

Urban Transport Benchmarking Initiative



Annex A6

Public Transport Organisation and Policy

Working Group Report

July 2004



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Working Group Report

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by



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1. EXECUTIVE SUMMARY

The Public Transport Organisation and Policy working group brought together public transport operators and authorities interested in the organisation and finance of public transport from nine cities across Europe. The group was co-ordinated by the International Association of Public Transport (UITP) and set out to improve the performance of urban transport systems through the identification and implementation of good practices related to the organisation and financing of public transport.

The group met three times over the course of the project; in Valencia, Copenhagen and Dublin and Liverpool. Each meeting included technical discussions on the benchmarking exercise and site visits. A total of 40 thematic indicators were defined and collected by the group. The thematic indicators were then analysed and below is an outline of the good practices which were identified as part of the study;

Public transport performance was compared between participants, using benchmarks for the quality of service (volume of supply, average age of vehicles, average frequency of vehicles, availability of services and punctuality), the level of patronage and finances. The following good practices were identified;

Volume of supply and average age of vehicles;

- The maximum age of buses are specified in the contract with the authority.
- The age of buses is taken into account in payment from authority (eg: Alicante)
- Integration with other measures (eg: Dublin: part of Quality Bus Corridor improvements)

Frequency;

- One of the key elements of the Quality Bus Corridors scheme implemented in Dublin is the provision of high frequencies. At peak time, there is one bus every minute on strategic routes.

Accessibility

- Renewal of the bus fleet can be encouraged by contractual provisions (e.g.: Alicante), as most new buses have a low floor.
- Legal provisions for the accessibility to public transport (The law requires Metro stations to be 100% accessible to PRM (people with reduced mobility) in the Netherlands)

Ticket and fare integration

- Coordination with and between public transport authorities at various levels
- Development of electronic ticketing

Level of patronage

The percentage of motorised trips made by public transport was compared in the cities/regions in the working group. Important considerations for the comparison are that the

validity of comparison is greater among cities of similar urban population density and it is also interesting to distinguish between West-European and East-European cities.

The analysis showed that the modal share of public transport is relatively similar in a large number of cities (apart from those from Central and Eastern Europe, which come from a quite different background). It is relatively difficult to draw conclusions from this data, notably due to the fact that the hypotheses which are made in the different mobility surveys are not known. This prompts the need to further investigate this issue in order to better understand similarities and differences between cities, possibly from another angle (for instance, the occupancy rate of vehicles).

Finances

The working group collected data relating to the cost of public transport per inhabitant (operations and investment) and the rate of coverage of operating costs by fare box revenue. However due to reasons of confidentiality, this information has not been published.

In summary, the analysis of the indicators from the Public Transport Organisation and Policy working group shows that overall models of organisation and financing do not account automatically for the level of performance of public transport. Instead, the focus needs to be on concrete practices and their actual implementation. The group intends to further investigate identified practices which account for good performance, for instance the establishment of contracts between operators and authorities.

Participants expressed their satisfaction with the proceeding of the first year and found the project useful to reinforce local initiatives.

1 INTRODUCTION

The Public Transport Organisation and Policy working group brought together public transport operators and authorities interested in the organisation and finance of public transport.

The group set out to improve the performance of urban transport systems through the identification and implementation of good practices related to the organisation and financing of public transport.

The group has brought together participants from nine cities across Europe. The group was co-ordinated by the International Association of Public Transport (UITP). Cities represented in the group are listed in Table 1.1:

Table 1.1: Participants in the Public Transport Organisation and Policy working group

Public Transport Authority	Public Transport Operator
<ul style="list-style-type: none"> - Alicante (Comunidad Valenciana) - Budapest (BKV) - Merseyside (Merseytravel) - Prague (ROPID) - Stuttgart (Verband Region Stuttgart) 	<ul style="list-style-type: none"> - Belfast (Translink) - Brussels (STIB) - Budapest (BKV) - Dublin (Dublinbus) - Rotterdam (RET)

The group met three times over the course of the project (Valencia on 3-4 December 2003, Copenhagen on 11-12 March 2004, Dublin & Liverpool on 18-19 May 2004). Each meeting included technical discussions on the benchmarking exercise and site visits.

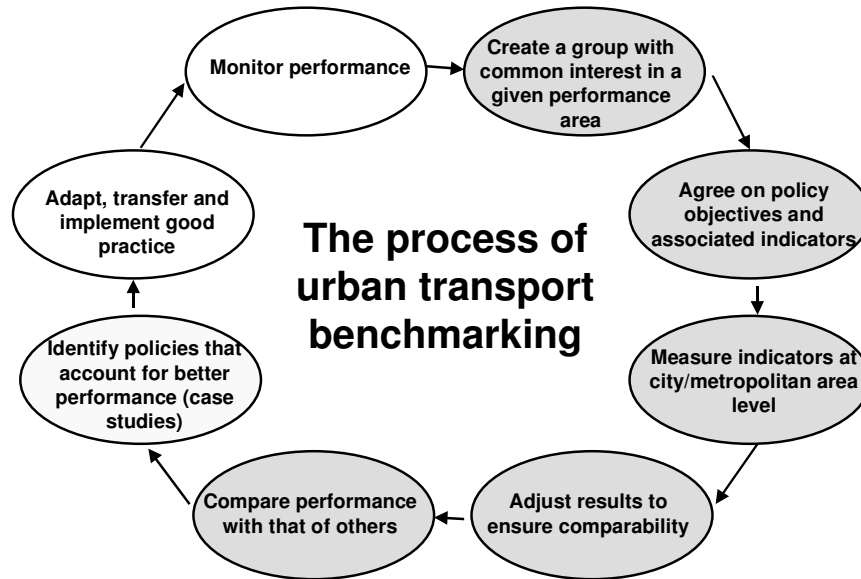
This report presents the key findings of the working group to date. Section 1 describes the objectives and the approach of the working group. Section 2 provides an overview of the cities / regions represented in the group and their public transport system. The aim of this section is to show criteria that can be used to make comparisons on common grounds. Section 3 presents benchmarks and good practice that emerged from the analysis.

The participants have also gained particular benefits from the site visits, which are described in Annex A6.2.

2 OBJECTIVES AND APPROACH

Benchmarking is a tool for change. This is a long term process which involves a number of successive steps. During the first year of this project, the group has progressed along the ‘benchmarking wheel’ shown below. Comparisons of performance were made and the identification of practices that account for good results has started.

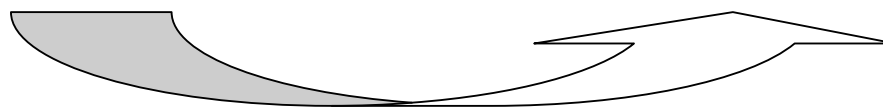
Figure 2.1: The benchmarking process



The first activity of the group was identifying which areas of performance the group would focus on and agreeing of related common objectives. Table 2.1 below summarises the choices made by the group.

Table 2.1: Choices made by the working group

Area of performance	Objective
<ul style="list-style-type: none"> Quality of service 	<ul style="list-style-type: none"> Improve quality of service
<ul style="list-style-type: none"> Patronage level 	<ul style="list-style-type: none"> Increase patronage levels
<ul style="list-style-type: none"> Finances 	<ul style="list-style-type: none"> Reduce cost & increase revenue



The second task was the identification of indicators against which each city's performance would be measured, that is, performance indicators. The aim was to identify which organisational and finance-related practices account for the best performance. A number of descriptive and explicative indicators were also identified.

The group co-ordinator drew up definitions for each indicator¹. A number of these definitions had been validated previously in UITP's Millennium Cities Database project.

The initial list of 40 indicators and their definitions have been reviewed regularly in the light of data collection issues (eg: infra). The full version of the reference manual is available in Annex A6.1.

The third activity was the actual collection of the data. Two types of problems emerged: the availability of data and comparability of definitions. Interestingly the problems tended to concentrate on the same set of indicators for all cities. A number of proxies were devised for indicators that could not be collected or used satisfactorily (for instance, the length of reserved bus lanes as proxy for the speed).

Indicators that were computed differently in each city prompted two types of adjustment:

- choice of an intermediate definition which is suitable to most,
- the decision that each city would use and specify its own definition (speed, etc.)

The next step was the analysis of data. The preliminary analysis of the data showed that it was necessary to distinguish between two units of analysis in order to make comparisons on common grounds. It was also decided to consider the data by mode (bus, metro, etc.) rather than at the aggregated level. This is described in more detail in section 2.

The analysis of the indicators enabled the identification of benchmarks and good practices for a number of areas of performance. Conclusions of the analysis are summarised in section 3.

Beside the problems of availability and comparability mentioned above, the analysis of data itself prompted the review of some indicators. For example it transpired that the finance indicators were not collected at a sufficient level of desegregation. Table 2.2 (overleaf) summarises the chronology of the work.

¹ These definitions were made available through a reference guide for data collection, comprising instructions for use and definitions of the indicators.

Table 2.2: Chronology of work completed by the group

Date	Summary of work
3-4 December 2003, Valencia	<ul style="list-style-type: none"> • Identification of performance areas • First draft of list of indicators
January-February 2004	<ul style="list-style-type: none"> • Collection of indicators
11-12 March 2004, Copenhagen	<ul style="list-style-type: none"> • Overview of specific problems with data collection • Preliminary interpretation of the data
April 2004	<ul style="list-style-type: none"> • Review of collected indicators
18-19 May 2004, Dublin- Liverpool	<ul style="list-style-type: none"> • Comparisons of performance between cities/regions • Proposals for next steps

3 OVERVIEW OF CITIES / REGIONS AND THEIR PUBLIC TRANSPORT SYSTEMS

This section provides descriptive information on the cities and regions represented in the group and their respective public transport networks. The description of the chosen units of analysis (3.1.), their demographic and economic characteristics (3.2.) and their public transport networks (3.3.) will show which areas can be meaningfully compared with each other. The description of the way in which public transport is organised (3.4.) and financed (3.5.) in the different cities and regions of the group will be key in the identification of practices that account for good performance.

3.1 Units of analysis

Transport patterns and the role of public transport vary significantly between densely populated urban areas and wider regional areas. Both types of areas are represented in the group. Therefore, in order to make the comparisons of performance on common ground, it was decided to distinguish two types of units of analysis: **city areas** and **regional / metropolitan areas**.

Pragmatism was the main guideline for the definition of the city area and the regional / metropolitan area in each case. The choice depended on both the local situation and the type of organisation present in the group². For instance, cities represented by their public transport operator often used the service area of this operator as definition of the city area (eg:

² Pragmatism had to be preferred to absolute scientific rigour given the short time and limited resources available for the collection of data. However careful descriptions of the selected areas are provided in order to help in the correct interpretation of the data.

Brussels, Dublin, Rotterdam), rather than the urbanised area or the administrative boundaries of the city. In some cases, information was collected at only one of the two levels. For instance, the regional integration of public transport networks within Merseyside made it irrelevant for Merseytravel to focus only on services operated within the city of Liverpool. Table 3.1 shows how city areas and regional/metropolitan areas were defined in each case.

Table 3.1: Spatial definitions used for Cities and regions in the working group

	City area	Regional/metropolitan area
Alicante	Municipality of Alicante	Municipality of Alicante, San Juan, San Vicente del Raspeig, Mutxamel and El Campello (TAM area)
Belfast	Municipality of Belfast	Belfast metropolitan area (Municipality of Belfast, Carrickfergus, Castlereagh, Lisburn, Newtownabbey and North Down)
Brussels	Region of Brussels-Capital (nearly identical to STIB's service area)	-
Budapest	Municipality of Budapest	BKV service area
Dublin	Dublinbus service area	-
Liverpool	-	Merseyside County
Prague	Municipality of Prague	Municipality of Prague and part of Central Bohemia
Rotterdam	RET service area (Rotterdam, Schiedam, Vlaardingen, Albrandswaard, Capelle, and Spijkenisse)	-
Stuttgart	Municipality of Stuttgart	Greater Stuttgart Region (Municipality of Stuttgart, counties of Böblingen, Esslingen, Göppingen, Ludwigsburg, and Rems-Murr)

3.2 Demographic and economic characteristics

The demographic and economic data show that the group is relatively heterogeneous. It is useful to consider the sub-groups of similar cities and regions put forward in section 3 in order to make comparisons of performance on common grounds.

City areas

The population, surface area, population density in urbanised areas, and GDP per capita of the eight city areas are shown in Table 3.2.

Table 3.2: Background statistics for the working group

	Population	Surface area (km²)	Urban density (inhab/km²)	GDP / capita (EUR)
Alicante	293,629	201	6,180	13,000
Belfast	274,114	115	n/a	14,000
Brussels	992,041	161	7,570	23,000
Budapest	1,719,342	525	4,520	11,500
Dublin	1,250,000	930	3,550	22,000
Prague	1,160,000	496	3,330	5,500
Rotterdam	909,000	313	5,050	27,500
Stuttgart	583,874	207	5,670	48,000
Average	897,754	369	5,120	20,600
Std. deviation	464,930	270	1,390	12,340

As far as population figures are concerned, there are significant differences, with ratios of up to 1 to 5. The city areas of Brussels, Dublin, Prague and Rotterdam are relatively similar with a population of around 1,000,000. The city areas of Alicante and Belfast are comparable with each other with a population significantly lower than the rest of the group, at just under 300,000.

Prague and Budapest have similar surface areas (around 500 km²); Stuttgart, Alicante, Brussels, Belfast and Rotterdam are comparable (around 200 km²), whereas Dublin is much larger.

The density of population in the urbanised parts of the city areas tends to be less variable across the group, with its average just above 5,000 inhabitants per square kilometre. Even if

the size of the population varies significantly, the cities of Alicante, Budapest, Rotterdam and Stuttgart are relatively similar in terms of population density, with around 5,000 inhabitants per km². Dublin and Prague are close to each other, with a lower density, at around 3,500 inhabitants per km². Brussels stands out with a very high population density compared to the rest of the group.

GDP figures are subject to caution due to national variations in the way in which they are compiled and the lack of information on the definition used (in particular the attribution of added value to the area of residence or area of production – which significantly effects the score of capital cities). Some patterns emerge from the available GDP figures. The city areas of Alicante, Belfast and Budapest have similar figures for GDP per capita (around 12,000 Euros) while the city areas of Brussels, Dublin and Rotterdam have higher figures, of around 25,000 Euros. The city areas of Stuttgart and Prague stand out with respectively very high and very low GDP figures compared to the rest of the group.

Regional-metropolitan areas

Table 6 shows the population, surface area, urban population density (where available) and GDP per capita in the six regional / metropolitan areas.

Table 3.3: Background statistics for regional metropolitan areas

	Population	Surface area (km²)	Urban density (inhab/km²)	GDP / capita (EUR)
Alicante	388,297	354	4,090	13,000
Belfast	645,138	960	N / A	14,000
Budapest	2,019,342	1,232	N / A	11,500
Merseytravel	1,362,026	645	N / A	15,500
Prague	1,663,000	3,749	1,360	5,500
Stuttgart	2,613,379	3,654	3,880	32,000
Average	1,448,530	1,766	3,110	15,250
Std. Deviation	764,390	1,400	1,240	8,130

There are strong contrasts between the regional / metropolitan areas as far as population size is concerned. Budapest, Merseytravel and Prague present similar figures, of around 1,600,000. The population of the Greater Stuttgart region is one million higher than this average. By contrast, the metropolitan areas of Alicante and Belfast have around 500,000 inhabitants.

Prague and Stuttgart have very large surface areas (around 3,700 km²), while the four other regions are similar to each other and have an average surface area of around 800 km².

The lack of information on the urbanised surface of a number of regions makes it difficult to compare their rural / urban character, which is nevertheless a crucial element to understand the need for and the role of public transport in regions. It is to be noted that the regional / metropolitan areas also differ with respect to their degree of centrality (monocentric or polycentric).

GDP per capita figures in regional/metropolitan areas are sometimes identical to those in city areas. This reflects the lack of detailed information rather than actual similarities.

3.3 Public transport networks

The composition and the size of the public transport networks vary across cities / regions and clear patterns emerge from the data.

	Bus	Metro	Tramway	Light rail	Suburban/ regional rail
Alicante	X				3
Belfast	X				X
Budapest	X	X	X		X
Brussels	X	X	X		X
Dublin	X				X
Merseyside	X				X
Prague	X	X	X		X
Rotterdam	X	X	X		X
Stuttgart	X		X	X	X

In city areas, urban bus, tramway / light rail and metro networks are taken into account. These services are run by one main operator in all city areas represented in the group. There are basically two cases: either a bus operator (Alicante, Belfast, and Dublin) or a multimodal operator combining bus, tramway and metro or light rail (Budapest, Brussels, Prague, Rotterdam and Stuttgart).

For regional / metropolitan areas, suburban and regional buses and railway lines are considered. Suburban and regional bus services are either run by a single operator (Alicante,

³ There is a regional railway line but it was left aside due to its very small size.

Belfast, and Budapest) or by a larger number of private companies (32 in the Greater Stuttgart region, 36 in Merseyside).

Tables 3.4 and 3.5 summarise the criteria that can be used to make comparisons between city areas and between regional / metropolitan areas on common grounds.

Table 3.4: Comparability of city areas

City	Population (million)			Surface area (km ²)			Urban density (1000 inhab/km ²)			Network	
	~0,3	~1	Other	~200	~500	Other	~3,5	~5	Other	Bus only	Multi mode
Alicante	X			X				X		X	
Belfast	X			X						X	
Budapest			1,7		X			X			X
Brussels		X		X					7,5		X
Dublin		X				900	X			X	
Prague		X			X		X				X
Rotterdam		X		X				X			X
Stuttgart			0,6	X				X			X

Table 3.5: Comparability of regional / metropolitan areas

Region / Metro area	Population (million)			Surface area (km ²)	
	~0,5	~1,6	Other	~800	~3700
Alicante	X			X	
Belfast	X			X	
Budapest		X		X	
Mersey-travel		X		X	
Prague		X			X
Stuttgart			2,6		X

In this section, city areas and regional / metropolitan areas were treated separately. However, interesting comparisons can also be drawn between selected city and regional / metropolitan areas. For instance, Dublin and Merseyside present similar characteristics in terms of population, surface area and modes operated.

3.4 Organisation of public transport

Table 3.6 (overleaf) highlights the organisational models and practices in different cities/regions.

Table 3.6: Organisational models and practices implemented in different cities / regions

City / region	Market access	Market regulation	Contractual matters	Share of competencies	Created
Alicante	Authority initiative (tendering)	Regulated market	Gross cost contract	Authority chooses modes & defines the transport offer Tariff policy	PT jointly overseen by the Municipality & regional government
Belfast	Authority initiative: experiment in tendering	Regulated market Current move towards limited competition	No contract Operator has own passenger charter	In practice the operator is developing its own development strategy.	-
Brussels	Authority initiative (operator 'selected' by authority)	Regulated market	Contract defines management, production & quality objectives	Operator advises authority for strategy & tactics Authority oversees major construction	1989
Budapest	Authority initiative (operator and authority are one entity)		Management contract which specifies the level of service	Authority: Investment, tariffs fixed by local gov. Operator: Spend funds & Define supply	Not created as a separate entity for BKV.
Dublin	Authority initiative (service provided by the State transport co.)	Regulated market	Net cost contract	Authority: strategic Operator: strategic, tactical, operational	
Merseyside	Market initiative; authority can run socially necessary services	Deregulated market (routes and fares decided by operators)	Gross cost contracts for supported services	Authority: defines Local Transport Plan; sets fares for subsidised services Operators: free to set up network and fares	1968
Prague	Authority initiative	Regulated market	Key operator = Net cost contract Others: Gross cost contract	PTT shares some strategic decisions with the authority.	1993
Rotterdam	Authority initiative (concessions)	Regulated market; tendering in region by 2006	Net cost contract, limited service standards Operator has own charter	Tactical tasks made by operator on behalf of the authority	1975
Stuttgart	Mainly market initiative (licensing) In principle authority initiative possible	Regulated market	Limited use of contracts Net cost contract for s-Bahn with bonus-malus system	Authority: Global definition of network and general policy objectives Quantity and quality of supply (s-Bahn only) Operators: quantity and quality of supply including fares, and all operational tasks.	1978

3.5 Financing of public transport

Table 3.7 (below) provides an overview of the practices related to the finance of public transport implemented in the different cities / regions.

City/Region	Transport pricing	Subsidy objectives	Subsidy mechanism	Fare fixation	Reaction to change
Alicante	General public pays	Low fares Fare reductions for special groups	Shortfall coverage	Encouraging use of public transport Controlling coverage ratio	No decrease in subsidies
Belfast	N / A	N / A	N / A	N / A	N / A
Brussels	Beneficiary pays/ general public pays	Budget balance	Base dotation accounts for tariffs, traffic income and indexation. Specific dotation linked to security & quality. Bonus-Malus scheme linked to contract objectives	Maintaining low fares Optimising costs	No decrease in subsidies
Budapest	General public pays	Budget balance		Fare fixed by local government with veto of the Ministry of Finance.	Improving efficiency Reducing investment
Dublin	General public pays	Not clearly defined	Single multi-annual payment to State transport body	Fares fixed by Department of Transport	-
Merseyside		Running socially necessary services		Fares left to operator except socially supported services	Service unlikely to run
Prague	General public pays	PTT: service enhancement, low fares, budget balance Private operators: coverage of costs & profit			Reducing frequencies
Rotterdam	Combination of polluter pays and general public pay	Increasing patronage Improving recovery rate	Fixed amount calculated in advance No bonus malus system	Part of the national tariff system Indexation	Increasing efficiency Cutting services Postponing investment
Stuttgart	General public pays (state aid and regional subsidy)	Reducing congestion Low fares	SSB (operator of the city of Stuttgart): cross-subsidy with shortfall coverage S-Bahn: advance agreement Regional buses: advance agreement	Fare structure and level by operator pending approval of the authority	Raising fares Cutting services, Improving efficiency Delays in implementing new services

4 COMPARISONS OF PERFORMANCE

This section summarises the findings of the comparisons of performance among participants. The identification of benchmarks for the quality of service (4.1), the level of patronage (4.2) and, to some extent, finances (4.3) has been followed by the first steps of the identification of practices that account for such high levels of performance. For reasons of confidentiality only the top three cities and regions have been displayed in some of the figures.

4.1 Quality of service

The quality of service has been approached from three points of view: quality of supply, accessibility, and integration.

4.1.1 Quality of supply

The following aspects of the quality of supply have been investigated: volume of supply, average age of vehicles, average frequency of vehicles, availability of services and punctuality.

Volume of supply

The indicator compared is the annual number of places x km per inhabitant (derived from indicator 3). The basis for comparison is that the cities and regional / metropolitan areas were studied separately. The comparison of annual number of places x km per inhabitant is valid among entities of similar surface area.

Figure 4.1: Places compared to km travelled per inhabitant in the working group cities

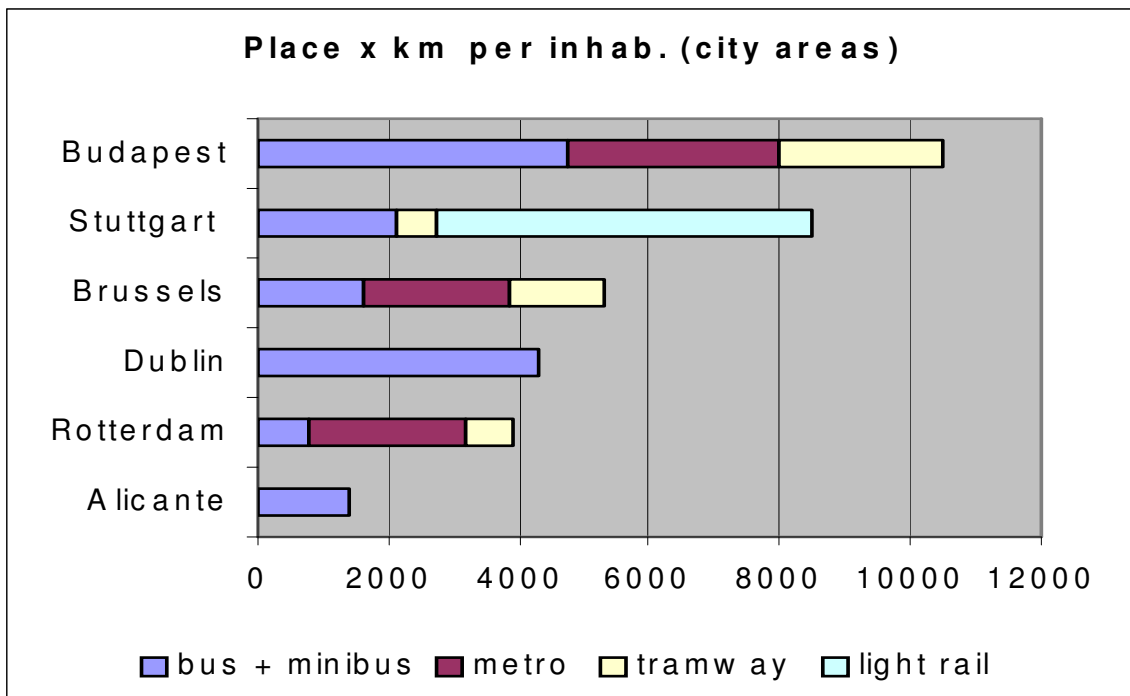
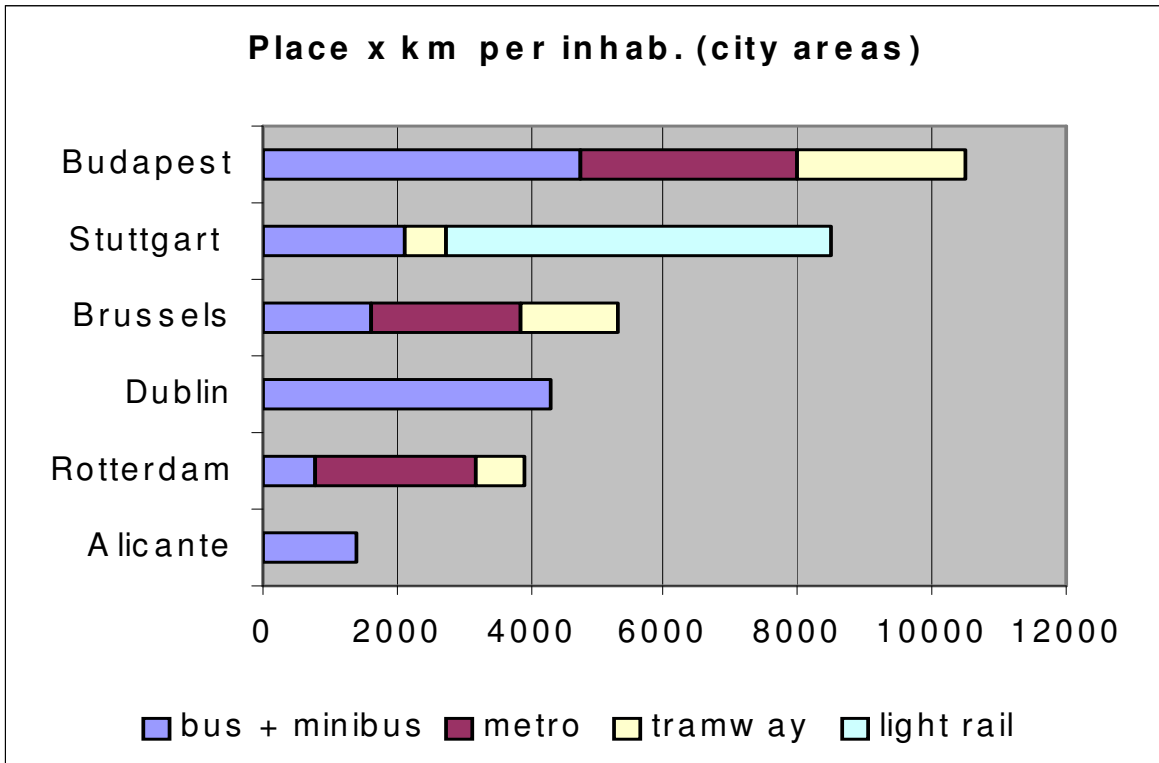


Figure 4.2: Places compared to km travelled per inhabitant in the working group regions



Benchmarks established for this comparison relate separately to the city and regional areas as outlined below;

City areas: compared to cities of similar surface area (that is, Rotterdam, Brussels, Alicante), **Stuttgart** stands out with the highest volume of annual place x km (8,490 km / inhabitant.). The contribution of its light rail system to this performance is substantial.

Regional / metropolitan areas: compared to regions of similar surface area (that is Alicante, Belfast, Merseyside), **Budapest** produces the highest volumes of annual place x km (10,388 km / inhabitant)

Average age of vehicles

Table 4.1 (overleaf) compares the average age of vehicle fleets of the cities and regions participating in the working group.

Table 4.1: Average age of vehicle fleets in the working group

City/Region	Buses (urban and regional)	Tramway	Light rail	Metro	sub-urban/ regional railways
Alicante	7.04				
Belfast	11				25
Brussels	7.95	29.6		23	
Budapest	11.85	29.82		23.11	25.51
Dublin	5.3				20
Merseyside	8				22.5
Prague	5.15	17.84		13.46	N / A
Rotterdam	8	19		11	
Stuttgart	5.43	40.7	10.9		11.02

The benchmarks established from Table 4.1 are that the bus fleets are particularly young in Dublin, Prague, Stuttgart (around 5 years) and Alicante (7 years). In addition Prague and Rotterdam are characterised by young networks.

Good practices evident:

- Maximum age of buses specified in contract with authority.
- Age of buses taken into account in payment from authority (eg: Alicante)
- Integration with other measures (eg: Dublin: part of Quality Bus Corridor improvements)

Frequency of service

The indicator concerning the average frequency of buses in cities and regions is compared in Figures 4.3 and 4.4. These comparisons distinguish between city and regional / metropolitan areas and take into account the structure of the network.

Figure 4.3: Average frequency of buses in the cities

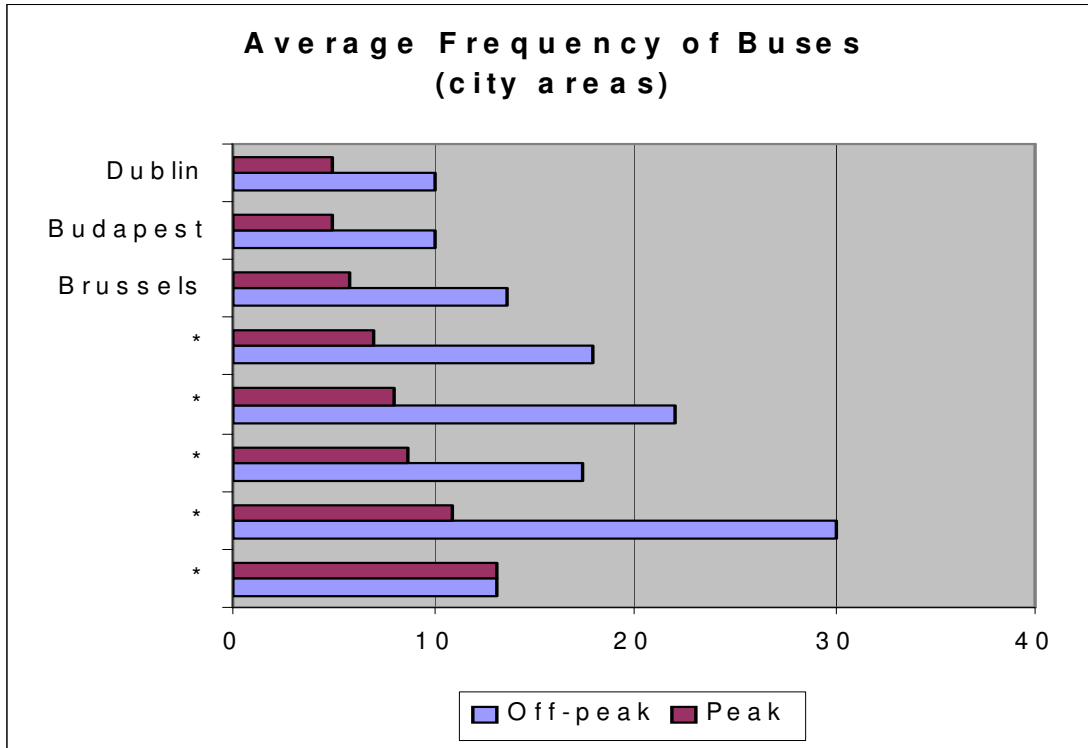
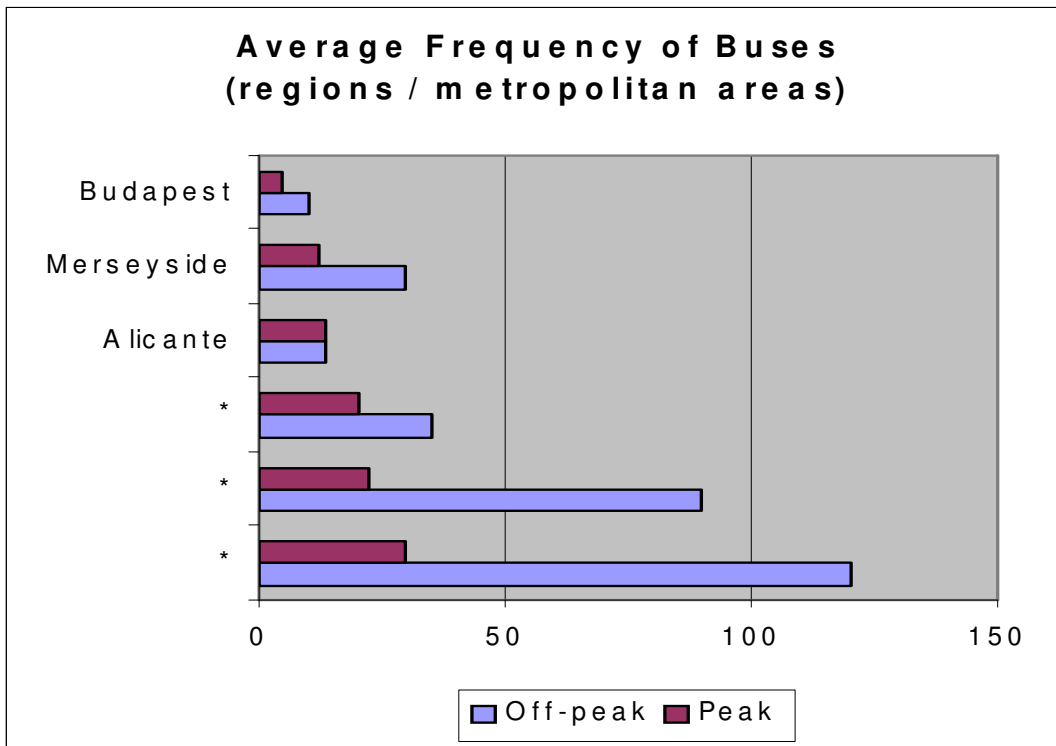


Figure 4.4: Average frequency of buses in the regions



The benchmarks established are that in terms of city areas, Dublin and Budapest have the best performance (5 min. interval at peak time, 10 min. off-peak). In terms of the regional / metropolitan areas: Budapest has the best performance (id.).

It must be noted that the structure of the network plays a role in these results; independently of measures aiming to increase the frequency, bus lines serving corridors with large flows of passengers may inherently require higher frequencies (this is explicitly the case in Dublin and Budapest).

Good practice:

One of the key elements of the Quality Bus Corridors scheme implemented in Dublin is the provision of high frequencies. At peak time, there is one bus every minute on strategic routes. Further information on the QBC in Dublin is available in Annex 6.2.

Availability of services

Figure 4.5 compares the service availability (indicator 8) of the cities and regions and there are no differences between city and regional / metropolitan areas for this indicator. The factors that have an important influence upon this comparison are the size of the cities being compared and qualitative factors, such as a cities role as capital or a university city. There is no distinction by mode in Figure 4.5 (below), because the point of focus is the accessibility to the network.

Figure 4.5: Service availability in the working group



Stuttgart sets the benchmark for the working group on this indicator, with a public transport service available for 20 hours per day. It appears that the extent of the availability of service is often part of the contractual obligations of operators towards their organising authority.

Other indicators

Other indicators of the quality of supply have been collected, including speed and punctuality of service but the absence of a common definition and the poor availability of the data made it difficult to undertake meaningful comparisons.

4.1.2 Accessibility

The following aspects of the issue of the accessibility have been investigated: accessibility to People with Reduced Mobility (PRM) and coverage of population by transport networks.

Accessibility to PRM

Indicator 9 was used to illustrate ‘accessibility to PRM’ (the percentage of vehicles accessible to people with reduced mobility). The only important consideration when comparing the data for this indicator was the need to distinguish between urban and regional bus services

Table 4.2 shows that accessibility to metro and tramways remains poor, with few exceptions. On the other hand, the accessibility to buses and suburban railways varies significantly from one city / region to another.

Table 4.2: Accessibility of urban transport modes in the working group cities/regions.

	Urban buses	All buses	Tramway	light rail	metro	sub-urban/ regional rail
Alicante	75	67				
Belfast	45	*				100
Brussels	*		17.47		*	
Budapest	*	*	*		*	*
Dublin	45					N / A
Merseyside		*				*
Prague	*	N / A	*		N / A	76
Rotterdam	*		*		100	
Stuttgart	N / A	N / A	*	88		*

The benchmarks established for the working group include:

- Urban buses: 75% of vehicles accessible in Alicante, 45% in Belfast and Dublin
- All buses: 67% of vehicles accessible in Alicante.
- Tramway: 17% accessible in Brussels
- Light Rail: 88% accessible in Stuttgart

- Metro: 100% accessible in Rotterdam
- Sub-urban railways: 100% accessible in Belfast.

Good practice:

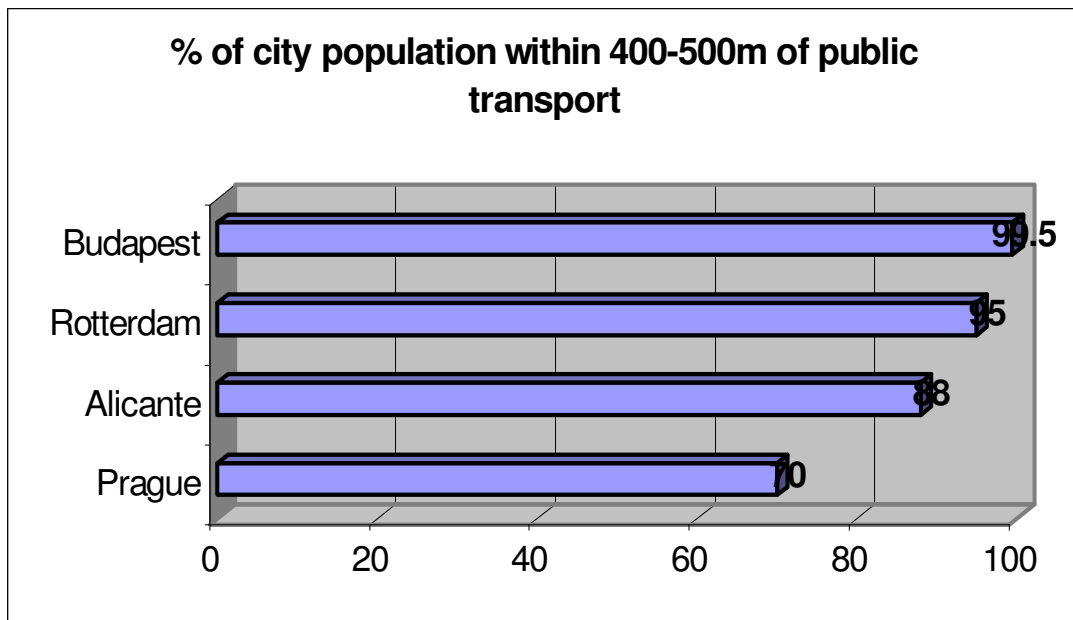
- Renewal of the bus fleet, which may be encouraged by contractual provisions (eg: Alicante), as most new buses have a low floor.
- Legal provisions for the accessibility to public transport (The law requires Metro stations to be 100% accessible to PRM in the Netherlands)

Coverage of population by transport networks

The coverage of population by transport modes was compared by indicator 10.2, which asked the participants for the percentage of population within 400 – 500 metres of a public transport stop or station. Important issues for consideration were the need to make comparisons between city areas and that comparison are particularly valid among cities of similar urban population density.

The benchmarks established for the working group are Budapest (99.5%) and Rotterdam (95%) which both display very high proportions of their urban populations living within 400 - 500 metres of public transport stops.

Figure 4.6: The percentage of city populations living within 400 – 500 metres of public transport



4.1.3 Integration

As far as integration is concerned, ticketing and inter-modal interchanges have been considered.

Ticketing and fare integration

The indicator considered here is the level of ticketing integration (indicator 14 in Annex A6.1). There is a relatively high level of ticketing integration in all cities and the agreement within the working group is that the development of ticketing integration has had a strong effect on the levels of patronage.

The benchmark established within the working group is the full integration across all modes and operators for all tickets in Alicante, Brussels, Prague, Rotterdam and Stuttgart.

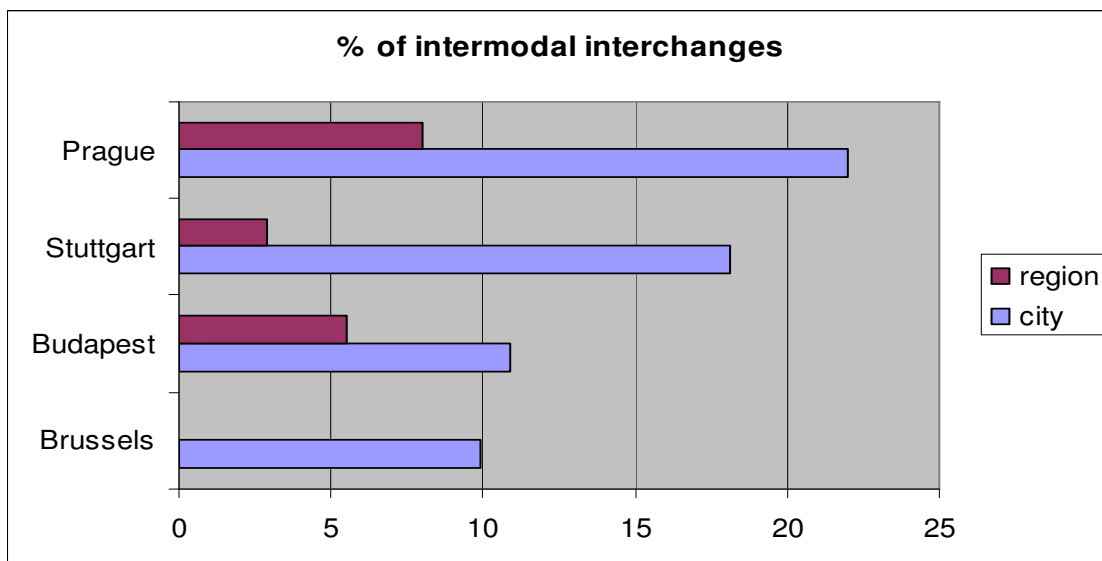
Good practice:

- Coordination with and between public transport authorities at various levels
- Development of electronic ticketing

Multi-modal interchanges

The indicator considered is the percentage of multi-modal interchanges in each of the working group cities / regions (indicator 12.1). Important considerations for making comparisons with this indicator are that city and regional / metropolitan areas need to be studied separately. Figure 4.7 illustrates the comparisons made by the group.

Figure 4.7: The percentage of intermodal interchanges in the cities / regions in the group



Prague has the best performance in both its city and its regional area in terms of the proportion of intermodal interchanges and sets the benchmark for the working group.

4.2 Level of patronage

The percentage of motorised trips made by public transport (derived from indicator 16) was compared in the cities / regions in the working group. Important considerations for the comparison include the need to compare city areas, the validity of comparison is greater among cities of similar urban population density and it is also interesting to distinguish between West-European and East-European cities.

Figure 4.8: Modal share for public transport in the cities

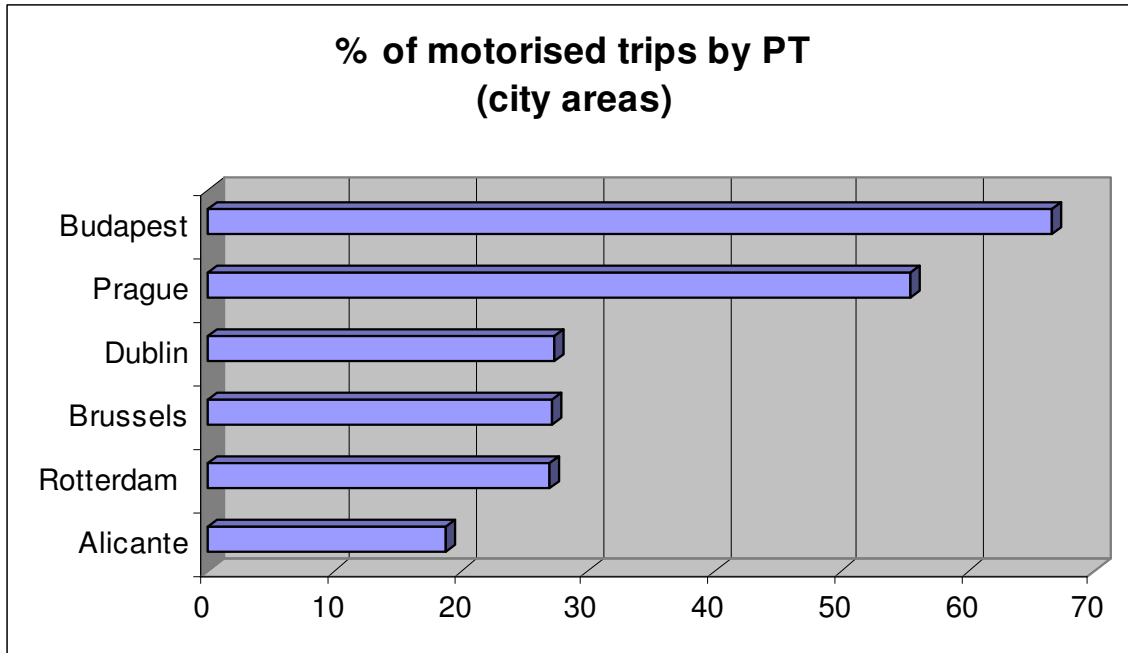


Figure 4.8 shows that the modal share of public transport is relatively similar in a large number of cities (apart from those from Central and Eastern Europe, which come from a quite different background). It is relatively difficult to draw conclusions from this data, notably due to the fact that the hypotheses which are made in the different mobility surveys are not known. This prompts the need to further investigate this issue in order to better understand similarities and differences between cities, possibly from another angle (for instance, the occupancy rate of vehicles).

4.3 Optimising costs and revenues.

The working group collected data for the indicators of the cost of public transport per inhabitant (operations and investment) and the rate of coverage of operating costs by fare box revenue. The group suggested that financial data should be desegregated by mode, but the group has requested that the financial information should remain confidential.

5 CONCLUSIONS

Identification of good practices

The analysis of the indicators has shown that overall models of organisation and financing do not account automatically for the level of performance of public transport. The strengths of each city rely on the implementation of concrete practices and measures.

A number of good practices have been identified in relation to the policy objective of improving the quality of service of public transport. Regarding for instance the quality of supply, it has appeared that contractual provisions, concerning the age of the fleet or the accessibility to the network for persons with reduced mobility, and related financial incentives account for better performance. The group has also compared the practical modalities of co-ordination and integration between operators and authorities (and between authorities themselves) and their practical implications on the level of integration of fares and information, and the running of interchanges.

Participants found the work useful to reinforce local initiatives.

Data collection problems

In some cases, planned comparisons could not be undertaken due to the poor availability of comparable data. The main problems related to the use of data have included:

- Incompatibility of the definitions used in each organisation;
- High level of integration of the network (to be encouraged anyway), which makes Difficult the access to desegregated data;
- Difficulty (and sometimes reluctance) to provide financial data.

Plans for year 2

The group intends to further investigate identified practices which account for good performance, in particular the establishment of contracts between operators and authorities (what provisions, what incentives, etc.) Another possible direction is to further investigate financial indicators in order to identify practices that account for cost reduction and revenue increase.