

Measure title: **Demand-responsive transport services in Krakow**

City: **Krakow**

Project: **Caravel**

*Measure
number:*

8.6

A Introduction please apply the format rules throughout the document

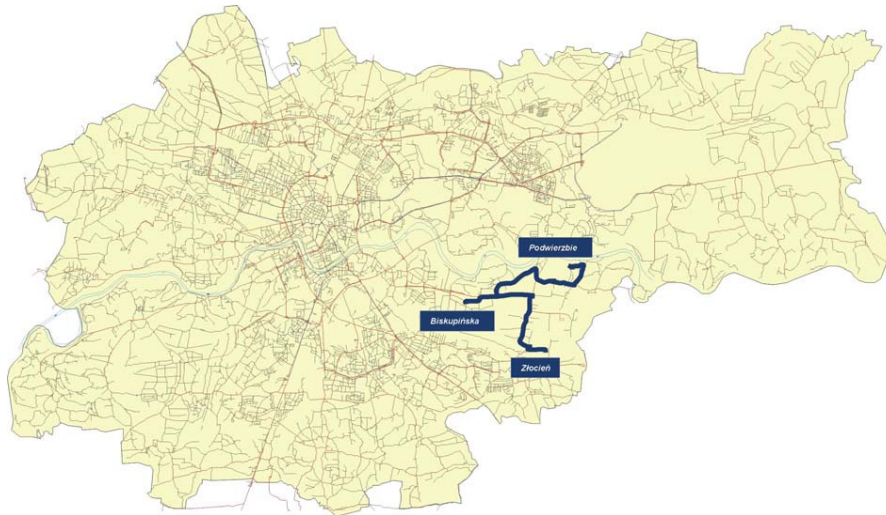
A1 Objectives

- To enlarge PT offer by implementing the first demand responsive transport service in Poland and institutionally integrate this efficient flexible PT service tailored to individual passengers needs.
- To test and evaluate demand-responsive lines in the area of three districts of Rybitwy, Podwierzbie and Biezanow in South - East Krakow in view of future development of the service
- To launch the management and control centre (Transport Dispatch Centre) along with introduction of a new phone number to be used by clients for trips pre-booking

A2 Description

Service availability region spans three districts: Rybitwy, Podwierzbie and a part of Biezanów. It is the residential and industrial area with low density of people where PT conventional service is not sufficient and characterises with a low frequency of bus runs. Therefore a main goal of DRT implementation in this determined area is to make it easier for inhabitants to reach the communication junctions where changes for other lines are possible. Implementing irregular transport system by buses operating in Dial and Ride system will improve the quality and accessibility of public transport in these areas of Krakow. The aim of the project is to launch and test a demand-responsive bus service in the areas of Rybitwy, Podwierzbie, Biezanow, by initially using 2 small buses. This service is characterised by flexible routes and schedules responding partially or fully to requests of individual passengers. For managing the demand-responsive system, Krakow has taken-up the technology and software from the existing demand-responsive public transport service in Genoa.

It is expected to achieve a 5% increase of public transport patronage on the corridor of the demand-responsive services during the project duration. MPK purchased 32 small buses in 2005 (12 in June and 20 in September 2005) meeting EURO III standard. Buses will be dedicated partly to use for demand-responsive transport service in Krakow. The management and control centre for the demand responsive system introducing a new phone number to make system available for all users will also be launched.



A2 – 1. The areas (indicated by navy bold lines) of demand –responsive transport service

The daily DRT service operation is managed by Transport Dispatch Center – a part of MPK organizational structure. DRT clients contact dispatchers by phone using a special free line dedicated only for DRT services. Dispatchers collect the information from passengers, input data to the system, the system plans routes and output information is given to TELE-BUS drivers. The only limitation from the passengers' point of view is fact that an order must be placed at least 30 minutes before the planned start of the trip. The communication between TDC and drivers is based on mobiles phones and private radio network.

Operating hours:

Tele-bus service:

Monday – Friday from 8.00 to 23.00

Saturday – Sunday from 6.00 to 23.00

Transport Dispatch Centre:

every day from 7.30 to 21.00

B Measure implementation

B1 Innovative aspects

The innovative aspects of the measure are:

- **First demand responsive transport service in Poland** – there are no similar solutions in Poland. It has very innovative aspects in Polish conditions due to flexible usage of rolling stock in less dense areas of the suburbs. There is a high level of interest among public transport operators from other cities, concerning efficiency of the service and possibility of applying solution in their cities.

- **Dial and Ride system and irregular bus lines** – it is modern solution which helps to convince inhabitants to use public transport. It is important especially for areas, where regular public transport lines do not operates.
- **Design of the demand-responsive transport concept, including network planning, organisational, legal and financial issues** - It is many-to-many service with fixed stop points and flexible routes and timetables which operates in determined area and during defined operating hours.
- **Design/ adoption of the software and necessary technology for the demand-responsive services. Example of good cooperation and a technology take-up from the demand-responsive service in Genoa is planned. Innovative aspect 1** – New conceptual approach.

B2 Situation before CIVITAS

Buses and trams operating in Krakow have regular character. Often, especially in the suburban areas, PT service is too low. It affects on lengthen of waiting time and access time. It is the reason of less popularity of public transport among inhabitants.

In chosen area of Rybitwy, Podwierzbie and Biezanow there are ca 100 bus runs daily. Low people density and relatively low bus occupancy imply high operating costs of conventional service.

B3 Actual implementation of the measure

The measure was implemented in the following stages:

Stages of measure implementation		
Stage No	Description of the stage	Time frames
1.	Analysis and research on Genoa DRT service	March – October 2006
2.	Work on operating design	November 2006 – May 2007
3.	Preparation of marketing campaign	April 2007– June 2007
4.	Service model designing	11/06/2007 – 18/06/2007
5.	Software adaptation, installation and training	March 2007– June 2007
6.	Preparation and execution of communication and marketing campaign	May 2007– July 2007
7.	Start of the transport dispatch center	03/07/2007
8.	Start of the service operation (first bus run)	14/07/2007
9.	Service performance and monitoring	14/07/2007 – 31/01/2009
10.	Survey on the Tele-bus users (preparation, execution and analysis of results)	March 2008 – July 2008
11.	Work on the Polish version of the software for managing flexible PT service	March 2008 – December 2008

B4 Deviations from the original plan

The deviations from the original plan comprised:

- **Deviation 1** – Six-months delay of service launch. The DRT service in Krakow was launch in July 2007 (month 30) instead of January 2007 (month 24) which had been planned in the Inception Report. The delay was caused by institutional and organizational changes of municipal units responsible for public transport in Krakow. In August 2006 a new entity – Public Transport Authority (PTA) had been established and started up its activity in October 2006. According to previous assumptions PTA, was considered to take over significant competences related to DRT implementation. But after long negotiations on share of competences regarding implementation of DRT service it was decided that MPK (i.e. .PT operator) remains responsible for this task.

B5 Inter-relationships with other measures

The measure is related to other measures as follows:

- **Mobility Forum in Krakow 11.7** – DRT service will be one of subjects to be discussed within the Forum.
- **Sustainable mobility marketing in Krakow 11.3** – A communication and information campaign for the new DRT service launch is considered as an activity conducted within sustainable mobility marketing.
- **Transition towards clean vehicle fleets in Krakow 5.3** – It is planned to link the area of DRT service with corridors of clean vehicles.

C Evaluation – methodology and results

C1 Measurement methodology

C1.1 Impacts and Indicators

Evaluation Category	N°	Indicator	Units	Source of data	Methodology for indicator construction (survey, modelling, etc)	Baseline date
Economy	1	Operating revenues	€/pkm	MPK	Measurement	12.2007
	2	Operating costs	€/pkm	MPK	Measurement	12.2007
Energy	3	Vehicle fuel efficiency	MJ/vkm	MPK	Measurement	12.2007
Society	14	Acceptance level	%	MPK	Survey	12.2007
	15	PT accessibility	%	MPK	Survey	12.2007
Transport	18	PT time keeping	%	MPK	Measurement	12.2007
	28	Average occupancy	%	MPK	Measurement	12.2007
	Own	Average trip time	%,Min	MPK	Survey	12.2007

Detailed description of the indicator methodologies:

- **Operating revenues** – is defined as the ratio of total income generated from fares and tickets divided by the total passenger-km or vehicle-km completed by the service in a given time period (for example day, week, month or year).
- **Operating costs** – is defined as the ratio of total operating costs incurred by a service divided by the total passenger-km or vehicle-km completed by the service in a given time period (for example day, week, month or year).
- **Vehicle fuel efficiency** – is defined as the energy consumption per unit of transport activity. The indicator will be derived by vehicle type and fuel type. The indicator is used to compare vehicle fuel efficiency with and without operating DRT.
- **Acceptance level** – is defined as the percentage of the population who favourably receive or approve of the measure. Results of the indicator will arise from public inquiry conducted in the frame of survey prepared for KHK (Krakow Municipal Holding) – final report is already available (in Polish).
- **PT accessibility** – defined as the user's perception of the frequency of PT means and accessibility to the stops. The unit of indicator is index on a 5-point scale (Very good, Good, Rather good, Bad nor Very bad).
- **PT time keeping** – defined by value of standard deviation of whole corridor (or section) running time. The unit of this indicator is time (in minutes).
- **Average trip time** – defined as a riding time. The unit of this indicator is time (in minutes).
- **Average occupancy** - defined as the number of passengers in one PT unit. The unit of indicator is number of persons / vehicle. Degree of occupancy will be defined as well as a relationship of number of passengers in PT vehicle and its capacity.

C1.2 Establishing a baseline

Due to the fact that preliminary assumptions related to the limitation of regular PT service in the chosen DRT area were not respected (political decision and lack of public acceptance – see section D1.1 – barriers) the comparison of economy, transport and energy indicators “before” and “after” the measure implementation has no sense because the flexible service is an additional one .

The baseline data collection period (for measurement of social indicators) was connected with detailed survey prepared for MPK in June 2007. Moreover, there was conducted public inquiry concerning awareness level and readiness to use the proposed system. The survey was conducted among potential service users in 2006 (among all inhabitants of the city) and in 2007 (among inhabitants of Rybitwy, Podwierzbie and Biezanow districts).

C1.3 Building the business-as-usual scenario

In business-as-usual scenario there is no demand responsive transport service in Krakow. Buses and trams in Krakow operate only on regular lines with exact scheduled movement. An insufficient PT offer, particularly in suburban areas, is reflected in too long waiting time on stops and unsatisfactory frequency of bus runs. Low occupancy in regular PT vehicles makes it too expensive for PT operator to realize the conventional service in areas of Rybitwy, Podwierzbie and Biezanow. Inhabitants of this region have limited access to the city center. Therefore some of them have to choose their own cars for daily traveling whereas the others ask PT organizer for better frequency of regular service. The time lost for interchanges between PT modes is resulted in a lower quality of the service.

C2 Measure results

The results are presented under sub headings corresponding to the areas used for indicators – economy, energy, environment, society and transport

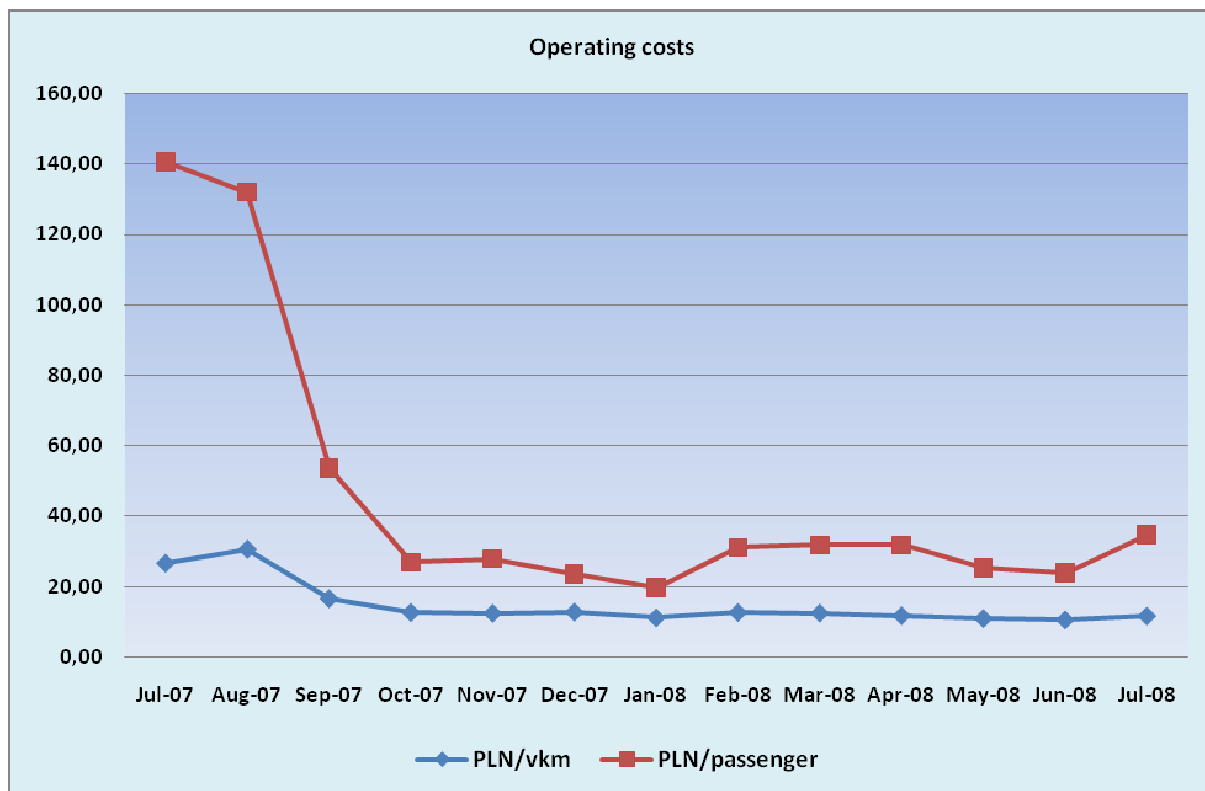
C2.1 Economy

Taking into consideration the fact that conventional PT offer available in the chosen DRT area was not limited and flexible service did not substitute for two regulars bus lines (as it was assumed on the early stage of the measure implementation) the economy indicators from baseline phase and post- implementation stage cannot be compared.

Table C2.1-1 Operating costs									
month	costs (PLN)*				km	passengers	costs		
	drivers	TDC-personal	vehicle	total			PLN/vkm	PLN/passenger	PLN/pkm
Jul-07	16 346	10 928	2 092	29 366	110 1	209	26,67	140,51	0,13
Aug-07	26 834	11 153	2 512	40 499	132 2	307	30,63	131,92	0,10
Sep-07	25 898	10 246	4 655	40 799	245 0	761	16,65	53,61	0,02
Oct-07	27 526	11 903	6 910	46 339	363 7	1724	12,74	26,88	0,01
Nov-07	27 555	11 256	6 956	45 767	366 1	1642	12,50	27,87	0,01
Dec-07	25 974	10 184	6 272	42 430	330 1	1807	12,85	23,48	0,01
Jan-08	26 938	11 642	7 870	46 450	414 2	2361	11,21	19,67	0,00
Feb-08	25 877	16 529	7 446	49 852	391 9	1604	12,72	31,08	0,01
Mar-08	26 405	13 173	7 045	46 623	370 8	1466	12,57	31,80	0,01
Apr-08	28 211	11 593	7 611	47 415	400 6	1490	11,84	31,82	0,01
May-08	29 715	6 717	7 583	44 015	399 1	1739	11,03	25,31	0,01
Jun-08	28 696	7 558	7 876	44 130	414 5	1842	10,65	23,96	0,01
Jul-08	28 883	9 414	7 397	45 694	389 3	1316	11,74	34,72	0,01

* 1€=3,771 PLN

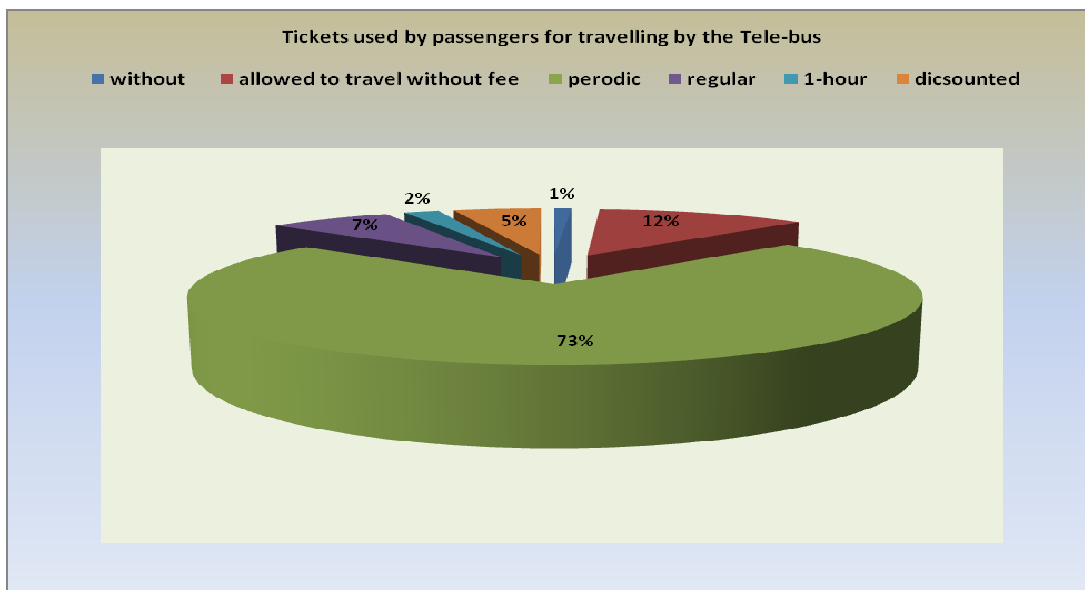
C2.1-1. Table of operating cost



C2.1-2. Graph of operating costs

The total costs of the Tele-bus service include: personal costs of drivers and dispatchers as well as exploitation costs of the vehicles. Relatively high unit costs/vkm of the Tele-bus (ca 11 PLN/km after one year from the service start, table C2.1-1) might be a serious constraint for the future development and planned network extension of the flexible transport in the City of Krakow. However, the extension of the current network will result only in the raise of the vehicle exploitation costs with simultaneous decrease of the total costs/vkm (i.e. more efficient use of the fleet as well as better effectiveness of the drivers and dispatchers' work gained by servicing of the larger area within the same working time).

In order to get opinions of the Tele-bus customers about the new service and recognise their behaviour a student of PK (University of technology in Krakow) conducted a survey on the sample of 100 Tele-bus passengers. The research was carried out in spring 2008. The interviewees were asked about the tickets they use for travelling with the Tele-bus. The results clearly showed that the majority of passengers use periodic tickets (i.e. periodic tickets for regular bus lines running in the Tele-bus area, which are also valid for the flexible service). It means that additional revenue (which comes to the City of Krakow, not to the operator – MPK) might be generated by the 9% of the Tele-bus clients who travel with regular or 1-hour tickets.



C2.1-3. Graph of the Tele-Bus ticket structure

It is impossible to evaluate the operating revenues because the fares collection comes to the City budget, not to the operator. The latter one is paid for vkm of performed transportation service. Unfortunately, the current public service contract between the MPK – PT operator and PTA (Public Transport Authority) – PT organiser does not include any regulations of the payment for the Tele-bus service. Consequently, MPK incurs all the costs of the flexible service without being paid any compensation (MPK was being paid for vkms made by the Tele-buses only during the period 14 July07 – 13 October 07).

C2.2 Energy

C2.2-1. Table of vehicle fuel efficiency

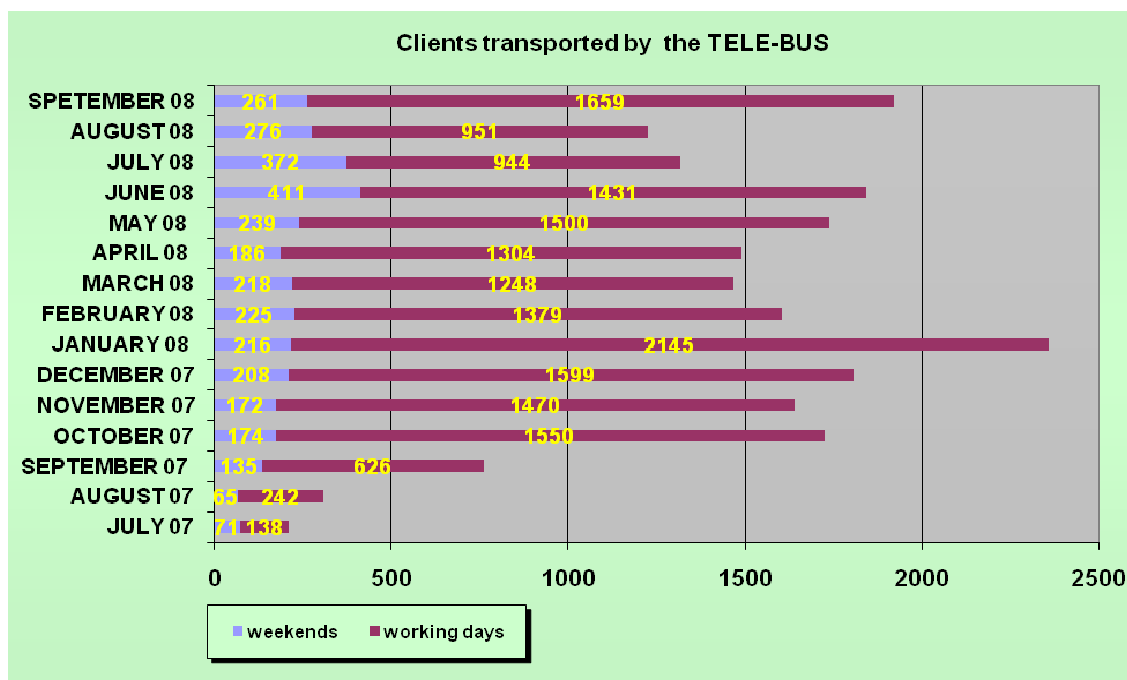
Fuel consumption (Vehicle fuel efficiency)				
month	operation (km)	fuel consumption (l)	unit consumption (l/km)	unit consumption (MJ/km)
jul-07	1185	227	0,19	6,84
aug-07	1372	255	0,19	6,64
sep-07	2462	447	0,18	6,48
oct-07	3645	678	0,19	6,64
nov-07	3692	732	0,20	7,08
dec-07	3313	667	0,20	7,19
jan-08	4136	813	0,20	7,02
feb-08	3924	740	0,19	6,73
mar-08	3697	682	0,18	6,59
apr-08	3987	705	0,18	6,31
may-08	3967	686	0,17	6,17
jun-08	4166	721	0,17	6,18
jul-08	3947	661	0,17	5,98
aug-08	4053	694	0,17	6,11
sep-08	5874	1018	0,17	6,19
oct-08	6387	1110	0,17	6,20

As the Tele-bus service is an additional one it generates extra fuel and energy consumption. The service is operated by Euro III medium-sized vehicles. The monthly fuel consumption (Vehicle fuel efficiency MJ/km) is showed in the table below

C2.3 Environment

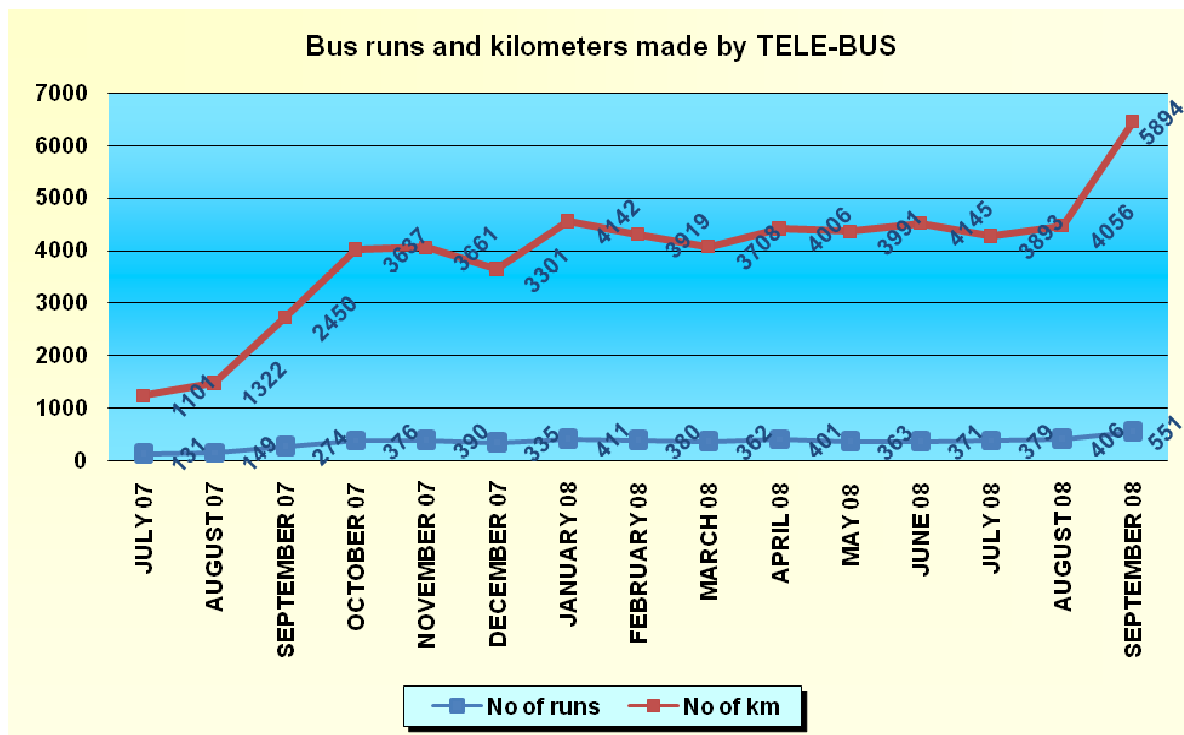
The service is operated by Euro III medium-sized buses which are considered as clean ecological vehicles.

C2.4 Transport



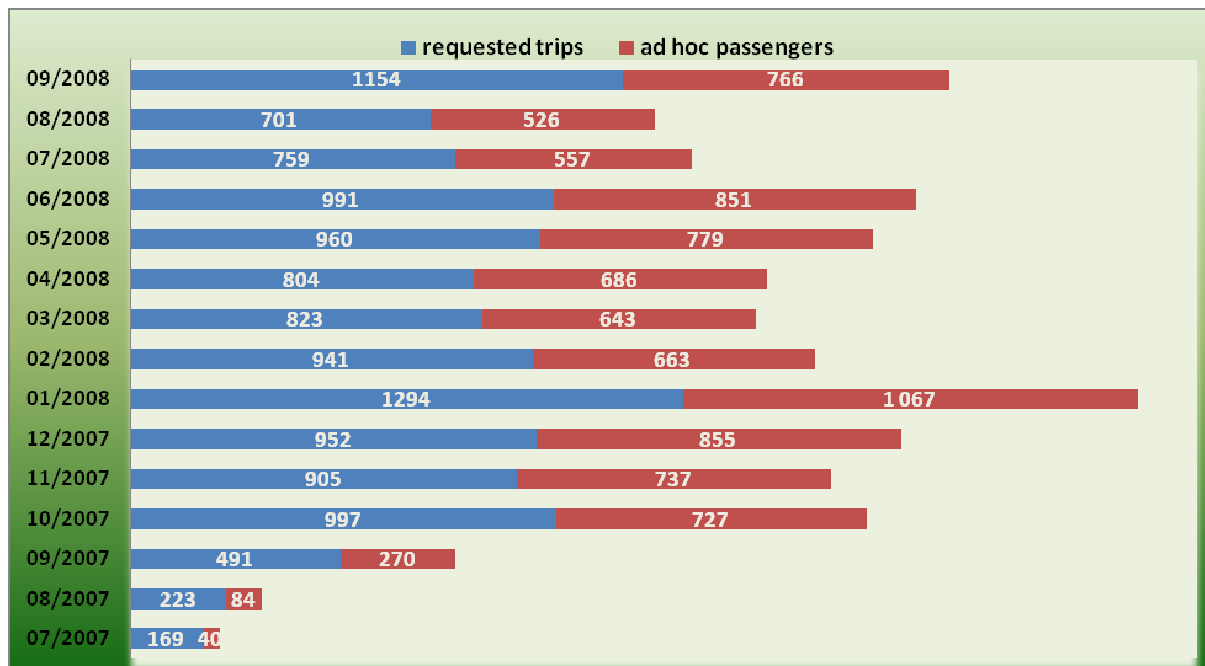
C2.4-1. Number of passengers transported by the Tele-bus

The new DRT service launched in Krakow in mid July 2007 were gradually developing during the first year of its performance, starting with 300 clients per month in first quarter, exceeding 2000 served passengers in January 2008 and finally reaching a stable monthly average of 1700 transported Tele-bus. Although the Tele-bus service operating time period in weekends is longer than in working days the number of transported passengers is significantly lower (weekend - average of ca 30 users, working days – average of ca 75 users).

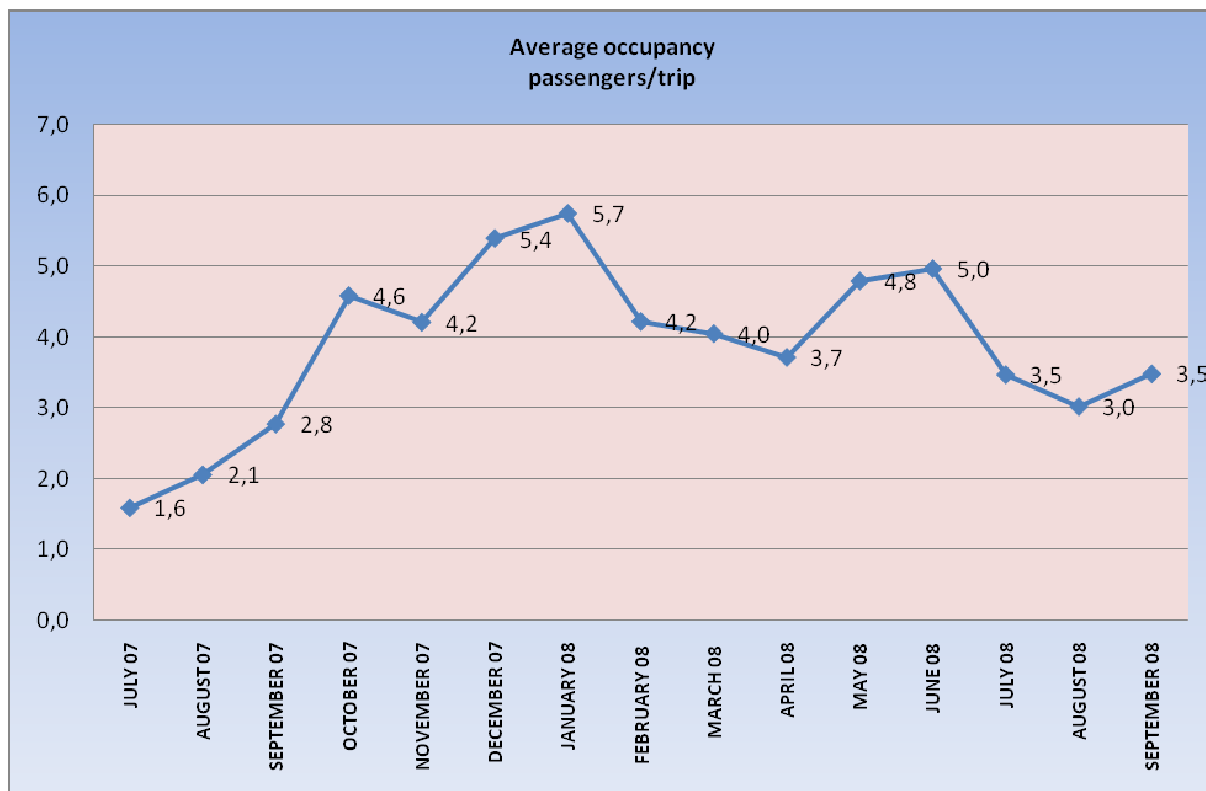


C2.4-2. Number of bus runs and kilometres made by Tele-bus

“Accidental passengers” (ad hoc) waiting on DRT stops, who did not call for a bus, are served only if the fixed route is suitable for them (they accept it) and there is enough room in the vehicle for further clients (those previously planned). Nevertheless the amount of so called ad hoc passengers accounts for ca 40% of total users (see chapter below).



C2.4-3. Number of passengers in requested trips and ad hoc passengers



C2.4-4. Average occupancy passengers/trip

The *average occupancy* for the tele-bus service in the period July 07 – September 08 was ca 4,0 passengers per trip (11,5% when taking into account the vehicle capacity of 35 persons). As the average occupancy for the regular lines in the Tele-bus area did not change after the launch of the flexible service the users of the latter one may be considered as new clients.

The tele-bus service network includes same routes and bus stops as for the regular PT therefore the *average time trip* remained unchanged after the implementation of the flexible service. Due to the fact that the DRT offer is better customized to the clients' needs (they specify required time of the trip start) the waiting time at stops might have changed but it was not measured.

C2.5 Society

C2.5-1

Base line data for indicator acceptance level were collected during survey conducted in time period: 21st of July – 11th of August 2006.

Sample size: 1210 households in Krakow (Interviewer interviewed only persons who use to make most important decisions in a particular household)

Sampling method: random stratified selection spanning 18 districts of Krakow

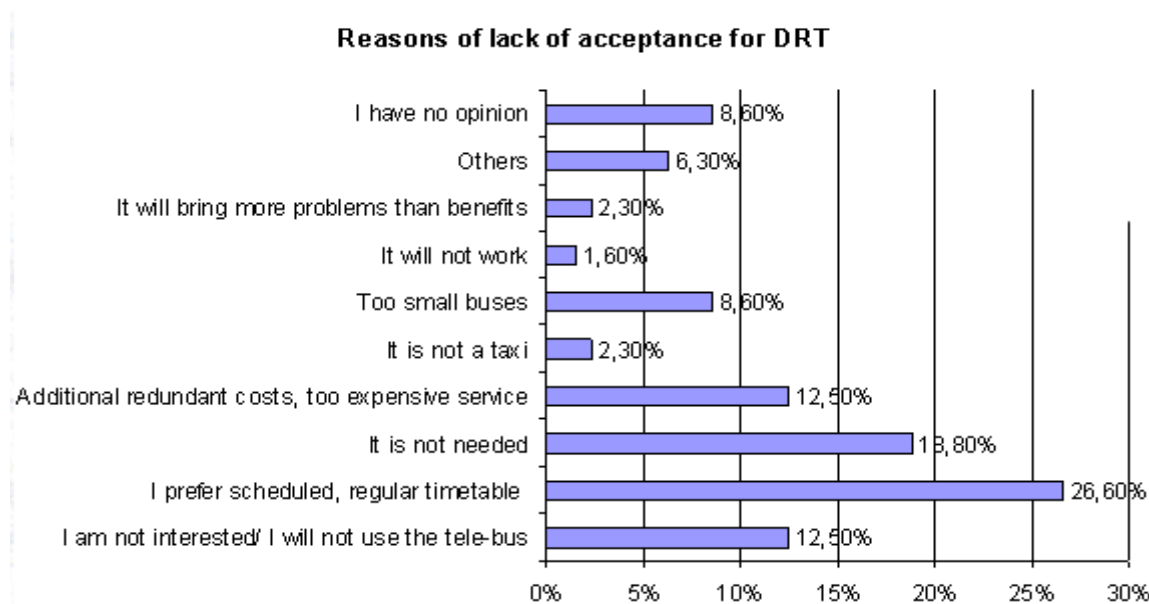
Research method: personal interviews based on questionnaire (paper & pencil method).

Based on the surveys (2006) among inhabitants, the level of acceptance for the demand responsive transport was assessed as follow:

Do you think the flexible PT service would be useful and convenient for passengers?		2006	
		amount	%
Yes		890	73,6%
No		128	10,6%
Hard to say/ I have no opinion		192	15,9%
Total		1210	100%

C2.5-1-1. Level of acceptance table

As the survey shows 73.60% of the respondents believed demand responsive transport can be useful for them whereas 10.60% of them didn't approve this system. Interviewees used the following arguments when expressing their lack of acceptance for the flexible service.



C2.5-1-2. Reason of lack of acceptance graph

Similarly to the last two years, in June 2008 the research company conducted a survey on the representatives of Krakow's households (sample of 1347 people, random route sampling technique covering the whole area of the City) that covered also the subject of the Tele-bus service. Almost 40% of respondents who knew the service would like to implement it in the area they lived.

Do you know the tele-bus service available in the area of districts Rybitwy and Podwierzbie?		2008	
		amount	%
Yes		271	20,2%
No		1073	79,8%
Total		1344	100%

C2.5-1-3. Level of the Tele-bus awareness

Do you think this kind of the service would be good for the area you live?		2008	
		amount	%
	Yes, but only as an additional service	80	29,6%
	Yes, as a partial substitution for the regular PT	24	8,9%
	No, already existing PT service is satisfactory	59	21,9%
	No, I am not interested in such kind of the service	59	21,9%
	I do not know	48	17,8%
	Total	270	100%

C2.5-1-4. willingness declaration of having the Tele-bus service in surveyed area.

C2.5-2

The *PT accessibility* was measured during the second survey (in August 2007). Interviewers questioned only respondents who were living in the chosen area of the Tele-bus service availability (n=45).

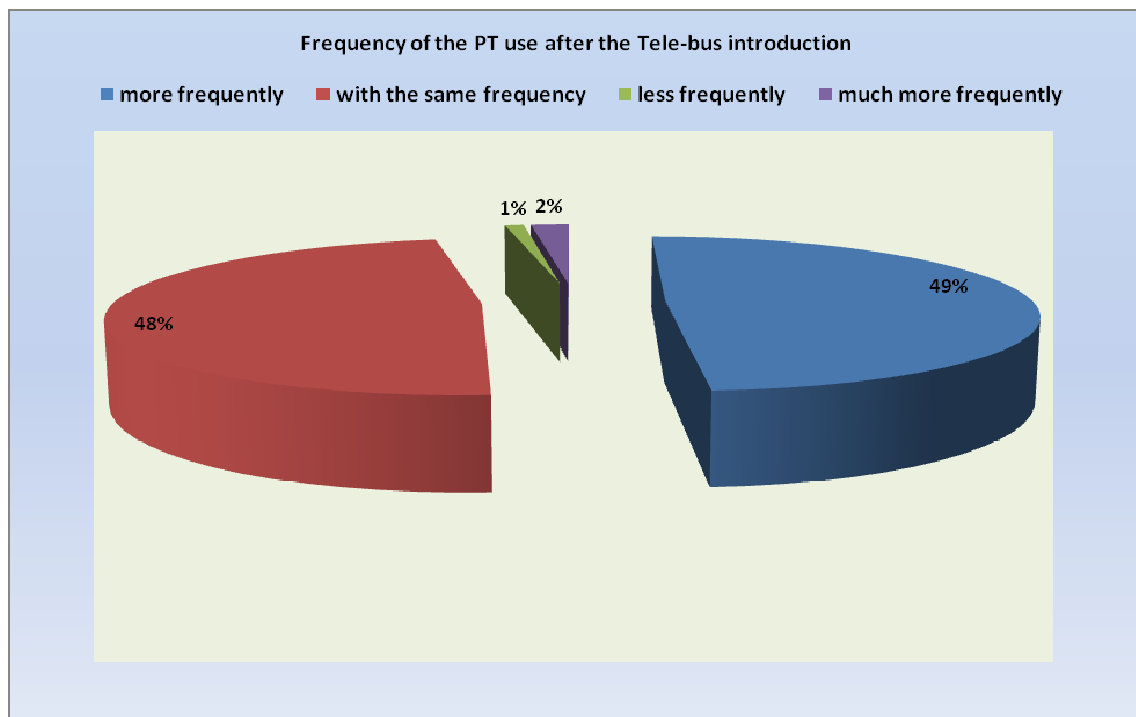
How long does it take you to get to the nearest bus stop?		2007	
		Amount	%
	Up to 5 minutes	27	62.8%
	5 – 10 minutes	16	37.2%
	More than 10 minutes	0	0%
	Total	43	100.0%

C2.5-2-1. PT accessibility table

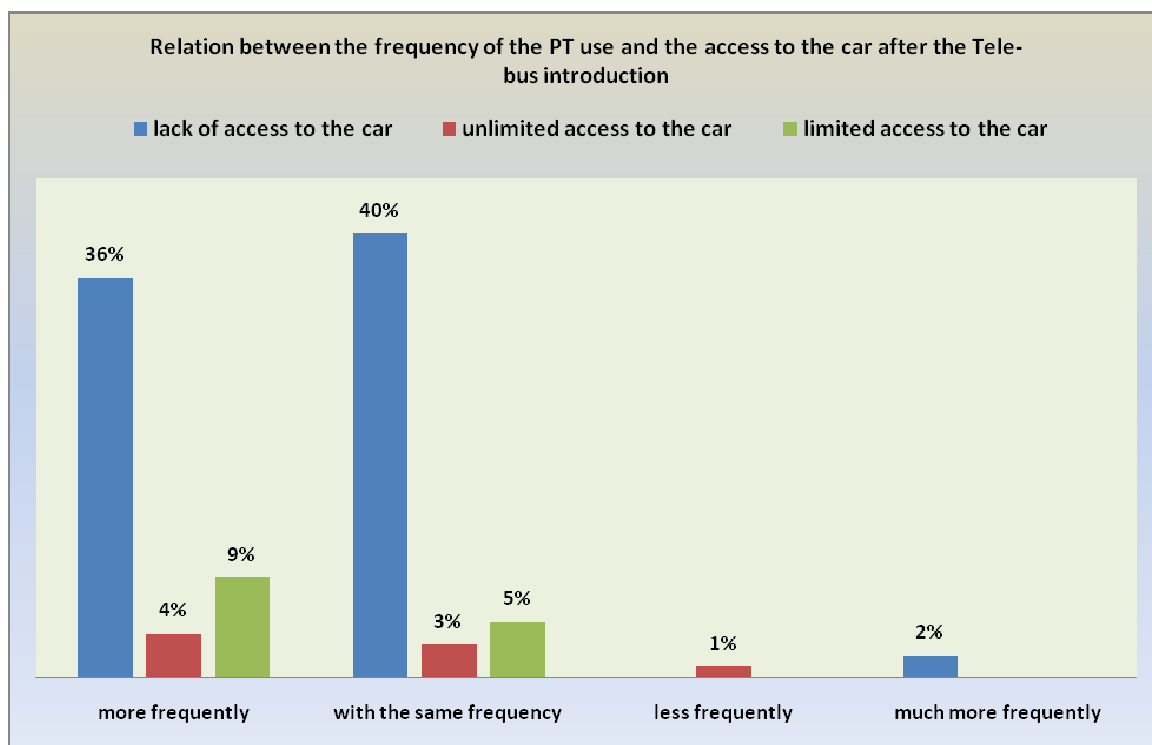
Generally the necessary time to reach the nearest bus stop is up to 10 minutes (80%). 63% of respondents need 5 minutes to get to the stop.

C2.5-3

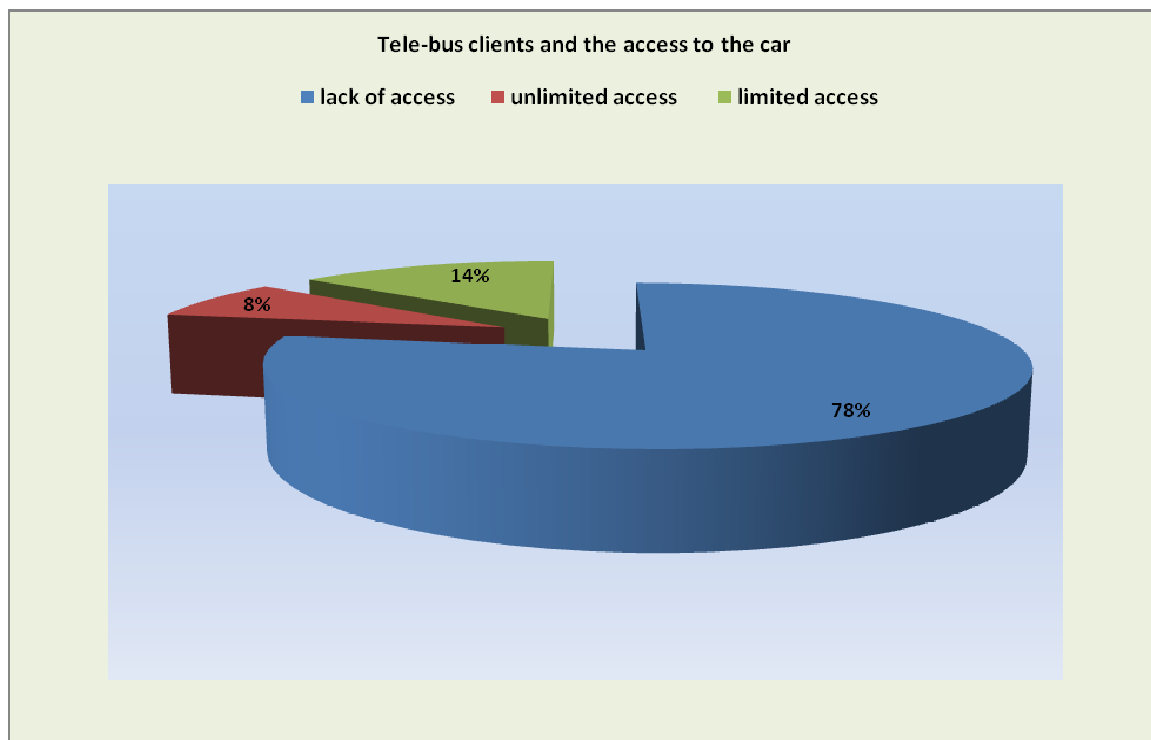
A relation between the access to the car and frequency of the PT use after the implementation of the Tele-bus service was investigated during the survey conducted by the student of PK (University of Technology in Krakow, see part C2.1). 49% of the Tele-bus clients admitted they used PT more frequently after the launch of the flexible service.



C2.5-3-1 Frequency of the PT use after the Tele-bus Introduction



C2.5-3-2. Relation between the frequency of the PT use and the access to the car after the Tele-bus introduction graph



C2.5-3-3. Passengers accessibility to the car

Furthermore, 78% of Tele-bus customers who declared they use PT more frequently or with the same frequency (after the Tele-bus introduction) had no access to the car.

C3 Achievement of quantifiable targets complete

No.	Target	Rating
1	Enlargement of PT offer by implementing the first demand responsive transport service in Poland	**
2	Testing of demand-responsive lines in the areas suburban of Rybitwy, Podwierzbie and Biezanow in South - East Krakow, 2 small buses will be used to run the system	**
3	Launch of the management and control centre for the demand responsive system Introduction of a new phone number to make system available for all users	**
4	Institutionally integrate this efficient flexible PT service tailored to individual passengers needs	*
0 = Not Assessed * = Substantially achieved (i.e. at least 50%) ** = Achieved in full *** = Exceeded		

C4 Up-scaling of results

In June 2008, during the meeting with inhabitants of the Tele-bus area and the District Council, MPK was requested to expand the service network and include into the system other roads in order to better customize the flexible PT offer to users' needs (to make it feasible to reach schools, shopping areas, health centres, etc.) as well as to enable alternative connections with the city centre (by reaching railway station and tram lines). Therefore it is planned to expand the service in autumn 2008 and consequently induce the increase of the Tele-bus service use, i.e. to reach a higher number of transported passengers and kilometres made by Tele-buses.

As the limitation of the regular bus lines seems to be impossible due to the social objections the Tele-bus operating in the extended area will remain an additional/complementary service targeted to the inhabitants.

C5 Appraisal of evaluation approach

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C6 Summary of evaluation results

The key results are as follows:

- **Social acceptance for the new kind of PT service** – continuous increase of users registered in the Tele-bus system proves a bigger interest in the flexible PT service.
- **Rise of the number of transported passengers** – the sum of passengers transported by conventional lines and the Tele-bus vehicles have increased in comparison to the amount from the similar period before the service launch.
- **Cost increase** – the Tele-bus is an additional service in the PT offer so the costs of PT are higher when comparing to the situation before the Tele-bus introduction.

D Lessons learned

D1 Barriers and drivers

D1.1 Barriers

- **Changes in the Public Transport organisation and provision chain that took place in August 2006.** The responsibilities of PT planning and operation were split between two entities: MPK (since August 2006 - only the PT operator) and Public Transport and Road Authority (established for PT planning and representing the City in the contract for PT services provision). The establishment of PT&RA and the preparation of a clear agreement regarding the responsibilities in the realisation of DRT services were time consuming therefore the implementation of the service was a bit delayed. The problem of the payment for service availability had to be solved as well.
- **Lack of social acceptance for partial limitation of regular PT with simultaneous introduction of flexible better customized transport service.** The introduction of the Tele-bus service was based on the assumption that two of the regular bus lines would be limited i.e. would only operate during the peak time. Unfortunately, inhabitants of the target area couldn't see additional value of the new flexible service - a possibility to be served exactly at the time they need without adjusting their trips to fixed schedules. They perceived the proposal only as an attempt to reduce the City costs and to take away PT service. Politicians decided to take into account the public complaints and keep conventional PT unchanged during the pilot phase. Such a decision, inconsistent with the assumption made in preparation stage, has its influence on chosen economy indicators, which in fact are difficult to be measured.
- **To make potential Tele-bus users learn innovative character of the flexible PT service and respect rules regarding trip reservations.**

D1.2 Drivers

- **Very good cooperation between Caravel project partners** – The exchange of experience between Italian and Polish partners was very helpful. The access to best DRT technology and support from the practitioners of flexible services made it feasible to launch the Tele-bus in short times and without any technological problems.
- **Support from the District Council** – the representatives of the local society (and also decision makers) did a good job while organising meeting with inhabitants of the chosen Tele-bus area.
- **Very well prepared corporate design for the Tele-bus service** – the special image of the Tele-bus system elements (vehicles, bus stops, etc.) distinguishes them from conventional PT and consequently it is easier for potential users to remember and recognise the service.

D2 Participation of stakeholders

- **Krakow inhabitants** – mainly those living in the DRT service area as well as commuters
- **District Council** – local decision makers, intermediary between PT operator and inhabitants of chosen region
- **Miejskie Przedsiębiorstwo Komunikacyjne SA w Krakowie (MPK)** – PT operator in Krakow responsible for the Tele-bus implementation and daily performance as well as management of the Transport Dispatch Centre
- **Public Transport Authority** – municipal entity responsible for the organization of public transport in Krakow agglomeration, the party of contract for public service provision signed with MPK.
- **AMI S.p.A (Genoa, Italy)** – CARAVEL project partner – giving support to MPK in introduction of flexible service
- **Softeco Sismat (Genoa, Italy)** – a provider of the DRT technology – software for managing flexible transport services

D3 Recommendations

The launch of the Tele-bus service in Krakow, based on technology transfer from Genoa, proves the transferability of DRT solutions. This kind of services with different reach and target groups (e.g. pupils travelling to schools, people with reduced mobility etc.) are successful in many European countries. Very often people appreciate the customization of the service to their needs (they choose the arrival or departure time and indicate pick up and drop off points).

The key factors for the DRT service success are following:

- Definition of the objectives of the service implementation (why a flexible service will be implemented, what kind of customers will be served and in what area)
- Good choice of the service availability area. The best areas are low density residential regions where regular PT is not sufficient or does not exist at all.
- Implementation of a good DRT technology allowing for efficient service management and performance as well as good communication between different components of the service (TDC with dispatchers, drivers, clients).

- Clear regulations between involved entities regarding the payment for the service and responsibilities for its realisation.
- Corporate image of the service that differs it from regular PT (logo, commercial name, corporate colours of each element i.e. vehicles, bus stops, brochures, leaflets, etc.) is very important. Well prepared communication and marketing campaign targeted to potential clients will let them know and understand the rules of the service and encourage them to use it.

D4 Future activities relating to the measure

In October 2008 MPK in co-operation with Softeco prepared the virtual Tele-bus network for the future extension of the service. It is planned to extend the current Tele-bus area yet within the duration of the CARAVEL project. However, the achievement of the planned goal depends on the position of the PTA regarding the financial regulations of the flexible service. The operator must be sure that at least the costs of vkms made by the Tele-buses will be covered by the City. It is also a precondition for the future development of the service and its implementation in new areas of the Krakow agglomeration.