



## Responses of Questionnaire in Cluster "Equipment and Operational Aspects"

1) General questions	Roland FISCHER	Carlos CAIVOTO	Dimitar STOYANOV	Mikinač BRANCO/Marić DRGO	Zbigniew PALENICA	Jan BARČANEK	Zdeněk JAROLIN	Viliam MAJDA								
Name of expert:	Roland FISCHER		Carlos CAIVOTO		Dimitar STOYANOV		Mikinač BRANCO/Marić DRGO		Zbigniew PALENICA		Jan BARČANEK		Zdeněk JAROLIN		Viliam MAJDA	
City, Country:	Leipzig, GERMANY		Lisbon, PORTOGAL		Sofia, BULGARIA		Zagreb, CROATIA		Krakow, POLAND		Prague, CZECH REPUBLIC		Brno, CZECH REPUBLIC		Bratislava, SLOVAK Rep.	
Number of inhabitants in your city:	500,000 800,000		570,000 2,800,000		1,400,000		800,000		758,000		1,200,000		367,729		450,000	
Do you represent:	other consultant		PT operator other urban operat. advisory		other academic staff		PT operator		PT operator		PT operator		PT operator		PT operator	
Do you execute public service contracts:							<input checked="" type="checkbox"/> NET		<input checked="" type="checkbox"/> GROSS		<input checked="" type="checkbox"/> GROSS				<input checked="" type="checkbox"/> GROSS	
On which basis (net, gross) Other type than PSC	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>								<input checked="" type="checkbox"/>			
No																
What kind of public city transport can be found in the city you are coming from																
bus	<input checked="" type="checkbox"/> diesel		<input checked="" type="checkbox"/> diesel/gas		<input checked="" type="checkbox"/> diesel/trolley		<input checked="" type="checkbox"/> diesel		<input checked="" type="checkbox"/> diesel/gas		<input checked="" type="checkbox"/> diesel/trolley		<input checked="" type="checkbox"/> diesel/trolley		<input checked="" type="checkbox"/> diesel/trolley	
tram	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
metro			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>					
suburban rail			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>					
other			<input checked="" type="checkbox"/> lift, funicular, boat								<input checked="" type="checkbox"/> funicular		<input checked="" type="checkbox"/> boat			
Size of the PT-operator of your city :																
length of network	<u>line-km</u> <u>track-km</u>								(line-km) (rout-km)		legth of network		legth of network			
bus	1,200		660 97 lines		2,380.0		1,352.0		1,624.5 881.7		810.6		315.5		1783.0	
trolley bus	--		--		193.0		--		--		--		54.0		213.0	
tram	220 320		48 5 lines		208.0 (2 diff. gage)		208.0		327.0 83.2		140.9		69.7		268.0	
metro	--		36 4 lines		9.9		--		--		53.7		--		--	
suburban rail	100		176 5 lines		--		--		--		--		--		--	
2) Benchmarks about rolling stock																
number of vehicles (total)																
bus (articulated/non-articulated)	100 ?		90 707		389 258		705 128 175		918 493		2,569 894		755 76 222		838 290 180	
tram	400 (470 device)		58 707		265		273 129 trailers		425		926		314		229	
metro	--		338		16						420		(trolley bus) 143		(trolley bus) 139	
suburban rail																
average age and maximum age of vehicles																
bus (average age / maximum age)	8 15		7 16		14.5 28		10 27		8.48 23		6.2		8.5 19		14 20	
tram (average age / maximum age)	12 25		11 11		20.6 30		26 56		21.86 46.45		15.4		24.2 41		17 38	
metro (average age / maximum age)	--		ND ND		--		--		--		9.8		(trolley bus) 11.5 21		(trolley bus) 14 18	
suburban rail (average age / maximum age)	?		ND ND		--		--		--		--		--		--	
average vehicle-km per year																
bus km	11,000,000		48,500		53,000		83,359		35,600,000		62,587		(vehicle) (total) 60,554 18,045,171		(vehicle) (total) 25,900,000	
tram km	26,500,000		3,800		42,000		51,608		24,100,000		49,083		50,365 5,814,877		11,400,000	
metro km	--		ND		54,000		--		--		--		(trolley bus) 42,220 6,037,501		(trolley bus) 5,400,000	
suburban rail km	?		ND		--		--		--		--		--		--	
Are the vehicle fleets more																
homogeneous?	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> (bus/trolley bus)		<input checked="" type="checkbox"/>	
inhomogeneous?																
If "inhomogeneous", what are the main reasons?																
bus	diff. Winners from submission				diff. Socio-econ. cond./diff.providers				significant rage of vehicle ages, diff. generations of busses		economical reasons (new vehicles repair and renewal)				political	
tram	diff. Kind of upgradings				policy changes (own prod. til 1980 - to import				diff. generations of busses		economical reasons (new vehicles repair and renewal)		many types, small series			
metro	--				homogenous, USSR made						economical reasons (new vehicles repair and renewal)					
suburban rail	?															
average percentage of low-floor																
bus %	95		100		12		58.7		80		31		17		4	
tram %	60 (per vehicle)		100		9		21,6 (motor c.) 18,8 (togeth.)		13.7		2.5		16		0	
metro %	--		100		--		--		--		100		--		--	
suburban rail %	100		50		--		--		--		--		(trolley bus) 36		--	

3) Maintenance of rolling stock																															
How many % of the rolling stock does your PT operator calculate for maintenance reserve and how many % are out of order because they have to be repaired?		<i>(white trade fair)</i> bus % 14 tram % 18 (14) metro % suburban rail %		7 9 (8)		10 7		26 30		8 28		15 25		10 15		10 12		8 10		8.3 6.9 12.8 --		9.3 11.1 8.3		8.1 7.6 18 (1 line reconstr)		30 25 40		20 18 35			
How many maintenance facilities / workshops do exist in your town?		bus 2 tram 5 metro suburban rail		3 1 1 2		3 1 main 1		2 operation		3 in ZET 1		5 others		3 2 depots		+ 1 workshop		1 (centr.maint.) 1 1		4 (simple rep.) 8 3		2 1		3 2							
How many people are employed in the workshops for maintenance?		bus 36 tram 115 (vehic.) metro 120 (infras.) suburban rail		175 80		17% chief mgm. 11% chief mgm.		426 425 (main) 252 (operat.)		403 679		282 246		+ 142 workshop		1,109 1,209 498		269 420 (trolley bus) 124		280 230 (trolley bus) 130											
Is there a discussion in your town between upgrading / renewal of rolling stock versus buying new vehicles?		Yes <input type="checkbox"/> No <input type="checkbox"/>		NO (but it was)		NO		YES		YES		YES		YES		YES		YES		YES		YES		YES		YES		YES			
Is there an investment strategy / policy in place to replace old vehicle fleets?		Yes <input type="checkbox"/> No <input type="checkbox"/>		YES		YES		YES (trams) NO (busses)		YES		YES		YES		YES		YES		YES		YES		NO		NO		NO			
Does your PT operator manufacture spare parts in its own workshops?		How many people are employed with it?		bus 20 (for vehicles) tram 10 (for infrastr.) metro suburban rail		80 90		NO 265 NO		30		NO NO (only regener. of spare parts)						NO NO		YES YES		12 10									
Do you expect in the future...		more maintenance staff less maintenance staff outsourcing the same as today		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> (for busses) <input checked="" type="checkbox"/> (for trams)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
please tell us why		outsourcing, big reduction of maintenance in last year		great pressing to outsource from politics		Bus and tram have different managem. (but same comp.)		to reduce costs		exchange of fleet into modern types		economical reasons, change in new technologies		it is not efficient		to reduce cost															
Was / Is there a strategy to reduce maintenance staff / to outsource the maintenance?		Yes <input type="checkbox"/> No <input type="checkbox"/>		YES		YES		YES		YES		YES		YES		YES		YES		YES		YES		NO		NO		NO			
Was / Is there a strategy to outsource prc producer?		Yes <input type="checkbox"/> No <input type="checkbox"/>		YES		YES		YES		YES		YES (to specialize)		YES		YES		YES		YES		YES		NO		NO		NO			
4) Infrastructure																															
Who is in charge of maintenance / investment of the PT infrastructure in your town?		PT operator authority others		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> city <input checked="" type="checkbox"/> state		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> maintenance		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
How would you describe the standard of maintenance of the PT infrastructure in your town?		bus		poor acceptable good		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> (bus) <input checked="" type="checkbox"/> (trolley bus)		<input checked="" type="checkbox"/> (bus)		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
tram		poor acceptable good		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
metro		poor acceptable good		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
suburban rail		poor acceptable good		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
Is there an investment strategy / policy in place to refurbish / to upgrade the infrastructure?		Yes <input type="checkbox"/> No <input type="checkbox"/>		YES		NO		YES (trams) NO (busses)		YES		YES		YES		YES		YES		YES		YES		NO		NO		NO			
Are/is there dedicated lanes / infrastructure / PT prioritisation in your town?		Yes <input type="checkbox"/> No <input type="checkbox"/>		YES		YES		tram, bus+taxi corridors (RoWB)		NO		YES		paying for refurbishing tram tracks		YES		common tram and bus corridors where PT remain high priority, traffic monitoring and control system implementation in progress		YES		dedicated lanes, prefer systems of the PT at traffic lights		YES		about 50% of tram track, but only 1 km for bus and trolley bus		YES		it is not kept	

5) Final questions									
How is the acceptance of the PT in your town? by the citizens 									
by the politicians 									
If there is a concern about the PT in your town, what do you think will be the main reason for it ?  (in the field of rolling stock)  (in the field of infrastructure)	cost reduction, working for other customer  cost reduction, working for other customer	efficiency and quality of rolling stock  illegal parking and circulation, maintenance of the pavement of the roads	the obsolete and worn out rolling stock (except some new busses)  very poor condition	make PT more attractive for passengers  same as before, more acceptable (less noise etc.) for environment	citizens' expectations for quick exchange from old vehicles to modern ones  PT availability in suburban areas, to low speed of PT vehicles caused by congestion, periodic queues at ticket selling points	more low-floor vehicles  available connection between different places	missing money for new vehicles and maintenance  missing money for maintenance	old vehicles  missing infrastructure	
Imagine: You are an expert in a city <b>half</b> as big as yours: Which aspects will become more important and why?	busses, reducing costs	modal split and supply planning (and much much more)	low efficiency of some PT links (because of the short distances and limited passenger numbers)	make it more attractive than individual transport (faster, cheaper, more comfortable)	PT long-term policy adjusted to the city size	more suitable behaving of PT operators staff	increasing the competitions between PT operators	Dedicated lines, to push cars out from centre. And supporting of bicycles	
Imagine: You are an expert in a city <b>twice</b> as big as yours: Which aspects will become more important and why?	suburban rail, metro, high speed	they are commonly the same (and much much more)	Degradation of the transport infrastructure and exhausting of ist capacities, air pollution, high noise level. Stimulation of PT role and increasing rail transport	make it more attractive than individual transport, to include all kinds of track subsystems, to reduce individual transport by several kind of measures	PT long-term policy adjusted to the city size, the level of mobility and travelling time, location of interchange points	shorter intervals of prefer systems of the PT vehicles at traffic signals	more segregated and dedicated lines for increasing speed of PT and avoiding traffic jams	Dedicated lines and shorting of parking places, to push cars out from centre	