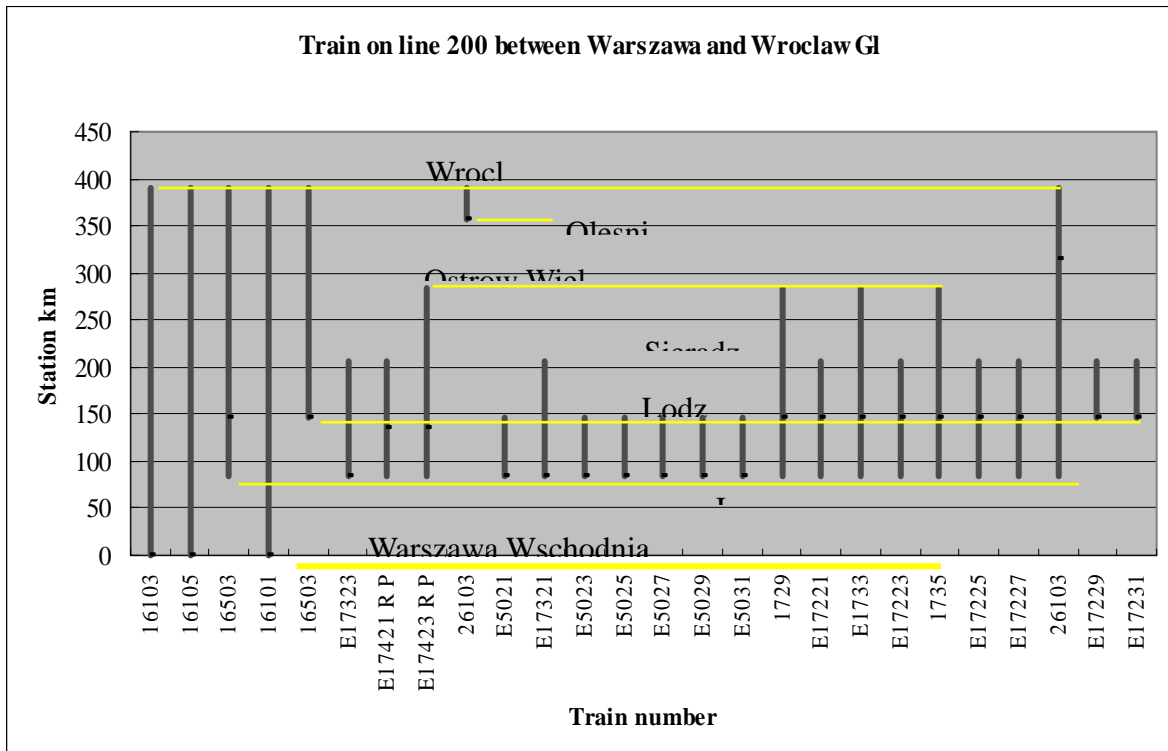


Figure A8.3.4-12 Trains on line 200 in Warszawa - Wrocław

ATTACHMENT 8.5 Trains on line 610

Table A8.5.2 Trains on line 610 (Warszawa Wilenska–Tłuszcz-Malkinska)

Number	Name	Number	Name	Number	Name
Ex 3117	Express	E 7719	Ordinary	E 7791	Ordinary
28	Fast	E 7721	Ordinary	E 7759	Ordinary
79101	Fast	E 7723	Ordinary	E 7761	Ordinary
41503	Fast	E 7725	Ordinary	E 7763	Ordinary
79101	Fast	E 7727	Ordinary	E 7765	Ordinary
79105	Fast	E 7729	Ordinary	E 7713	Ordinary
77109	Fast	E 7731	Ordinary	E 7021	Ordinary
79103	Fast	E 7781	Ordinary	E 7923	Ordinary
77105	Fast	E 7733	Ordinary	E 7925	Ordinary
E 77107	Fast	E 7735	Ordinary	E 7927	Ordinary
79501	Fast	E 7737	Ordinary	E 7929	Ordinary
E 721	Ordinary	E 7739	Ordinary	E 7931	Ordinary
E 741	Ordinary	E 7783	Ordinary	E 7933	Ordinary
E 723	Ordinary	E 7741	Ordinary	E 7935	Ordinary
E 725	Ordinary	E 7743	Ordinary	E 77221	Ordinary
E 727	Ordinary	E 7745	Ordinary	E 7939	Ordinary
E 729	Ordinary	E 7747	Ordinary	E 7941	Ordinary
E 70143	Ordinary	E 7749	Ordinary	E 7943	Ordinary
E 731	Ordinary	E 7785	Ordinary	E 7945	Ordinary
E 733	Ordinary	E 7751	Ordinary	E 7947	Ordinary
E 7711	Ordinary	E 7753	Ordinary	E 7949	Ordinary
E 7715	Ordinary	E 7755	Ordinary	E 7951	Ordinary
E 7717	Ordinary	E 7757	Ordinary	E 7953	Ordinary

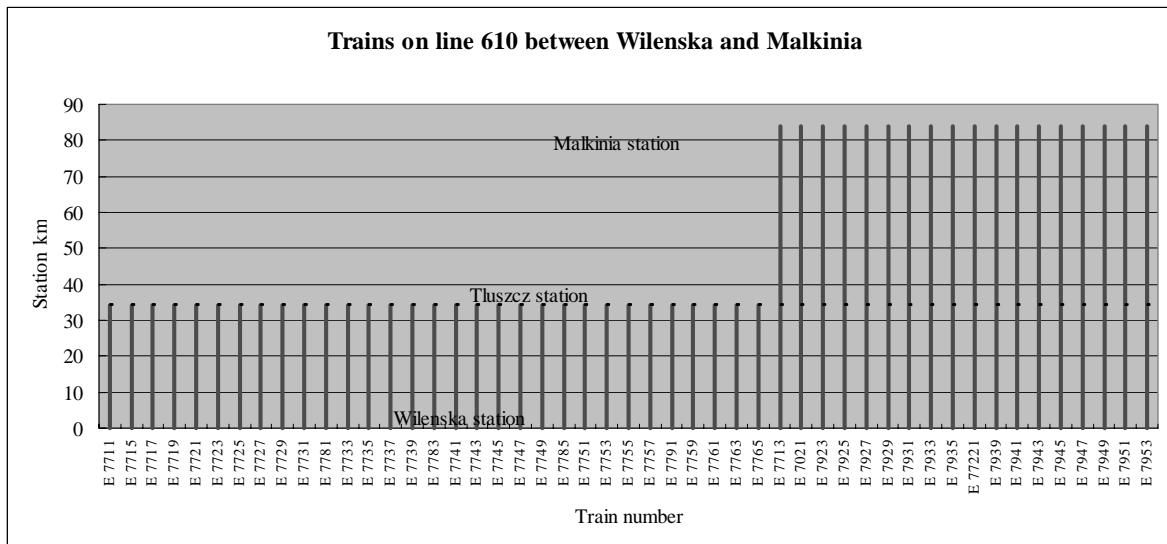


Figure A8.5.1 Trains on line 610 (Warszawa-Tłuszcz-Malkinia)