Urban Transport Benchmarking Initiative

Annex A2

Behavioural and Social Issues in Public Transport

Working Group Report

July 2004

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Behavioural and Social Issues in Public Transport

Working Group Report

Prepared for

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by

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CONTENTS

0. EXECUTIVE SUMMARY

The aim of the Urban Transport Benchmarking Initiative working groups was to try and identify interesting practices through the use of both quantitative data and qualitative analysis in order that the participants in the group may learn from each other's approaches to urban transport. This working group chose the theme which is reflected in the working group title "Behavioural and Social Issues in Public Transport" and focuses upon the role that the issues of travel behaviour, education and marketing have upon the level of public transport patronage in a city.

The following cities and regions participated in the group; Athens (OASA), Bucharest (RATB), Emilia Romagna Region (Emilia Romagna Regional Authority), Ile de France (STIF), Lisbon (Carris and TIS) and Paris (RATP). The site visits to Valencia, Rotterdam and Helsinki provided a very useful insight into public transport practices applied in cities from outside the group.

The following research question was developed by the group at the Valencia site visit; ***"How can we influence travel behaviour in order to increase the market share of public transport and retain existing customers?"*** Following this, the thematic data indicators were defined and the data was collected by the working group. The following interesting conclusions can be drawn from the analysis of the data;

- The cities in the working group represent a range of circumstances. Athens, Bucharest and Lisbon are relatively "young" cities in terms of the age of their populations. In addition these cities display the highest levels of public transport modal share, although these are changing. In Lisbon public transport modal share is falling dramatically, while in Athens it is increasing. Paris, Bologna and the two regions they reside in display completely opposite trends. These cities and regions demonstrate reasonably stable levels of public transport modal share and Bologna in particular displays a much older population structure than the other cities in the working group.

- The population and trip purpose figures can be compared to reveal target markets for public transport in each of the cities and regions. Bucharest has a young population and the trip purpose figures for the city reveal a large proportion of trips are made by people travelling to places of education. By contrast Athens has the largest proportional student population in the working group (23%), but also displays the smallest proportion of trips for the purpose Study / Education (4%). This appears to suggest that, despite a 50% concessionary fare for students, there is a relatively untapped group of potential public transport users in Athens. In the Emilia Romagna region the proportion of trips attributed to study and education is also low (8%) which implies that more young people could also be encouraged to use public transport.

- In most of the cities in the working group a large proportion of travellers use public transport to get to work (at least 50%). However in the Ile de France region a much smaller proportion of public transport trips are made using public transport modes (32%). This could be explained by a "shadow effect" from Paris, although a large proportion of the regional population is made up of people of working age.

- Zonal ticketing systems, whereby tickets are purchased for travel within/through a desired number of zones are standard for most of the cities in the working group. In the city of Helsinki, visited by the group in April 2004, the ticketing system operates on a timed basis, whereby a single ticket is valid for a given amount of time.

- Despite having the cheapest public transport fares in terms of absolute cost, Bucharest displayed the highest cost of public transport in real terms. Even so, Bucharest still has the highest level of public transport modal share (52%) of all the cities in the working group. This illustrates that the decision to travel by public transport does not rest purely upon cost and therefore simply making public transport cheaper, does not necessarily guarantee greater patronage.

- In the Emilia Romagna region concessions are only offered to students, despite a large proportion (27%) of the population being aged over 65. It is possible that offering older travellers an incentive to use public transport could improve the number of people that use public transport, particularly outside of peak hours of travel.

- Paris and Bucharest display stable levels of annual season ticket sales in relation to the other cities in the group. In Bologna (and the Emilia Romagna region as a whole) the sales of annual season tickets are increasing, suggesting a modal shift towards public transport. In Lisbon the decreasing level of annual season pass ownership reflects the long term trend of declining public transport modal share which has been matched by large increases in the level of car ownership in the city.

- Paris appears to lead the way in terms of the amount of integrated public transport information that is currently available and the fact that it can all be accessed via the internet. Although public transport information websites are a standard among the group, Paris and the Ile de France region set the benchmark by being the only city / region to operate an online journey planning facility. That all public transport information in Paris and the Ile de France is integrated reflects the fact that RATP and STIF have close links and RATP also operates the bulk of the public transport services in the city.

- The level of real time information available in Paris is also more substantial than in other cities in the working group. The media is still in its infancy, although in Paris the newly built tramway system was designed to have real time information, while the RER has recently been retro-fitted. As a result these modes have 100% coverage of real time information, whereas it is not yet available in Athens.

- An annual survey of customer satisfaction appears to be virtually a standard within the working group. The most common method of interviewing people is by telephone, although in Bucharest (and Rotterdam and Helsinki from site visits) face to face interviews are also used. RATP (Paris) were the only organisation to conduct an interim survey on a more regular, quarterly basis. In addition Paris is the only city where complaints are handled using e-mail, which enables faster handling and explains the shorter response time to complaints.

- All of the cities in the working group undertake marketing activity, although only in Paris/Ile de France and the Emilia Romagna region does there appear to be a strategic approach to promoting public transport.

- The majority of the promotional activity and information produced by the cities in the working group is aimed at children and students in order to try and encourage them to travel by public transport. It is possible that further promotional activity could target offices and large employers in order to try and encourage further modal shift from private motorised modes to public transport.

- Partnerships to promote the use of public transport were only evident in Paris (Euro Disney) whereby combined tickets (transport and park entry) are combined to offer better value to people travelling from central Paris to Marne La Vallée. In Rotterdam innovative use of advertising space (on modes of transport and in free "Metro" publications) enabled RET to barter deals with traffic generators (Pathé cinema & Feyenoord Football Club) where advertising space was given free in return for the supply of discounted entry tickets to attractions.

- Partnerships were not present in any city at a smaller level, whereby retail parks or commercial developments were targeted as potential sources of new public transport passengers. This type of "Travel Plan" style approach, where employers and public transport organisations work together to improve the transport options for employees, therefore appears to have potential within the working group.

The following general conclusions and recommendations can be made from the data analysis;

- Comparing the population and employment structure, modal share and trip purpose statistics of a city enables general conclusions to be drawn regarding the actual and potential use of public transport in that city. In the case of the cities in the Behavioural and Social Issues in Public Transport Working Group it has been possible to highlight certain groups of people that could use public transport on regular basis. Athens, for example, has a large student population which only appears to account for a small proportion of total public transport trips.

- Concessions for particular social groups are commonplace among the working group's cities but, as the example of Athens reveals, simply making public transport cheaper through a discount does not guarantee greater patronage. In Paris and in the Emilia Romagna region considerable effort has been channelled into making public transport an appealing option for young people as well as offering concessions. This has been achieved through the use of dedicated information and websites aimed specifically at young people.

- The real cost of public transport appears to have a limited impact upon the patronage of public transport and therefore lowering the price of public transport on its own is unlikely to lead to greater numbers of passengers. Bucharest has the most expensive public transport offering in real terms, while Paris and the Emilia Romagna region are the cheapest. An important consideration for future benchmarking involves comparing these public transport costs against the real cost of car use.

- Bologna (and the Emilia Romagna region as a whole) appears to be achieving a modal shift towards public transport with sales of annual travel passes increasing rapidly. Further benchmarking activities of this working group could focus upon how this has been achieved and whether the trend could be repeated elsewhere by adopting a similar approach. This may be of particular interest to the city of Lisbon, which is experiencing rapid decreases in the modal share of public transport and the sale of annual travel passes.

- Paris emerged as a definite group leader in terms of public transport information, both web-based and real time. RATP and STIF have very close links, which is aided by the fact that RATP operates the majority of public transport services in the city. This relationship benefits public transport users in Paris, because public transport information in the city is fully integrated and all available on the internet via an online journey planner. A similar situation exists in Rotterdam, which the working group visited in March 2004. A site visit to Paris in second year of the benchmarking initiative could be beneficial and would enable the group to learn more about public transport information and marketing.

- Marketing activity to promote public transport is undertaken in all of the cities involved in the initiative, although the only place there is a strategic element to this process appears to be the Emilia Romagna region. Although difficult to quantify, it is possible to suggest that the strategic approach applied across Emilia Romagna could be at least partially responsible for the increases in patronage of public transport in the area. This could also be worthy of further investigation into the second year of the benchmarking initiative, although probably corresponds more closely to the themes of the Public Transport Organisation and Policy working group.

1. INTRODUCTION

1.1 Project Background

The Urban Transport Benchmarking Initiative has sought to apply the concept of benchmarking to the urban transport systems present in cities across the EU, including the New Member States. This is in keeping with the European Union's policy approach which places considerable importance upon the role attractive, efficient local and regional transport systems can play in the economic development and social cohesion of the EU. In the field of urban transport the exchange and promotion of best practices is one of the main policy tools that the European Commission possesses. The Urban Transport Benchmarking initiative has therefore compared the differences between the participating cities' transport systems in order to identify and promote interesting practices in urban transport.

The benchmarking concept has great potential when applied to urban transport systems. A range of previous initiatives have provided this project with the opportunity to deepen the focus of the benchmarking process and, by learning from previous experiences, provide more comparable results. The development of more practical data indicators has aided the learning process for the organisations involved in the project and this has greatly helped to improve the robustness of the data collected for the project.

The Urban Transport Benchmarking Initiative has adhered to the European Commission's subsidiarity principle by including as many urban transport stakeholders as possible. The process of the Urban Transport Benchmarking Initiative has been a fluid one, responding to the issues which were raised by participants in the project, rather than following a rigid, predetermined process. In this way the subsidiarity principle has been fulfilled, because the recommendations of interesting practices are coming from a network of urban transport operators, user groups, local authorities and municipalities, rather than a single centralised institution. It is therefore hoped that the project's findings will provide a useful resource for other urban transport stakeholders and help them to implement innovative solutions to commonly experienced urban transport problems.

The Urban Transport Benchmarking Initiative has been based around 5 themes, for which data has being collected by the participating cities. These themes have been organised as working groups and these are listed below:

- Behavioural and Social Issues in Public Transport
- City Logistics
- Cycling
- Demand Management
- Public Transport Organisation and Policy

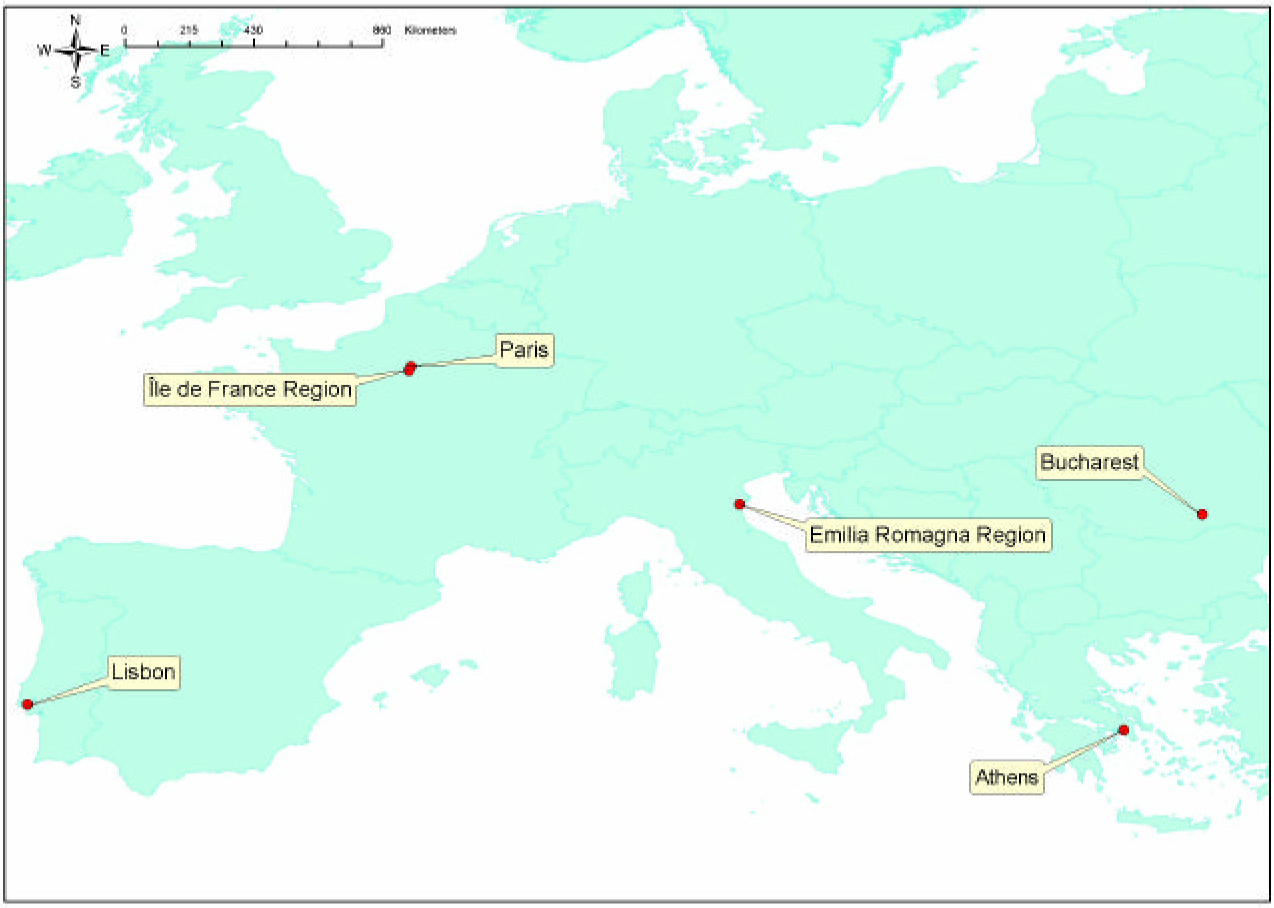
This report presents the findings of the Behavioural and Social Issues in Public Transport Working Group, outlining the methodology used by the working group, the data collected and analysed and the recommendations emanating from the analysis. The Urban Transport Benchmarking Initiative will be re-launched for a second year in September 2004 and it is hoped that more cities will become involved in the working group in order to benefit from the benchmarking process. The recommendations at the end of this report illustrate the ideas currently being developed for the second year of the Urban Transport Benchmarking Initiative.

1.2 Methodology of the working group

The Behavioural and Social Issues in Public Transport Working Group was initially formed at the launch conference of the Urban Transport Benchmarking Initiative as the "Behavioural Measures" working group. Due to a limited interest in this specific theme, the scope of the group was broadened in order to accommodate the interests of more cities. Throughout the course of the first year of the benchmarking project, the following cities and regions have participated in the Behavioural and Social Issues in Public Transport working group (see Figure 1.1):

- Athens (OASA)
- Bucharest (RATB)
- Emilia Romagna Region (Emilia Romagna Regional Authority)
- Ile de France (STIF)
- Lisbon (Carris and TIS)
- Paris (RATP)

Figure 1.1: Cities and regions represented in the working group



The working group has broadly followed the timetable that has been adhered to by the other working groups (see Table 1.1 below) and has used the meeting time available at each of the three site visits to discuss each stage of the benchmarking process. The aim of the working group has been to try and identify interesting practices through the use of both quantitative data and qualitative analysis in order that the participants in the group may learn from each other's approaches to urban transport.

Table 1.1: Working group time-plan

Event	Date	Progress
Launch Conference	November 6th 2003	Discuss themes and indicators
Site Visit 1	December 3rd&4th 2003	Ratify indicators and define research questions. Agree a plan for data collection and agree units that are comparable within the group.
Site Visit	March 18th and 19th 2004	Collation of data and identification of any problems at this stage. Discussion of problematic indicators.
Site Visit 3	April 26th and 27th 2004	Interpretation and presentation of data, working towards group's findings in preparation for the final conference
Final conference	June 15th 2004	Presentation of final results

In his role as expert for the working group, Guido Müller (ILS) was responsible for overseeing the discussions at each of the working group site visits as well as assisting the group with technical issues such as the data collection and analysis processes. The group has also been supported by Neil Taylor (TTR) who, as the rapporteur for the group, has been responsible for the organisation of site visits, the preparation of reports and co-ordination of the working group.

1.3 Definition of the working group theme

The working group's theme; "Behavioural and Social Issues in Public Transport" was chosen by the participants at the Valencia working group meeting and represents the varying interests of the working group members.

The choice of a theme for the working group was an initial barrier to defining and collecting data for thematic indicators, because until the group had decided what it wanted to focus upon very little progress could be made. Some of the cities in the working group were more interested in public transport issues, whilst several participants were keen that the group focused upon travel behaviour issues. These differing interests had to be taken into account when selecting the theme.

Table 1.2 lists the topics that interested the working group participants, with the cells highlighted in green indicating those areas in which all participants had an interest. The cells highlighted orange were themes that were already being covered by the Public Transport Organisation and Policy working group and these were therefore discounted by the group.

Table 1.2: Potential working group themes

Public Transport	Travel Behaviour
Increasing the patronage of public transport from both the point of view of marketing (at operational and strategic level) and service planning.	How can cities have an affect upon passenger's travel behaviour through the use of marketing and education?
The discussion on safety and security showed there was a particular interest in the issue of **personal security**. It was felt that both issues were somehow linked, in reference to cases where the lack of security could be a threat to safety.	What are the benefits and likely impacts of integrated fare and ticketing systems upon travel behaviour?
The issues of **accessibility** and **social inclusion** through public transport have also been considered as relevant.	What influence do alternative forms of mobility (such as car sharing, car pooling and the provision of free city bicycles) have upon travel behaviour?
Participants expressed their interest in comparing various **organisational frameworks** and assessing their respective influence on the performance of the public transport system. The related issue of integration was considered as crucial in that discussion.	
As far as **public transport finance** was concerned, cost efficiency of service production (i.e. cost reduction) and customer satisfaction (i.e. revenue increase) were considered as key objectives. Interest was also expressed in the various sources of funding for public transport investment and operations.	

This approach to selecting a theme for the working group was applied to satisfy the interests of all of the participants. The cells that are highlighted in green in Table 1.2 formed the basis for the selection of the theme and provided the focus for the definition of indicators for which the group wanted to collect data (this process is explained further in section 3 of this report). The chosen theme is reflected in the working group title "Behavioural and Social Issues in Public Transport" and focuses upon the role that the issues of travel behaviour, education and marketing have upon the level of public transport patronage in a city.

1.4 Site Visits

As described above, the working group attended a total of three site visits over the course of the first year of the Urban Transport Benchmarking Initiative. The venues for the visits were:

1) Valencia
2) Rotterdam
3) Helsinki

These visits provided a very useful insight into public transport practices applied in cities from outside the group. Full details of these site visits have been presented as case studies of the interesting practices the group experienced and are available in Annex 2.2, which accompanies this report. A summary of these visits is also available on the project website www.transportbenchmarks.org.

1.5 Learning from the Citizens Network Benchmarking Initiative

The Behavioural and Social Issues in Public Transport working group was able to refer back to the achievements of the Citizen's Network Benchmarking Initiative working group reports in order to try to further refine the process of benchmarking urban transport and to learn from previous experience. The aim of the Urban Transport Benchmarking Initiative has been to try to continue the work of the Citizens Network project, rather than repeat what has already been achieved and this reflection upon previous work was an important initial stage of the project undertaken by TTR.

In particular the Citizen's Network working group on 'improving the attractiveness of public transport' covered some topics that relate to the theme chosen by the Behavioural and Social Issues in Public Transport working group. The closest link between the two working groups stems from the second research question chosen by the working group on improving the attractiveness of public transport:

"(b) What is the most effective combination of soft measures for increasing the patronage and satisfaction of current or potential users, among the following user groups?

- commuters
- tourists
- schoolchildren/students
- the physically disabled[1]"

Where relevant in this report, comparisons have been drawn between the findings of the Citizen's Network working group and the Behavioural and Social Issues in Public Transport working group.

1.6 Contents and Purpose of this report

This report is Annex A2 of the Urban Transport Benchmarking Initiative final report and describes the approach taken by the Behavioural and Social Issues in Public Transport working group. In addition the findings from thematic data indicators collected by the group are presented and analysed in order to present the recommendations of the working group.

The remainder of the report consists of a description of the cities and regions that participated in the working group accompanied by relevant background statistics derived from the common indicators (section 2). Section 3 of the report outlines the methodology for defining the thematic indicators and the process of data collection. Section 4 of the report contains the analysis of the thematic indicators and the fifth section of the report outlines the case studies of interesting practice that have been experienced on each of the site visits. Section 6 contains the key findings and recommendations that have been established by the working group, as well as comparisons to the Citizen's Network Benchmarking Initiative. The final section of the report contains the conclusions

[1] The Citizen's Network Benchmarking Initiative (2002) Improving the attractiveness of public transport - Working group report. European Commission DG Energy and Transport, p18.

made by the group and the recommendations for further developing the theme of the working group.

2. WORKING GROUP PARTICIPANTS

This section of the report provides an overview of the cities that have been represented in the Behavioural and Social Issues in Public Transport Working Group. Section 2.1 lists the participants, while section 2.2 contains descriptions of each city that has participated in the working group. Section 2.3 provides background data from the common indicators which provides some context about the size and situation of each of the cities represented in the working group.

2.1 Working group participants

Four cities and two regional authorities are represented in the Behavioural and Social Issues in Public Transport Working Group. Table 2.1 outlines the participants in the group, the organisations they work for and the cities and regions they are representing in the project.

Table 2.1: Summary of working group participants

Area	Organisation	Status	Country	Participant
Athens	OASA (Athens Urban Transport Organisation)	Public transport authority	Greece	Alexandra Kalapoutis
Bucharest	R.A.T.B (Regia Autonoma de Transport Bucuresti)	Operator	Romania	Liliana Andrei
Emilia Romagna	Region Emilia Romagna	Regional authority	Italy	Luca Buzzoni
Emilia Romagna	Region Emilia Romagna	Regional authority	Italy	Alessandro Albertini
Emilia Romagna	Region Emilia Romagna	Regional authority	Italy	Marco Zagnoni
Ile de France	STIF (Syndicat des transports d'Ile-de-France)	Public transport authority	France	Sabine Avril
Lisbon	TIS – working on behalf of Carris	Consultant	Portugal	Pedro Santos
Paris	RATP	Operator	France	Francis Vincent
Paris	RATP	Operator	France	Isabelle Bachmann

The cities and regions represented in the working group cover a wide geographical area and offer a range of varying practices and experiences which were shared over the course of the project. The key interest shared by all members of the working group is a desire to improve the modal share of public transport in their city or region.

In order to make any comparisons between the interesting practices applied in cities or regions represented in the working group it is essential to display an awareness of the background of each of the participating cities and regions. The remainder of this section summarises the geographical and urban transport situations in each of the participating cities/regions and utilises some background statistics from the Urban Transport Benchmarking Initiative Common Indicators to provide some context for further comparisons.

2.2 Description of cities represented

Athens

Athens metropolitan region is the most populous area in Greece with 3.7 million people. The region covers an area of 1,450 km^2, encompassing 83 local authorities (municipalities) in 3 counties. Athens belongs to the Attica region and covers 35% of its surface area, with the Athens urban administrative area covering a total of 544 km^2.

The Athens Metropolitan area is surrounded by mountains, from West to East, and by the Aegean Sea from the South. Within the central urban area, the existence of several hills has an influence upon the transport in the city, causing local roads to have steep gradients.

The Athens urban area has rapidly spread in recent decades and continues to expand, mainly to the East and the North. Population trends and land availability data indicate that this expansion is gradually levelling-off. Car ownership is yet to reach saturation point, but any further increases will be gradual and not too large, while the degree of mobility of the population also appears to be approaching saturation.

Travel Demand in Athens shows a strong bi-polar pattern, with a very large percentage of journeys attracted to the Athens City Centre (mainly) and to the Centre of Piraeus (port).

Bucharest

Bucharest is the capital city of Romania and is situated in the Southern side of Romania, at a distance of 64 km North of Danube River and of 100 km South of the Eastern Carpathian Mountains and at a distance of 250 km West of the Black Sea. Bucharest is placed in the Romanian Plain, having a maximum altitude of 96.3 m. The city has a population of 1.93 million inhabitants and covers a total surface area of 238 square kilometres representing 0.8% of the entire surface of Romania.

Public transport within the urban area of Bucharest is provided by four major mass transit modes: metro, tram, trolleybus and bus. While there are several above ground railway stations within the urban area, in practice they are not used to any significant extent for urban transport.

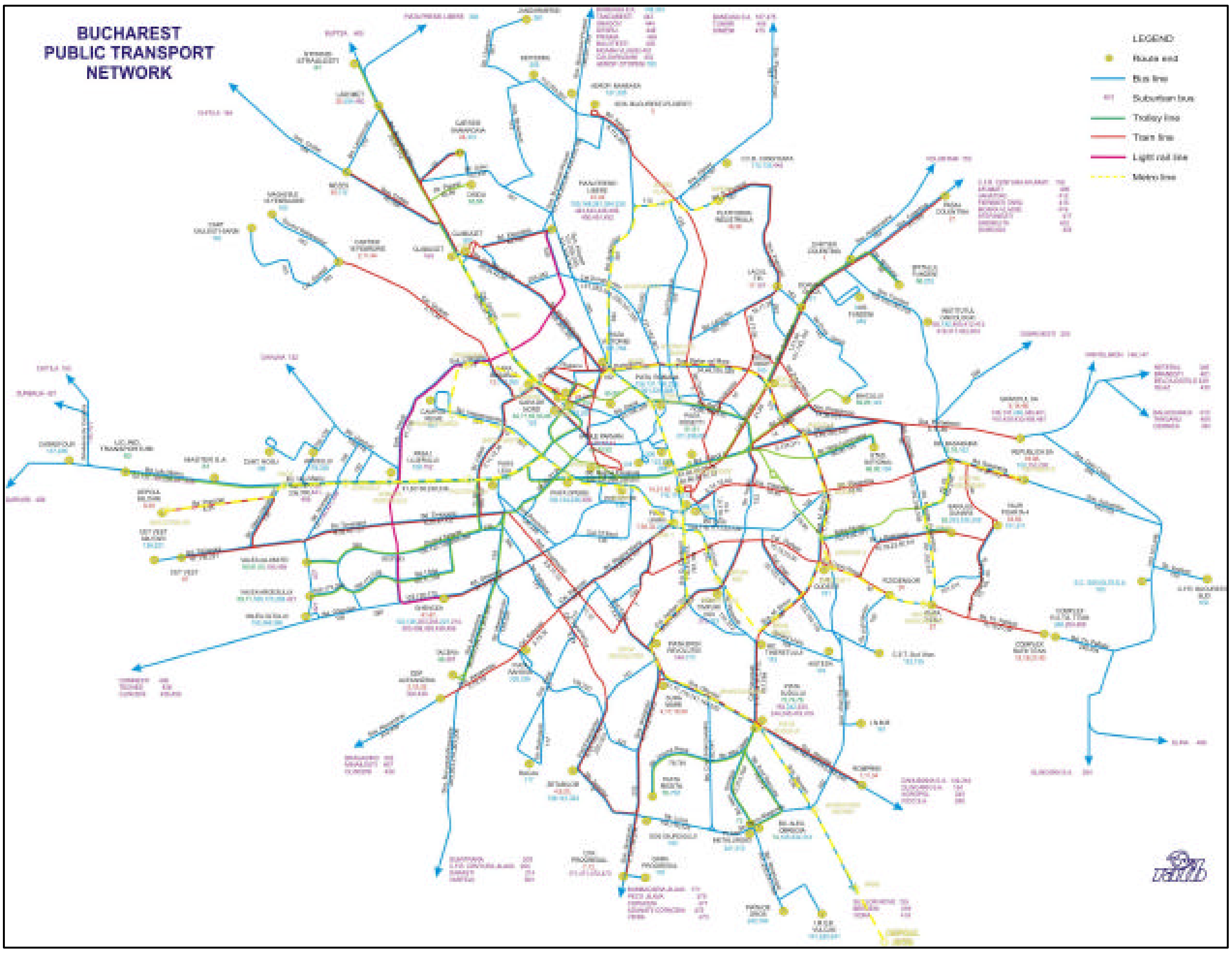
Urban public transport in Romania is generally under the responsibility of local government. Thus, in Bucharest the responsibility for the surface modes of public transport rests with the Municipality, which has in turn devolved the responsibility to the principal public transport operator, RATB. The only exception to this is the Bucharest metro system, which is the responsibility of a Ministry of Transport enterprise called “Metrorex”.

A key feature of the tram network is the semi-circular route along the inner ring line. Two sets of routes run radially from Southern outer-urban locations to the inner ring, and then split towards the East and the West, traversing the inner ring from the South of the city to the Station in the North. There is no direct service provided between the North and West sectors of the ring. Some of the routes leave the inner ring in the North to provide radial links to outer-urban areas. The RATB bus network covers almost the entire surface of the city and largely follows a radial pattern from the city centre to the peripheral areas in the Bucharest Municipality, while some routes reach the ‘Communas’ beyond the city boundary.

Trolley buses are intended to provide a feeder network of short distance services. However, they also provide a high-density service across the city centre along an East - West axis and to the Station. The pattern of these services is typically from the inner suburbs, across the city centre to a point on the far side of the 'centaur', or simply across the city centre. Trolley buses have recently been used to replace tram services at the extremes of certain tram routes within the inner ring road because vibrations were damaging old buildings.

A map of the Bucharest public transport network is shown below in Figure 2.1:

Figure 2.1: Public transport coverage in Bucharest



Bologna and the Emilia Romagna Region

Emilia-Romagna is a region located in the Northern part of Italy and has a population of 4 million. The region covers a total area of 22,100 km^2 and is subdivided into 9 Provinces, 10 main cities (Cape Municipalities of Province) and 341 Communes (See Figures 2.2 and 2.3). Bologna is the regional capital and for the purpose of the working group analysis it has been used as the main point of comparison for the Emilia Romagna region.

Figure 2.2: Emilio Romagna Cities

Figure 2.3: Emilia Romagna Location

Eight of the ten main cities are on the "Via Emilia", the roadway and railway "corridor" which separates the plain from the mountain, while to the North-East is the Adriatic Sea. The Emilia Romagna region is unique within the working group, because all of the institutional bodies (Regions, Provinces, Municipalities, Local Agency for Mobility and Operators) act in unison and operate public transport as an integrated regional network, in accordance with the region's General Integrated Transport Plan, rather than as isolated entities.

Regional objectives of the Integrated Transport Plan are focused on the promotion of sustainable mobility and on the quality of public transport. The following factors are considered important within the region and are monitored annually by the "Accordi di programma":

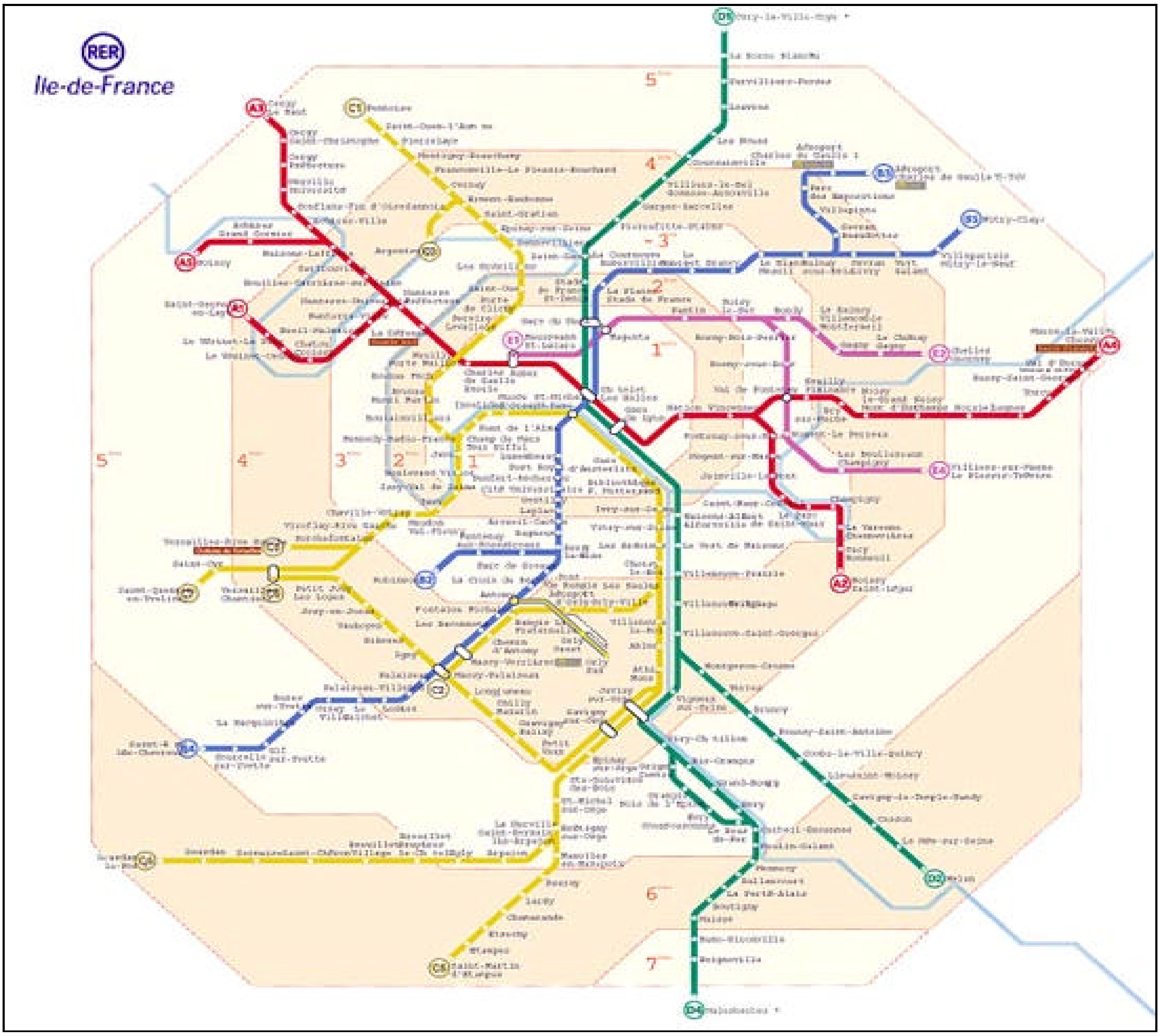
- Air pollution: number of days with PM10 pollution and annual average PM10, NO2 and VOC.
- Traffic accidents: number of accidents on the provincial road network.
- Fuels : Oil fuels and methane consumption
- Public transport service: number of passengers, fare revenues, operating costs per hour, average speed and total traffic revenues.
- Walking and cycling trips: length of cycle paths and size of pedestrian areas.
- Car density and type of vehicles.

The Regional Public Transport Agency, set up in March 2001, is directly responsible for the regulation of railway services and co-ordination of related investments. In the field of local public transport and urban mobility, the Regional Public Transport Agency is also responsible for financing investment and operating costs and is also responsible for customer care, mobility management, quality, environment, safety and traffic in urban areas.

Ile de France Region

The Ile de France region covers an area of 12,000 square kilometres and has a total population of 11 million inhabitants. Although most famous for Paris, the capital city of France, the built area of the Ile de France region accounts for only 20% of the total surface area. The region is visited by approximately 60 million people each year. The Ile de France region is made up of a total of 8 'départements' and each day approximately 12 million trips are made by public transport modes across the region.

Figure 2.4: The Ile de France region and RER network



Lisbon

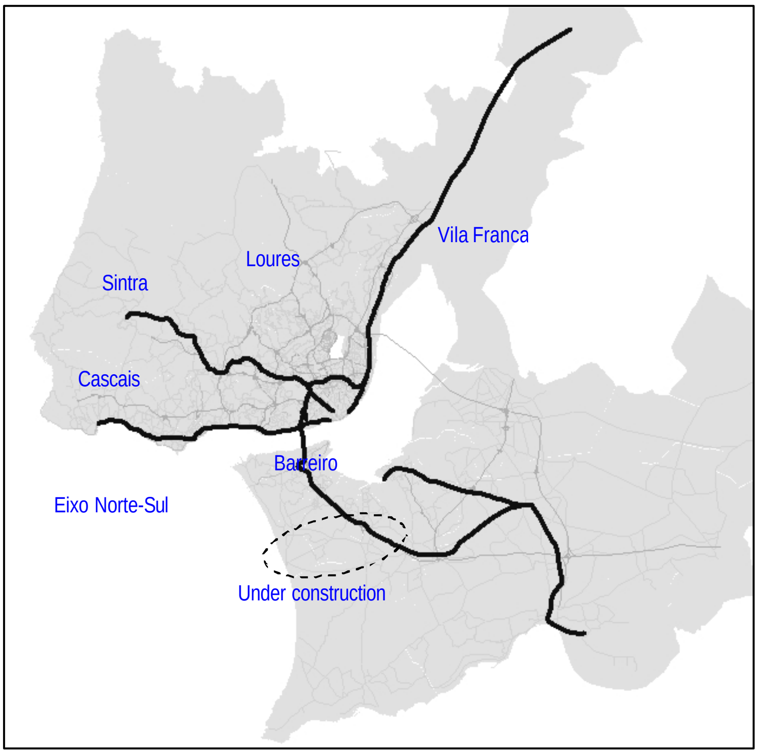
Lisbon is the capital city of Portugal and is located in the right bank of the estuary of the Tagus River. Lisbon has a population of approximately 565,000 (2001) concentrated in an area of 84.6 km^2, although the city's political boundaries contain around 2,683,000 inhabitants spread over a total surface area of 3,209 km^2. The urban population of Lisbon has dramatically decreased over the last 20 years (in 1981, the city had 808,000 inhabitants) following the dominant trend currently being experienced by other European cities. Urban sprawl has become a major issue for the city as the population of suburban areas has swelled.

Due to its size, the Tagus estuary constitutes a serious barrier to free mobility that has influenced the location of the population, with the North bank (1.4 million inhabitants) having approximately twice the population of the South bank (0.7 million inhabitants). The metropolitan economy is strongly based on the service sector, with 75% of the job posts in this sector (88% in the city of

Lisbon). In tandem with population, jobs have also been flowing from the city of Lisbon into suburban areas, which indicates that Lisbon is losing its attractiveness as a location for some economic activities. New job creation is focused primarily outside of the city of Lisbon which has compounded the relocation of large numbers of private sector jobs to the suburbs.

Both the road network and the public transport system have been traditionally characterised by a radial structure. The 25th April Bridge[2], concluded in 1966 in the western and narrow part of the estuary, marked the beginning of the urban sprawl in the South bank, which until then was limited to the waterside areas linked to Lisbon by ferry lines. More recently, in 1998, included in the urban development of the Expo '98 and built in the large part of the estuary, the Vasco da Gama Bridge[3] has created a similar phenomenon in the east part of the south bank.

Figure 2.5: Urban heavy rail network in Lisbon



The four radial highways in the North bank area correspond to the four urban development axes: Cascais, Sintra, Loures and Vila Franca (clockwise). From these four urban development axes, only the Loures axis is not served by a heavy rail line, which has been compensated for by the recent extension of the Metro yellow line (the first to cross the city limits).

Heavy rail is an important mode in the Lisbon area and recently the rail network has been extended Southwards to connect the national rail network and the South of Portugal (see Figure 2.5).

The Cascais line is used daily by around 100,000 passengers, while the Sintra line carries 207,000 passengers each day. Despite the recent upgrades to the rail stock and the upgrade of some stations, both lines are on a downward trend regarding the demand.

The Lisbon Metro, was opened in 1959, had an initial expansion phase in which was then delayed for 16 years from 1972. However in 1988 new stations were opened to the public and since then, the network has steadily expanded. The 33.6 km metro system currently has 4 lines which serve 46 stations in Lisbon; although by 2006 the network will have achieved an overall length of 40 km, with 52 stations.

Bus and tram operators in Lisbon have recently renewed fleets in order to increase customer comfort. Low-floor buses with air conditioning and real-time information on selected stops are two examples of this investment. Despite these investments and the fact that the bus and tram network

[2] The bridge is 2.3 km long, from which 2.0 km are suspended. Together with the viaduct accesses in the north bank the set is 3.25 km long.
[3] The total length of the crossing is 17.2 km, with 12.3 km in viaducts and bridge.

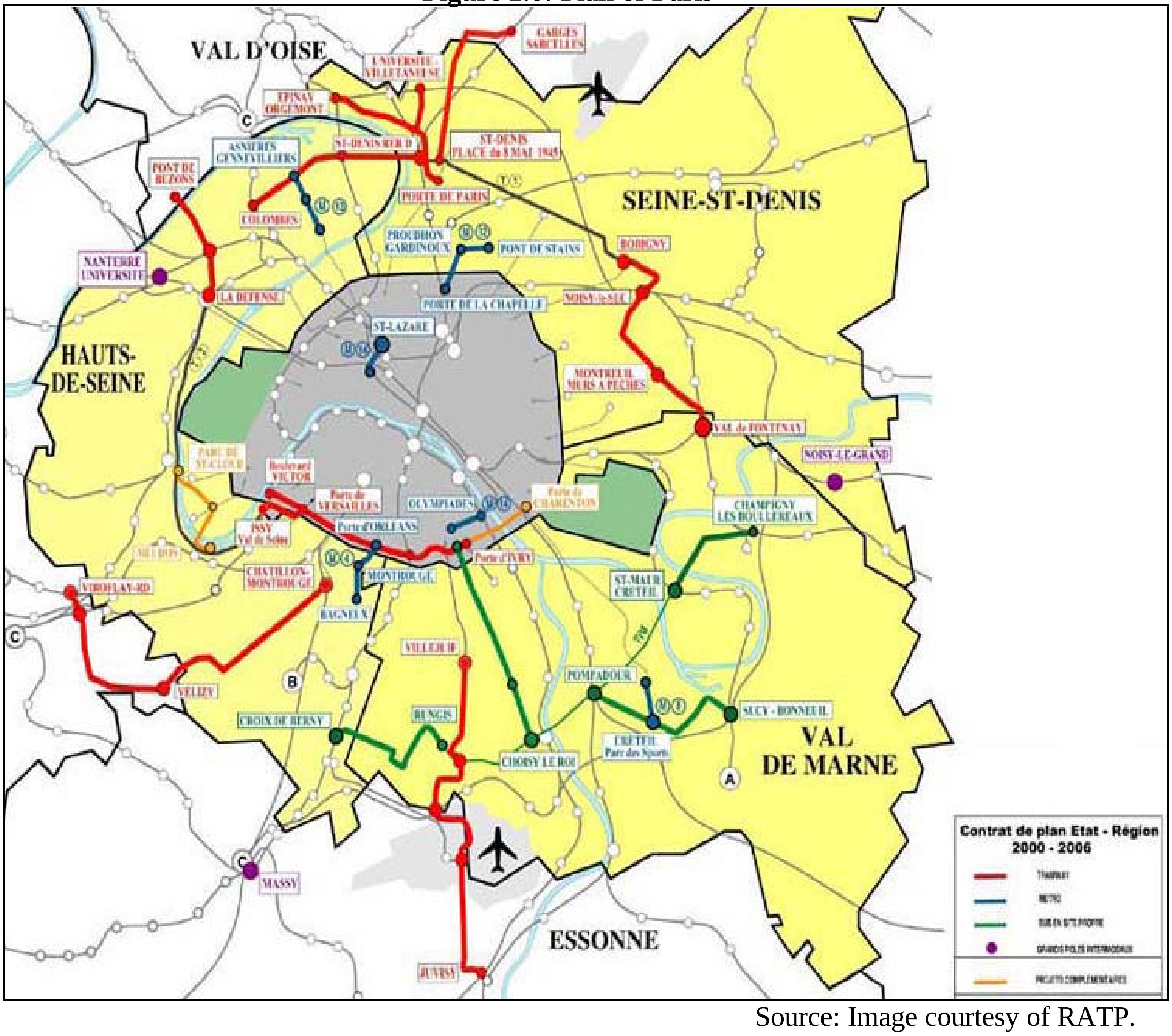
serves a significant part of the city, the overall trend has been for public transport patronage to continue to decline.

Lisbon also has an extensive urban ferry service operated by Transtejo's fleet of 40 ships which range from the traditional "Cacilheiros" to modern catamarans. Everyday around 500 ferry crossings between the two banks are used by more than 100,000 passengers. A new ferry terminal is due to open in late 2004 in Cais do Sodré which will be the first to integrate both suburban train, metro and ferry services

Paris

Paris is the capital city of France and has an urban population of 9.6 million inhabitants, 2.1 million of which live in 'Paris Ville'; the central area of the city which covers an area of 100 km^2. The urbanised area of Paris covers 2,459 km^2 and is surrounded by the Ile de France region, which is also represented in the working group.

Figure 2.6: Plan of Paris



Source: Image courtesy of RATP.

2.3 Background data from the common indicators

This section of the report uses data from the common indicators and background data from the group's thematic indicators in order to provide some basic information and comparisons for each of the cities / regions represented in the working group. Table 2.2 (below) outlines some of the key statistics for each of the cities / regions in the working group.

Table 2.2: Background statistics for cities/regions in the working group

Statistics (2002)	Athens	Bologna	Bucharest	Lisbon	Paris	Emilia Romagna	Ile de France
Area of city km^2	544	140	238	84.6	2,459		
Population of city	3.2m	373,592	1.93m	564,657	9.6m		
Population density (people per km^2)	5,882	2,668	8,109	6,674	3,904	181	911
Area of region km^2	1,450	3,702	710	3,209	12,070	22,100	12,070
Population of region	3.76m	913147	2.2m	2.7m	11m	4m	11m
GDP per capita in €	17,431	27,000	2,289.89	20,930[4]	37,472	26,500	37,472
Employment	45	48.7	40	50.4	50	46.1	NA

The five cities compared throughout this report (Athens, Bologna, Bucharest, Lisbon and Paris) range widely in terms of size, population and income levels. The following key observations can be made in order to bring some context to any comparisons that are made later in the report:

- In terms of urban administrative areas, Paris is spatially the largest city in the group, followed by Athens and Bucharest. Lisbon and Bologna all display similarly sized urban administrative areas (approximately 100 km^2 in size). These figures must be considered in relation to the figures for the supporting regional administrative areas. Paris, for example, is surrounded by a very large regional area (The Ile de France region), while the regional areas surrounding Bucharest and Athens are much smaller. In addition it is important to note that the data for urban administrative areas is very difficult to delimit, so this is also an important consideration when comparing data from cities in different countries.

- Paris has the most populous urban administrative area with 9.6 million inhabitants. Athens (3.2 million) and Bucharest (1.9 million) are also large cities in terms of population. Lisbon and Bologna both have small populations when compared to the others in the working group, although both have large surrounding areas. The demand for urban transport varies according to the population of a city; in the case of Lisbon and Bologna, which both have widely spread, low density populations, the demand for urban transport will differ greatly from that in Paris or Athens.

[4] Data based on NUTS III values.

- Population density is a very important factor in urban transport use and this will be a key consideration for the analysis of the data. Athens, Bucharest and Lisbon all have broadly similar levels of population density, while Bologna is the least densely populated city in the working group. Paris displays a relatively low population density, because of the large size of the urban area, although in the centre of Paris the population density is approximately 24,500 people per square kilometre. This further highlights the issue of delimiting a city accurately which is also discussed above.

- The wealthiest city in the working group is Paris, with a GDP per capita of €37,472 and the city of Bologna is also wealthy, with an average income level of €27,000. This contrasts with the figure of €2,289.89 per head for Bucharest, while the average income level for Athens is also below the 2002 EU15 average level of GDP per capita of €21,100[5]. Such variations in wealth are to be taken into account when comparing the costs of public transport trips and other monetary data between the participating cities.

- The resident employment levels are broadly comparable across the cities in the working group, ranging from 45% (in Athens) to 50.4% in Lisbon. The level of employment within the city may impact upon the demands placed on a city's urban transport network.

In addition to the five cities compared within the group, data also exists for the regions of the Ile de France, which surrounds Paris, and Emilia Romagna, where Bologna is situated. Where relevant, the two regions have also been compared to provide context to the data from Paris and Bologna. The regional authorities also display their own interesting practices and these are considered along with those displayed by the cities in the working group and the cities visited during the course of the year.

2.4 Modal split data from common indicators

In addition to the background data displayed above, the modal split statistics from the common indicator report are displayed for each of the cities and regions in Figures 2.7 and 2.8.

[5] Data from www.nationmaster.com refers to non PPS comparison of GDP per capita in the EU 15 countries

Figure 2.7: Modal Split data for all daily trips (including walking and cycling) for the cities and regions in the working group

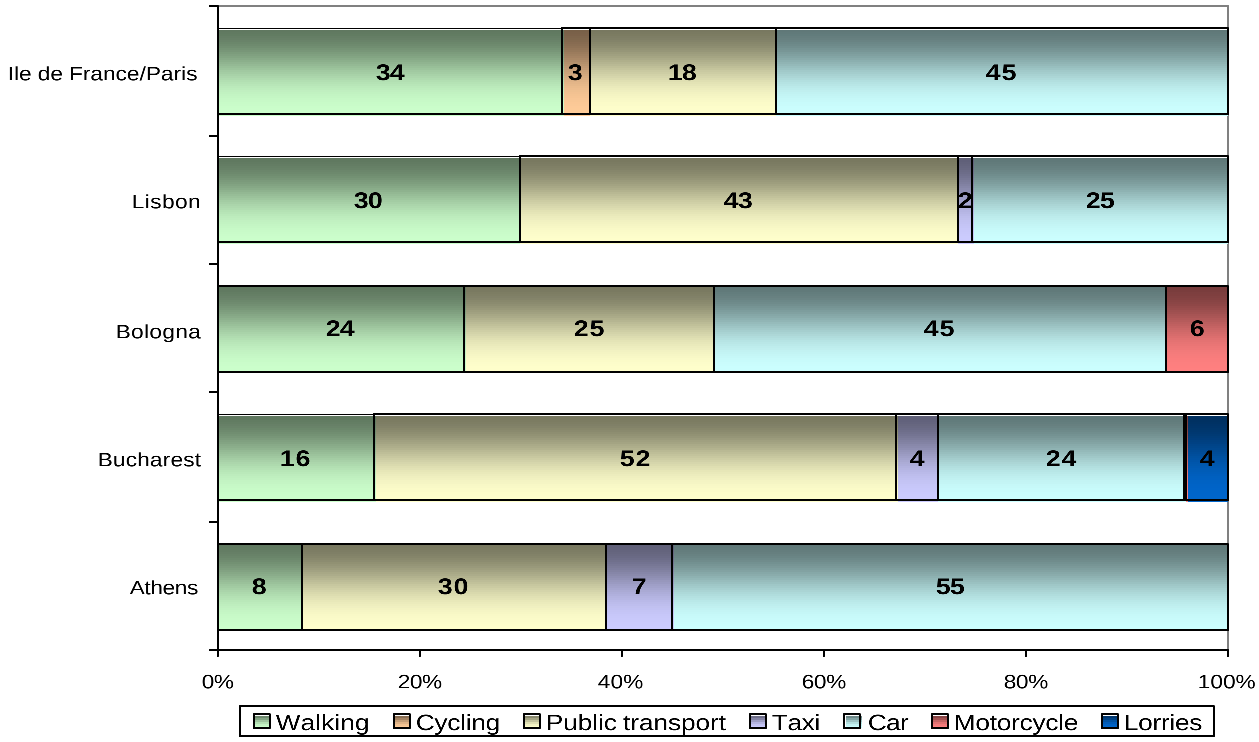
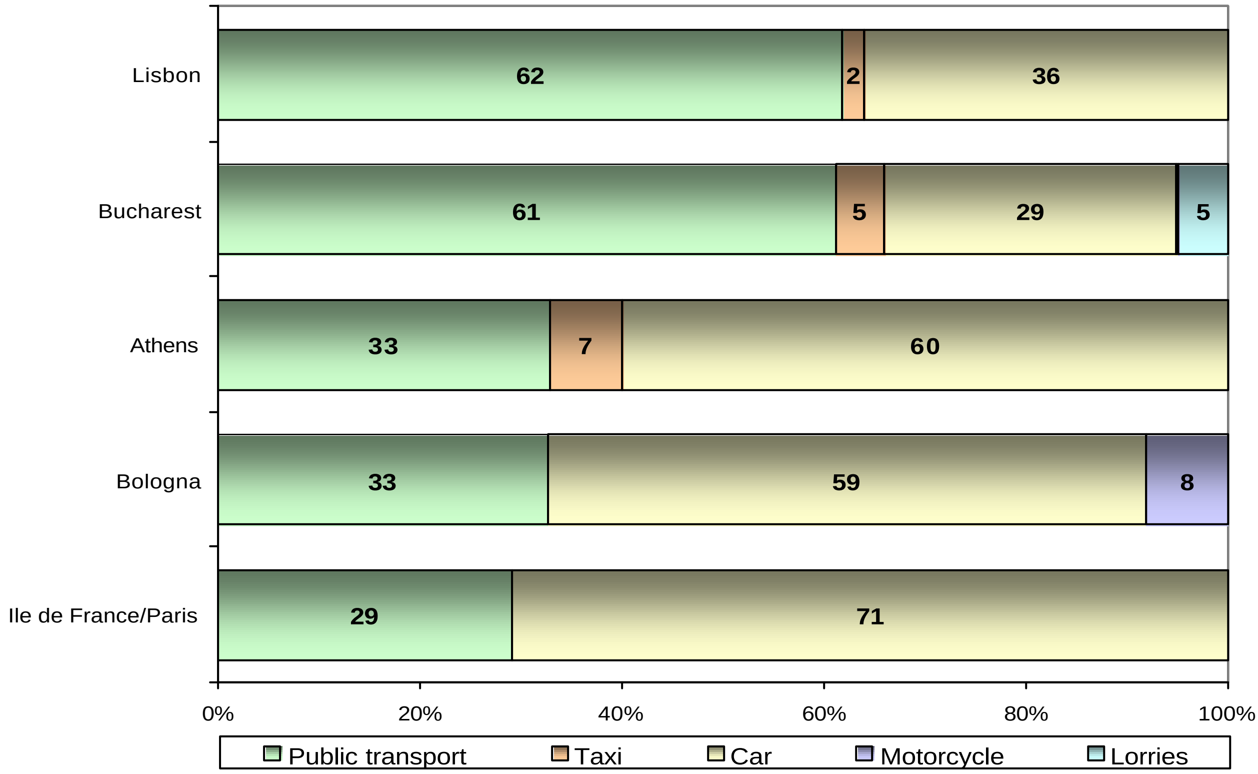


Figure 2.7 illustrates the range of modal split figures for the cities and regions in the working group including walking and cycling statistics. These figures are normally less reliable than those which exclude walking and cycling, because the walking and cycling figures are often estimates which are inaccurate. Only the figures for Ile de France and Paris disaggregated the modal split of walking and cycling, whilst most participants did not collect data for cycling, or incorporated it into the walking figures. As a result the walking and cycling figures are difficult to compare, which presents a probable explanation for the wide variations in the proportion of walking trips in each of the cities.

Figure 2.8 presents a more accurate overview of the modal share of total daily motorised trips in each of the cities / regions in the working group. Lisbon (62%) and Bucharest (61%) both display very high figures for public transport modal share. In both of these cities the proportion of daily trips made using public transport is almost double the proportion of all trips made by car. Athens, Bologna and Paris / Ile de France region display similar levels of public transport modal share (approximately 30% each), but conversely have much higher proportions of daily trips made by car.

Data for taxis was not widely collected, although in Athens 7% of daily trips are made by taxi, which is quite a large proportion of all motorised trips. The only city to disaggregate car and motorcycle trips was Bologna, where a total of 8% of all systematic daily trips are made using motorcycles. This figure is a large proportion of daily motorised trips for this mode (the average for all participants in the project is 2% of motorised daily trips) and is representative of the average level of motorcycle use in the ten largest cities in the Emilia Romagna region.

Figure 2.8: Modal split data for all daily motorised trips (excluding walking and cycling) for the cities and regions in the working group



3. DEFINITION OF THEMATIC INDICATORS

Section 3 of this report outlines the process of selecting a research topic and focusing the data collection process upon the group's chosen theme. Section 3.1 describes the research question selected by the working group and section 3.2 explains the methodology that was used to define and select data indicators. Section 3.3 focuses upon the data collection and analysis of the data and section 4.4 highlights the main barriers to data collection and data limitations encountered by the working group.

3.1 Research question / working group focus

The working group's research question was developed at the Valencia site visit in December 2003. The meeting was the first opportunity for the group to discuss research questions and indicators in depth. The group agreed upon the following research question:

"How can we influence travel behaviour in order to increase the market share of public transport and retain existing customers?"

The chosen research question incorporated all of the participant's interests, covering; travel behaviour, public transport ridership, customer satisfaction and marketing of public transport. The chosen topic enabled the working group to focus upon issues such as customer satisfaction surveying, efforts to promote public transport and travel behaviour.

3.2 Methodology for indicator definition

The group decided that, in order to look at the full sphere of the market for public transport, it is important to try and understand customer needs, compare the services that are currently provided and be aware of how the market responds to any changes. The working group agreed that in order to benchmark the chosen topic, three strands of data were essential. These are listed below:

1. Knowing the Market
2. Products and Services
3. Communication

These three strands of data formed the structure for the design of the indicators which would facilitate the benchmarking process. In addition the group collected data about a small set of background indicators. These were designed to complement the common indicators that all the cities involved in the Urban Transport Benchmarking Initiative collected and also provided some useful context for the working group.

Much of the group discussion time was allocated to the topic of indicator definition and all of the participants in the group were able to give their input to the process. After an initial brainstorming session the participants each rated the data indicators that had been formulated in order to decide whether the data was relevant, available and collectable. The indicators that satisfied these criteria were then refined by the working group and finalised in order that the participants could collect data for their city / region.

3.3 Data Collection and Analysis

Data Collection

The bulk of the working group data was collected in January and February 2004 in the gap between the first and second site visits. In order to make the collection of data easier and to ensure that data were submitted in a standardised format a data entry form was created. This was supported by a handbook which defined the indicators (see annex A2.1) chosen by the working group.

In order to try to make the collection of data as straightforward as possible for the participants, some general principles were established. The two key issues in terms of the collection of data were:

1. Definitions and collection methods used to obtain data inevitably vary between cities. It was therefore very important that where pre-existing definitions for data indicators were used (as opposed to those stated in the data handbook) the cities defined what the figures relate to, because otherwise the data collected would have been incomparable.

2. The recommended study year for the project was 2002, because it was assumed that very little data would be available for 2003. It was recognised that cities have varying levels of data. Where cities did not have data for 2002 they were asked to supply data for the nearest available year. This was not a particular problem; because the participants were encouraged to explain specifically what year data referred to if it was not for the study year of 2002.

The working group meeting in Rotterdam (March 2004) was used to discuss the data submitted and the approach to analysing the data. Following this meeting several indicators were refined and data was re-collected in order to try and improve comparability between the cities and regions represented in the group.

Data Analysis

The process of analysis commenced after the third site visit in Helsinki (April 2004) at which the data was ratified by the participants in the group and some small amendments were made. The group decided upon an approach to analysing the data which involved the group's expert and rapporteur undertaking an initial analysis of the submitted data and circulating the suggested findings and analysis for the group to discuss. This process continued with the participants making suggestions about the analysis and presentation of data until the group was satisfied with the recommendations.

The main aim of the data analysis was to look for best practices and to try to establish reasons for variations between data. The participants were involved in this process in order to ensure that the set of findings were supported by reasoned analysis rather than a collection of statistics. Throughout the analysis process the limitations of the data were taken into account to avoid developing misleading recommendations.

3.4 Definition of interesting practice

The process of data analysis adopted by the Citizen's Network Initiative has greatly influenced the approach to this project. The aims of the Urban Transport Benchmarking Initiative data analysis were clearly defined at the outset and these remain unchanged now:

- To look for best practices and try to establish reasons for variations between data.
- To encourage all participants to take part in this process in order to ensure a set of findings supported by reasoned analysis rather than a collection of statistics.

The term "Best Practice" has been heavily debated over the course of previous benchmarking projects. The major problem is that there is no all-encompassing definition which clearly defines 'Best Practice'. In the case of this initiative the term "Best Practice" is applied more loosely to include interesting practices that are displayed in the operations of the participant's urban transport systems.

From the outset it has not been the goal of the Urban Transport Benchmarking Initiative to create a competitive atmosphere among the participants and at the launch conference it was clearly stated that this is not a competition with "winners" and "losers". Promoting interesting practices, through the use of benchmarking, so that a wide audience of cities, operators and local authorities may benefit from them is a concept with huge potential. Creating a set of "winners" and "losers" does not help to achieve this, because it may dishearten those perceived to have "bad practices", whereas these groups of participants probably have the most to gain from this type of project.

The aim of the project is therefore to try to offer the participants the chance to benefit from the project by presenting a set of findings that will interest all of the participants. Disseminating a range of interesting practices is also likely to be of wider interest to those not participating in the project.

3.5 Data limitations and barriers to data collection

The main limitations of the data stem from the fact that a lot of the figures are not immediately comparable. This is primarily because of the varying methods of collection, presentation and definitions of existing data obtained by the participants in the working group.

The indicators selected by the working group were chosen because the majority of the participating cities already possessed the data, or because the data was easy to obtain. Due to the time constraints of the project and the lack of resources to carry out surveys with a common methodology this is inevitable. Because the group's data has generally been well defined it has been possible to present and compare data along with explanations of the ways in which the data have been defined.

The problem of missing data has largely been avoided by defining and selecting indicators for which the participants felt they would be able to obtain data. In some cases this is an issue and where the participants have been unable to source data for an indicator it is not possible to make a comparison across the whole group. This is partially due to the time pressure of the project, as well as the working practices of the cities in the working group themselves. Emilia Romagna for example has its own well established statistics department and therefore the participants from the region were able to provide data for the 10 largest cities in the region, as well as the region as a whole with comparative ease.

The topic of the group has also been a small barrier to data collection and analysis, because benchmarking is perceived to be a quantitative exercise which involves the objective comparison of figures. The topics of travel behaviour and the behavioural measures that can be used to encourage greater use of urban transport do not naturally lend themselves to quantitative benchmarking. As a result some of the working group's analyses use qualitative information, particularly with regard to marketing effort and the promotion of public transport in the participating cities. This alternative approach to benchmarking is no less valid and has helped to contextualise the findings from the quantitative analysis, as well as providing an alternative source of interesting practices from within the group.

4. ANALYSIS OF THEMATIC INDICATORS

The analysis of the working group indicators has been presented as a review of the data collected by the participating cities. Where relevant, comparisons have been drawn with other indicators collected by the working group and with common indicators collected by all of the participants in the Urban Transport Benchmarking Initiative.

The analysis section of the working group report has been broken down into four key topic areas for clarity of presentation and analysis of data. These make up the remainder of this section and begin by presenting the current performance of the cities and regions in the working group, before considering the different approaches and practices used by each of the group's participants. A cross-cutting overview of the data collected by the group is presented in section 6.1 of this report.

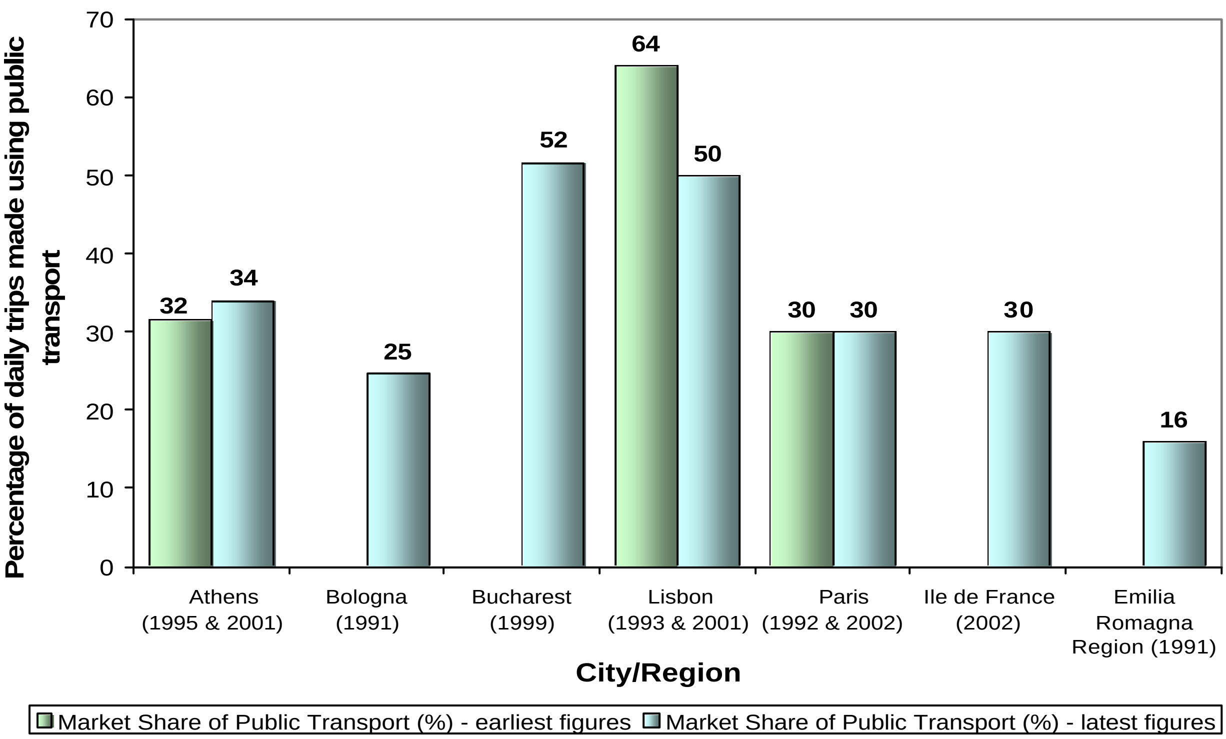
4.1 Public Transport Patronage: The current situation

The indicators in this section have been collected to try and provide background information about the existing public transport situation in each of the participating cities.

Daily trips by public transport

Figure 4.1 illustrates the market share of public transport measured by the percentage of daily motorised trips. The data does not include walking and cycling trips. Not all of the participants had time series data available for modal split data.

Figure 4.1: Percentage of daily motorised trips by public transport [7]



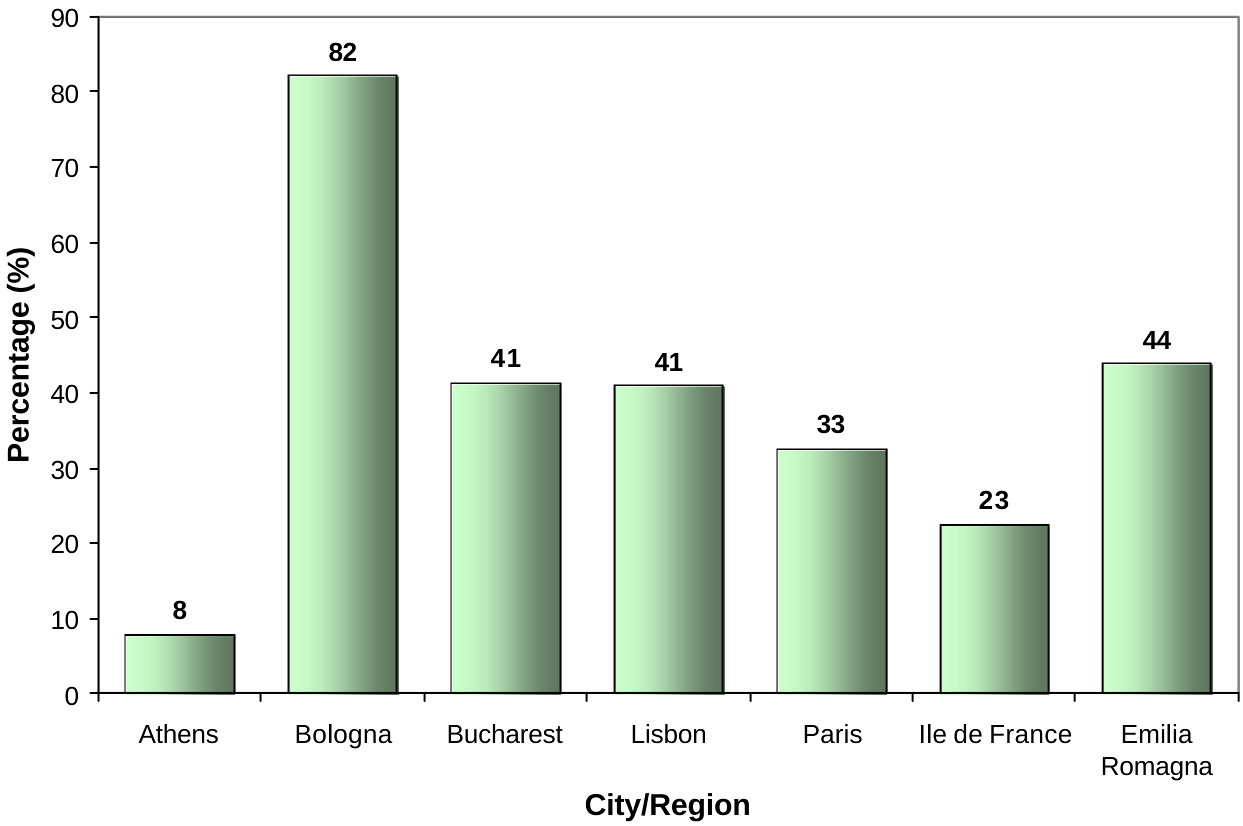
[7] Data for The Emilia Romagna region is the average of the 10 largest cities. No data was available more recently than 1991 for Bologna and the Emilia Romagna Region. No earlier data was available for the Ile de France and Bucharest.

- The time series data for Athens and Lisbon broadly shows that between 1995 and 2001 in Athens the proportion of trips made by public transport increased, while in Lisbon there has been a significant decrease in the modal share of public transport since 1993.
- For both Paris and the Ile de France region the percentage of daily trips made using public transport between 1992 and 2002 has been stable at 30%.
- The most recent data for Bologna and the Emilia Romagna region dates from 1991. These figures show that across the region 16% of daily trips were made using public transport, while in the city of Bologna 25% of daily trips were made by public transport modes.
- In Bucharest 52% of the daily trips were made using public transport modes in 2001, which is the highest level of public transport patronage displayed within the working group.

Use of travel passes

Figure 4.2 and 4.3 illustrate the level of ownership of public transport passes and the proportion of public transport trips that are made using travel passes.

Figure 4.2: Level of travel pass ownership in the cities and regions in the working group



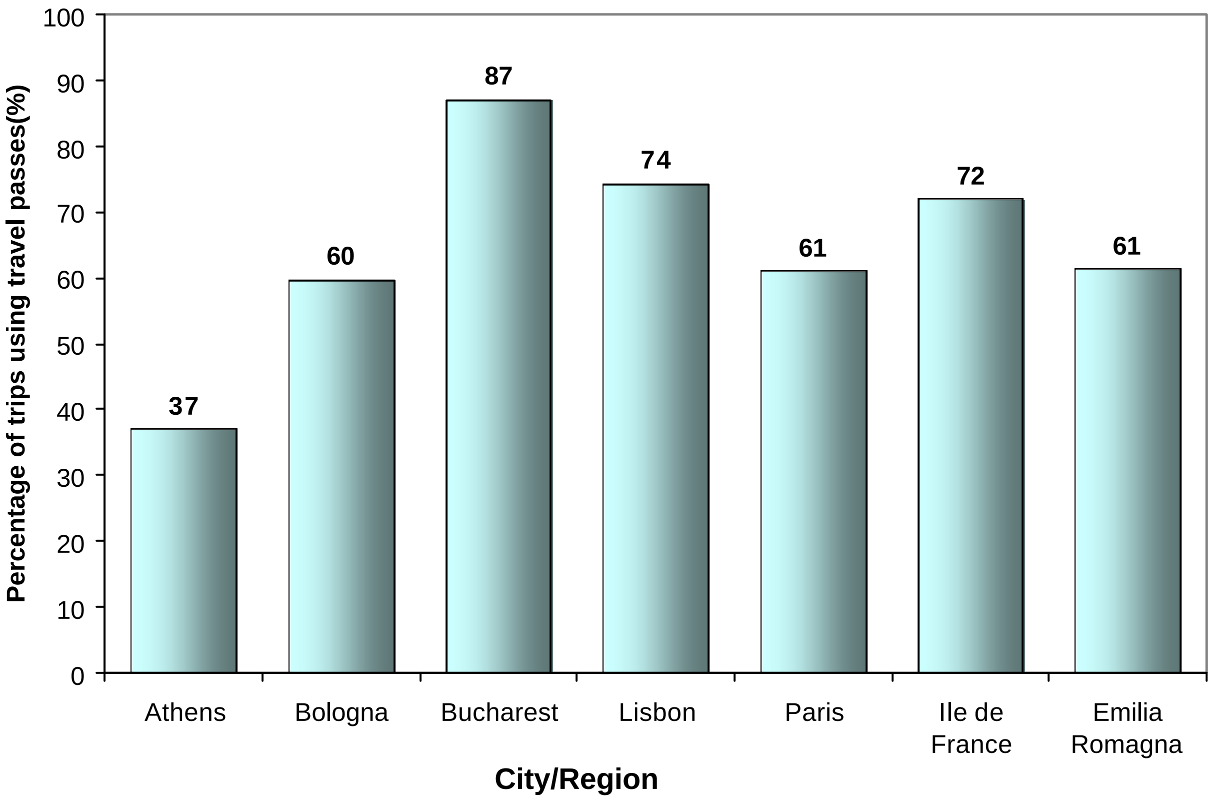
[8]

- Bologna appears to have the highest level of travel pass ownership, but the figures are misleading, because all travel passes sold in Bologna are sold in the form of a monthly pass. As a result a 3 month travel pass is counted 3 times (i.e. 3 x 1 month passes) and this makes the figures artificially higher.
- Bucharest (41%), Lisbon (41%) and the Emilia Romagna region have the highest levels of public transport travel pass ownership.

[8] Data for the ownership of travel passes are from 2002 except for: Lisbon (1993) and Athens (2003).

- Athens has the lowest level of ownership, with 8% of the city population owning public transport travel passes.

Figure 4.3: Proportion of public transport trips made using travel passes



[9]

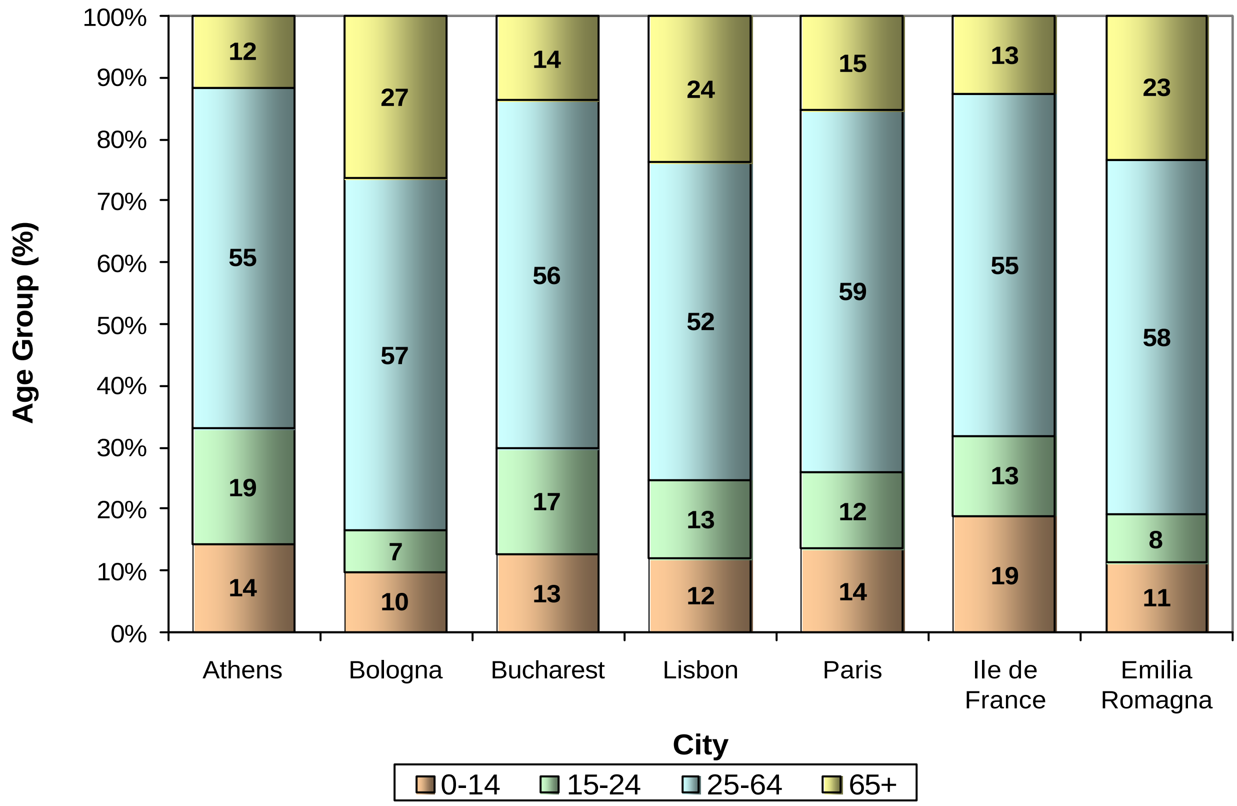
- Bucharest (87%), Lisbon (74%) and the Ile de France region (72%) display the highest proportions of public transport trips using travel passes.
- In the Ile de France region 23% of the population make 72% of all public transport trips and in Athens 8% of the population make 37% of the total number of public transport trips.

Population and Employment structure of the cities

Data for population and employment structure was collected in order to give an overview of the characteristics of the market for public transport in each city and region. These statistics are illustrated in Figure 4.4 and 4.5.

[9] Data for the proportion of trips relates to 2002 except for: Bologna and Emilia Romagna (1991), Bucharest (1999), Athens and Lisbon (2001).

Figure 4.4: Breakdown of population structure for the cities/regions in the working group[10]



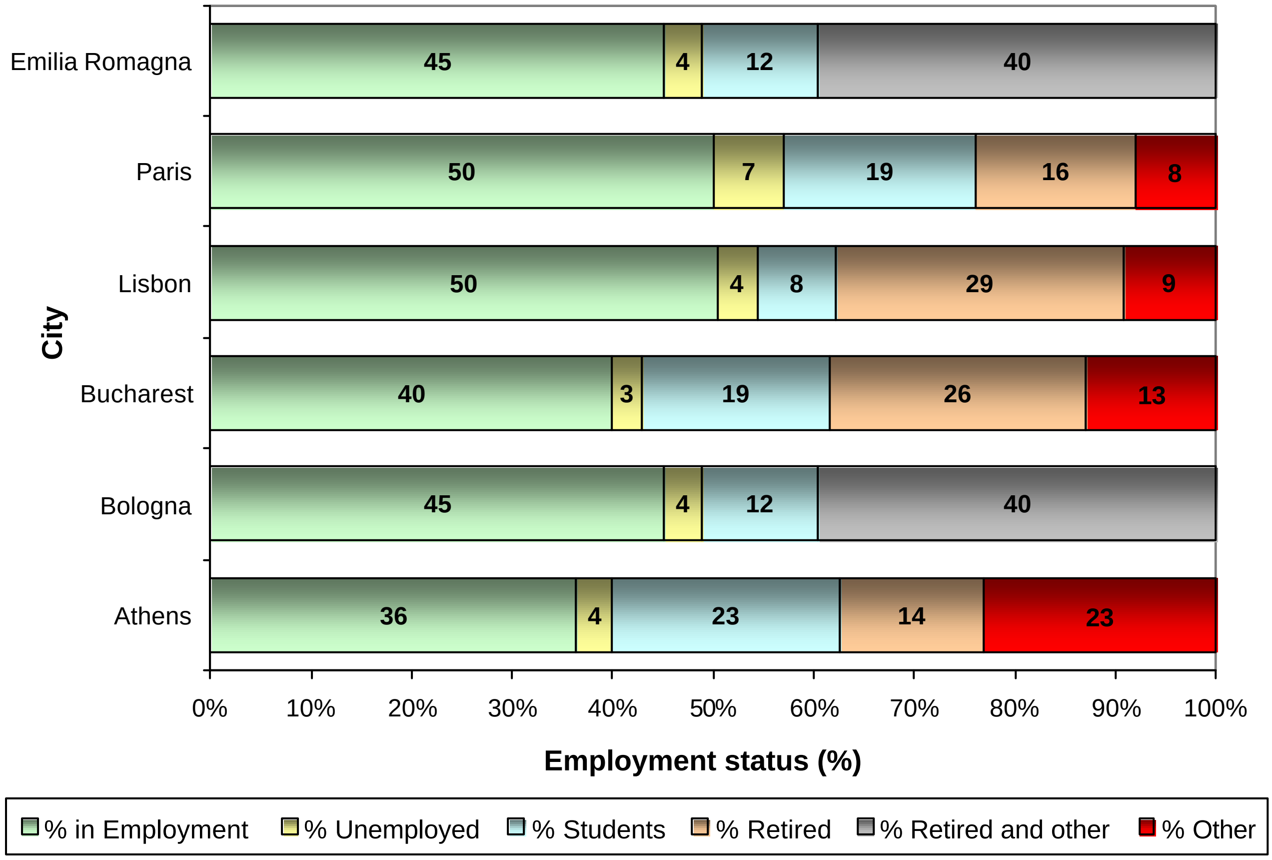
- The population structure of the urban administrative areas of the participating cities and regions varies to some degree. The Ile de France region, Athens and Bucharest display similar population structures in that approximately 30% of their populations are aged under 24, 55% of inhabitants are of working age (25-64) and a reasonably small percentage (from 12%-14%) of the populations are aged over 65.
- Bologna and Lisbon both have older population structures. In total 27% of residents in Bologna and 24% of residents in Lisbon are over the age of 65. In Bologna 17% of the population is under the age of 24 (half the proportion in Athens and Bucharest), while 57% are of working age. Lisbon has the smallest proportion of people at working age (25-64), which is only 52% of the city's total population.
- In Paris 59% of the population are aged between 25 and 64, while 15% of the population are aged over 65. This represents the largest proportional working population from within the group.

The data collected regarding the employment breakdowns of the cities and regions in the working group enables a deeper comparison of the potential for use of public transport in each of the areas considered. Figure 4.4 illustrates the employment structures of the cities and regions in the working group.

[10] Data for population structure is from 1999 except for: Bologna, Lisbon and Emilia Romagna (2001) and Bucharest (2002).

[12] Data for employment structure relates to 2001, except for Paris (1999) and Bologna and Lisbon (2002). The data for Bologna is the same as the regional data submitted for the Emilia Romagna Region and the figures for "retired" and "other" employment categories are combined. No data was submitted for the Ile de France region.

Figure 4.5: Breakdown of employment structure for the cities/regions in the working group



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- The employment breakdowns for each of the cities and regions in the working group offer a useful comparison of the potential user groups for public transport modes.
- Data for Bologna and the Emilia Romagna region is displayed differently, because their figures for retired and other employment groups are combined.
- Paris and Lisbon display the highest proportions of employed residents (both 50%) while in Athens 36% of the city's population is employed.
- It is possible that these variations impact upon the level of public transport patronage and comparisons can be made with the public transport trip purpose statistics shown in Table 4.1 and the modal split for public transport illustrated in Figure 4.1.
- Athens (23%), Paris (19%) and Bucharest (19%) display the largest proportional student populations in the working group. Students are frequently targeted by marketing campaigns and often receive discounted public transport and it is worthwhile to compare these figures with the incentives students are offered in the cities and regions in the working group (see Table 4.4).
- Bucharest (26%) and Lisbon (29%) display larger proportions of retired people than the other cities in the working group.

Purpose of trips

The trip purpose data collected by the working group is difficult to compare visually, because of the different categories used to identify the purpose of trips in each of the cities. An example of this is that in Bucharest individual trips rather than round trips are counted and, therefore, it was the only city to have a category for the proportion of public transport trips made by people returning home. In addition the data from Emilia Romagna and Bologna has been collected by surveying the travelling public and the respondents were allowed to answer more than one category. As a result the trip purpose figures do not add up to 100 for these areas.

In order to overcome these differences the figures for trip purpose have been manipulated and it is therefore possible to make some rudimentary comparisons. Table 4.1, below, summarises the figures for trip purpose.

Table 4.1: Purpose of trips for cities/regions in the working group

City	% of PT Trips to	% of PT Trips for	% of PT Trips for	% of PT Trips for	% of trips for other	Year
Athens	69	4	17	10	0	2003
Bucharest[13]	51	17	11	19	2	1999
Bologna / Emilia Romagna[14]	69	8	66	33	57	2002
Lisbon	46	19	14	12	9	2002
Paris	53	21	0	0	26	2002
Ile de France	32	14	0	17	36	1997

- With the exception of the Ile de France region and the Emilia Romagna / Bologna figures (which are misleading) approximately half of all public transport trips made in the working group's cities are trips in relation to work.
- The cities of Athens (69%), Paris (53%) and Bucharest (51%) display the largest proportions of public transport trips to work. This implies that there are large commuter movements by public transport in each of these cities.
- Paris (21%), Lisbon (19%) and Bucharest (17%) display the largest proportions of trips for study and education.
- The figure for Athens (4%) reveals that trips by students and schoolchildren account for small proportions of the total number of public transport trips. It is possible that targeted marketing, the use of concessions and the amount of school promotional activities could stimulate greater interest among these user groups.
- The survey results from Bologna / Emilia Romagna reveal that work (69%) and shopping (66%) are the two main reasons given by people for using public transport. In total 8% of respondents to the survey stated that they use public transport to make trips to school or for study/education purposes. As in the case of Athens it would appear that this area of the public transport market could be further exploited by Bologna and the Emilia Romagna region.

Key Observations regarding the existing public transport situations in each city and region:

- **Athens** is a city experiencing steady growth in the proportion of daily trips made using public transport with relatively low levels of existing travel pass ownership. The city has the youngest urban population (33% of residents aged under 24) and the largest proportion of population made up of students (23%) in the working group. Despite this a relatively small proportion of

[13] Data for Bucharest incorporated figures for "returning home" which have been spread proportionally across the categories in order to create "round trips" in each category.
[14] Data for Bologna is derived from the regional data submitted for Emilia Romagna. Respondents to surveys in Emilia Romagna were allowed to tick more than one response; hence statistics do not add up to 100%.

public transport trips are made by students (4%), with the majority (69%) being journeys to work or work related trips.

- **Bologna** is the largest city in the **Emilia Romagna** region and had the highest share of public transport patronage than any other city in the region in 1991. The age structure of the city reflects that of the region, with 27% of inhabitants aged over 65 and 18% aged below 24 and makes it the oldest age structure in the working group. The regional employment figures support this and show a reasonably small proportion of students living in the city (12%) with a large proportion (40%) of residents falling into the "retired/other" category. The region's trip purpose statistics reveal that the most popular public transport trips are for work and shopping, with 8% of respondents stating that they use public transport for study and education trips.

- **Bucharest** has the largest proportion of daily motorised trips by public transport in the working group (52% in 1999). Bucharest has one of the highest levels of public transport travel pass ownership (41%) and 87% of all public transport trips in the city are made by these travel pass holders. Similar to Athens, Bucharest also has a young urban population with 19% of all residents being students, although retired people are also well represented in the city, accounting for 26% of the total population. The trip purpose is broadly in line with the other cities in the working group, although the figures have been manipulated statistically to improve comparability.

- **Lisbon** displays a large proportion of trips by public transport (50% in 2001) despite a rapidly decreasing public transport modal share due to the popularity of car transport. The city displays one of the highest levels of public transport travel pass ownership in the group (41%) and 74% of all public transport trips are made by these pass holders. Lisbon has similar age and employment structures to those present in the Emilia Romagna region with 29% of the urban population being retired people. In total 46% of all public transport trips are made in relation to work, while 19% are made by students. This is a good proportion considering that only 8% of the total population are students.

- **Paris** is surrounded by the **Ile de France** region and both areas demonstrate a stable public transport modal share of 30% of all motorised daily trips. In total 33% of the city population (23% of the regional figure) own travel passes and the trips made by these pass holders account for 61% of all public transport trips in the city and 72% in the Ile de France region. The city of Paris and its surrounding region have very similar population structures that are similar to those in Athens and Bucharest. A greater proportion of young people (aged below 24) reside in the Ile de France region than in the city of Paris. Paris displays one of the largest working populations, but also the largest unemployed population (7% of the total) in the group. In Paris a total of 74% of all public transport trips were for the purposes of work or education in 2002.

These background statistics highlight the target markets for public transport in each of the cities and regions in the working group. As a result it has been possible to identify:

- The number of young people that *could* use public transport to travel to their place of education.
- The number of employed people that *may* use public transport to get to and from work.
- The number of older people using public transport for leisure purposes.
- The target markets for concentrating publicity, information and communication materials.

These ideas are developed further in the next section of analysis focusing upon the products and services. A group of people overlooked, but still important are tourists and casual visitors to the cities. This public transport user group is particularly important to Paris and also presented a short term challenge to the city of Lisbon, which was one of the cities which hosted the Euro 2004 football championships.

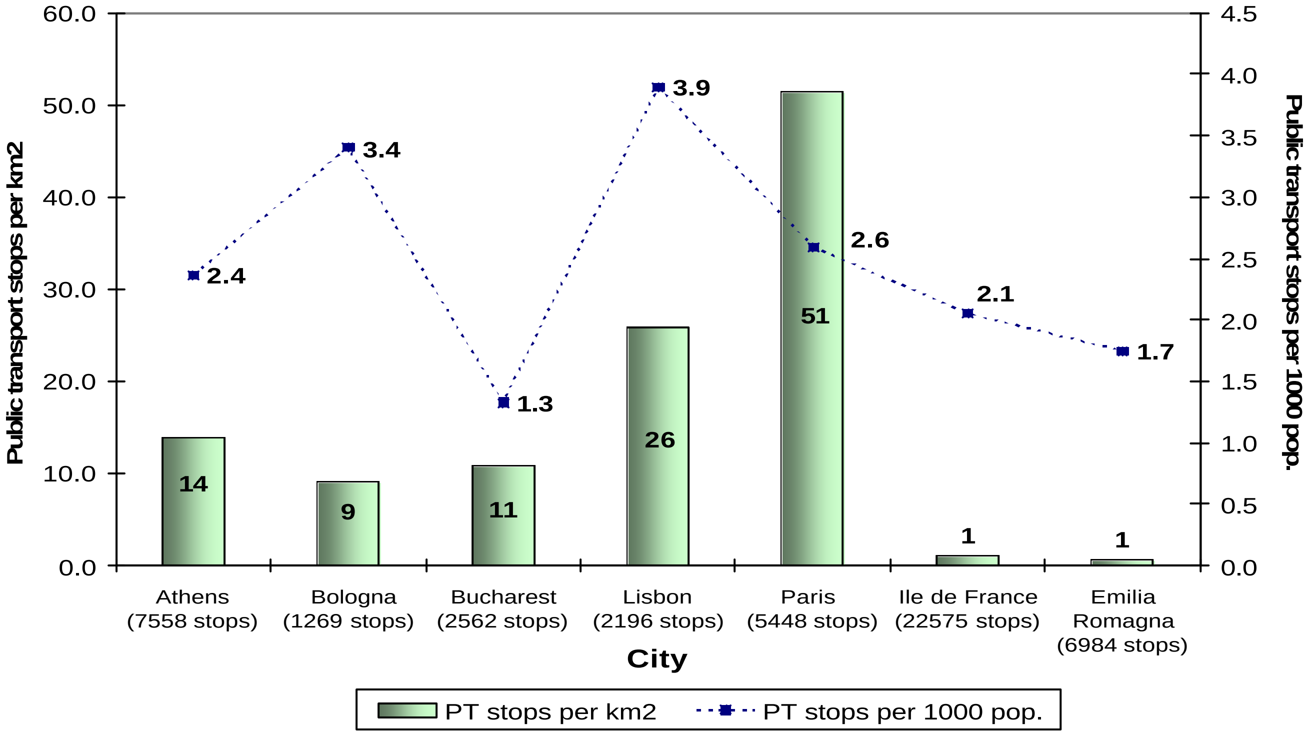
4.2 Public Transport Products and Services

The participants in the working group decided that, in order to benchmark the range of marketing and communication activities that are used to try and encourage public transport use in each of the cities / regions, it was also essential to consider the range of public transport products and services offered. This section of the report provides an overview of the products and services offered and analyses the differences between the cities and regions in the group.

Public transport coverage

The most general comparisons made on the topic of products and services relate to the coverage and service frequency of existing public transport operations in each of the group's cities and regions. The group compared these in order to provide some useful context for the figures displayed on ticket structure and to illustrate the relative size of transport networks being contrasted by the working group. Figure 4.6 illustrates the density of the public transport network in each of the cities and regions in the working group.

Figure 4.6 Density of public transport stops in cities and regions in the working group



- Paris (51 stops per km^2) and Lisbon (26 stops per km^2) have the densest public transport networks in terms of the number of stops per square kilometre.
- Lisbon (3.9 stops per 1000 inhabitants) and Bologna (3.4 stops per 1000 inhabitants) display the largest number of stops per 1000 inhabitants in the working group.
- Athens, Bologna and Bucharest all display similar levels of public transport stops per square kilometre (from 14 to 9) but, because of their varying populations, have different figures for the number of public transport stops per 1000 inhabitants.

Service frequency

The differences in the frequency of services offered in each of the cities and regions in the working group have been compared to provide an overview of the various types of service offered in each area. Table 4.2 compares the figures collected for peak hour service intervals and is useful, because it indicates the intensity of services on the public transport corridors in each city during peak hour.

Table 4.2: Peak hour service intervals of public transport modes

Mode	Athens	Bologna	Bucharest	Lisbon	Paris	Emilia Romagna [15]
Peak hour bus service interval (in minutes)	18	9	5.52	5 to 25 depending on route	5 to 12 depending on route	20.33
Peak hour tram service interval (in minutes)	Not available		8.22	8 to 18 depending on route	3 to 4 depending on route	
Peak hour trolley bus service interval (in minutes)	8		7.92			
Peak hour train service interval (in minutes)	Not available		Not available	5	2.5	
Peak hour metro service interval (in minutes)	3.5		3	3	1.7	
Peak hour ferry service interval (in minutes)				5		

- Paris, Lisbon and Bucharest display high frequency services on core routes for buses, trams and metro during peak hours.
- In Paris the RER (Urban heavy rail) also runs a high frequency service during peak hour.
- Bologna and the 10 largest cities in the Emilia Romagna region run bus dominated services at frequent intervals. Bologna is the largest city in the region in terms of population and also has a higher frequency of service than the average for the region.
- Athens has a high frequency metro service complemented by frequent trolley buses in the central area of the city. Bus services act as feeders to these networks, hence the lower frequency of service on these routes.

Availability of Park and Ride and Bike and Ride

The working group participants were keen to compare the availability of park and ride and bike and ride services available for public transport users. The aim was to illustrate the potential for multi-modal public transport use and the combination of cycling and public transport. In Athens no data

[15] Figures for the Emilia Romagna region are the average of the 10 largest cities in the region.

was available, although because of the climate and local terrain cycling is an unpopular mode of transport.

Table 4.3: Park and Ride and Bike and Ride services available at public transport stops

City	Park and Ride	Bike and Ride
Bologna	2029	
Lisbon	5750	
Paris		1800
Ile de France	109530	6352
Emilia Romagna (10 city average)	919	

- The figures shown in Table 4.3 are difficult to compare owing to gaps in the data. This in itself is a finding, because few cities from within the group felt that issues such as park and ride and bike and ride could have an impact upon the way people use public transport.
- Park and Ride appear to be popular in Bologna, Lisbon and across the Ile de France region as a whole. The concept of providing large out of town car parks at interchanges.
- Data for bike and ride is very unreliable owing to the fact that only Paris and the Ile de France region were able to provide this data.

Range of fares and tickets offered in the cities and regions in the working group

A wide range of fares, ticket types and other miscellaneous products and services are offered by the public transport operators in the cities and regions that participated in the working group. Table 4.4 provides a broad overview of the range of tickets offered in each city/region and the cost in euros of these tickets.

Table 4.4: Inventory of fares and ticket types offered by cities and regions in the group

Tickets	Athens	Bologna	Bucharest	Lisbon	Paris	Ile de France	Emilia Romagna
Single ticket cost in €	Bus: 0.45 Metro: 0.7	1	Urban routes: 0.18 Suburban routes: 0.21	Bus: 1.1 Bus/Metro (1hr): 1 Bus/Metro (1.5hr): 1.3	1.3	1.3 to 9.45 (depending on zones)	0.88
Daily ticket cost in €	2.9	Not available	Not available	2.85	1 day: 5.2	8.35 to 23.6 (depending on zones)	5.2
Weekly pass cost in €	Not available	Not available	Not available	11.35	14.5	14.5 – 40 (depending on zones)	Not available
Monthly pass cost in €	Buses: 17.7 All modes: 35	30	1 urban route: 4.58 2 urban routes: 5.54 All urban routes: 7.23 1 suburban route: 4.9 2 routes (urban + suburban): 5.86 Al routes: 7.55	Lisbon area Bus: 19 Full bus network: 22.5 Bus + Metro: 22.85 Metro zone 1: 15 Metro zone 1+2: 22.5	48.6	48.6 to 132 depending on zones	23.38
Annual pass cost in €	Buses: 175 All modes: 350	270	Not available	Not available	493	493 to 1340 depending on zones	211.64
Other tickets cost in €		Pre-bought multiples of tickets are also available and are know as "Carnets"	A range of magnetic strip cards available from €0.64 for 2 trips to €14.4 for a Monthly pass	Tickets also sold in multiples of 10 at a reduced rate of €9		2, 3 and 5 day travel passes also available and are targeted at tourist travellers.	Pre-bought multiples of tickets are also available and are know as "Carnets"
Concessions	Students and people with more than 4 children have a 50% discount	Students receive a 20% discount	Students, retired persons & veterans get a 50% discount Retired persons with very low incomes travel for free	Senior Citizens (over 65's) average a 50% discount Children under 13 receive a 25% discount.	Imagin'R Annual pass for students offers a 50% discount. Low income groups, retired persons, children under 10 and unemployed also receive a 50% discount	Calculated by number of zones. Students & people who benefit from special public health care plans get a 50% discount	Students in the region all receive reduced travel. Average figure is a discount of 12%.
GDP per Capita	17,431	27,000	2,289.89	20,930	37,472	37,472	26,500
Single ticket as a % of GDP per capita	Bus 0.003 Metro 0.004	0.003	0.007	0.005	0.003	0.003 to 0.025	0.003
Monthly pass as a % of GDP per capita	All modes 0.2	0.1	All routes 0.3	Metro and bus network 0.11	0.1	0.1 to 0.35	0.09
Annual pass as a % of GDP per capita	All modes 2.0	1	3.2[16]	1.3	1.3	1.3 to 3.6 depending on zones	0.8

[16] Figures for Bucharest and Lisbon calculated by multiplying the cost of a monthly public transport pass by 12.

- The range of ticket types available in each of the cities is broadly similar. All of the cities and regions offer single tickets, but the way these tickets are sold varies from one city to another.
- Each city offers a standard single ticket which is valid for a one-way trip. Bucharest, Paris and Lisbon have a zonal fare system where the cost of a single trip alters depending on the number of zones crossed. In Lisbon tickets are sold in this manner as well as being available for one hour and one and a half hours, as experienced in Helsinki (see section 3.3 of this report for further information).
- All of the cities except Bologna and the Emilia Romagna region offer daily tickets that are largely designed to be attractive to tourists or occasional visitors to the city. As with single tickets these tickets vary in price according to the number of zones required for travel.
- Lisbon and Paris/Ile de France region offer weekly passes.
- Monthly passes are offered by all of the cities/regions in the working group and are also sold dependent upon the number of zones crossed in Bucharest and Paris. In Lisbon the situation is very confusing as there is a wide array of operators offering a vast choice of monthly tickets that combine multiple modes and multiple routes.
- It is common practice for the cities and regions in the group to offer concessions to students with discounts ranging from 12% (Emilia Romagna regional average) to 50% in Paris, Bucharest and Athens.

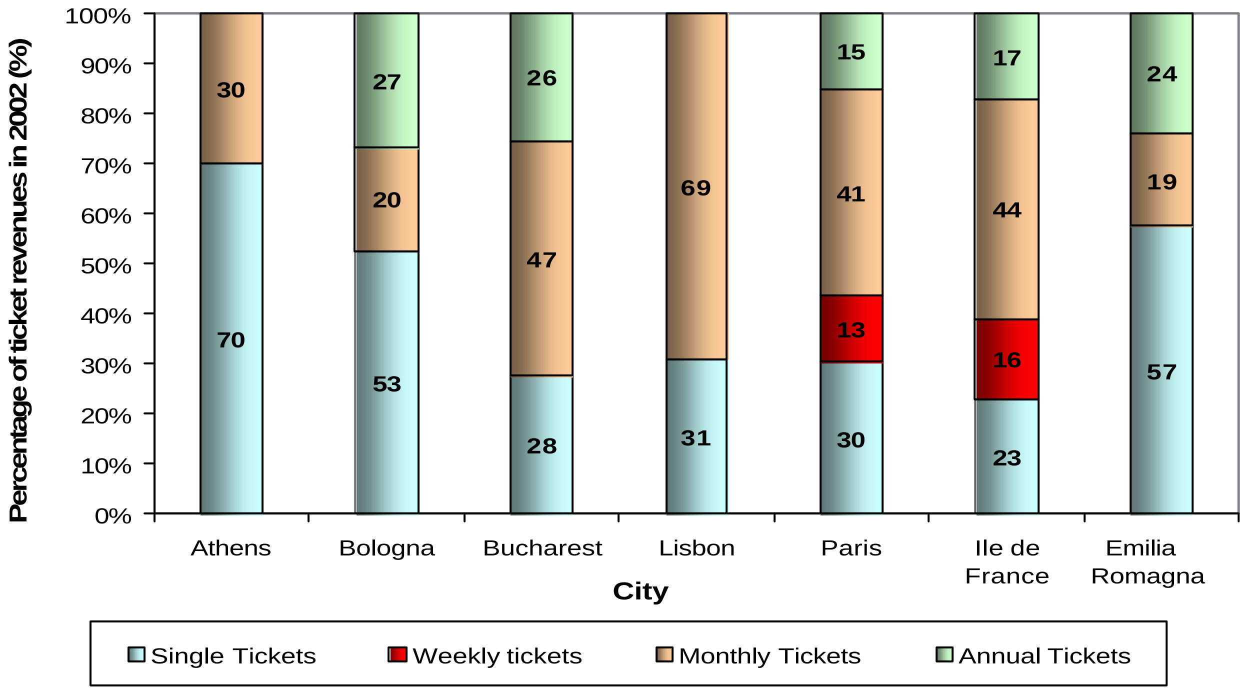
Direct comparisons across the data provided regarding the cost of tickets are difficult to make accurately. By using the GDP per capita data it is possible to compare the cost of a single ticket and a monthly pass as a proportion of average income.

- Single public transport tickets account for between 0.003% and 0.025% of GDP per capita. The cheapest single tickets in relation to GDP per capita are found in Athens, Bologna, Paris / Ile de France and Emilia Romagna.
- Monthly public transport tickets cost between 0.09% (Emilia Romagna 10 city average) and 0.35% (Ile de France all zone monthly pass) of GDP per capita in each of the regions.
- Annual public transport passes range in cost from 0.8% (Emilia Romagna 10 city average) to 3.2% (Bucharest cost of 12 monthly passes) of GDP per capita.
- The absolute cost of public transport is lowest in Bucharest, although when GDP per capita is accounted for the real cost of public transport in Bucharest is one of the highest in the group. Paris and Bologna display the cheapest season pass prices in real terms accounting for 1.3% and 1% of GDP per capita respectively.
- For residents in the Ile de France region the number of zones crossed during a trip/daily commute affects the real term cost of an annual season pass. Residents that live furthest from the city centre and wish to travel there each day spend 3.6% of GDP per capita upon an annual season pass.

Breakdown of fare revenues from ticket sales

The range of tickets offered generates fare revenues that contribute towards the operating costs of public transport systems in each of the working group cities / regions. Figure 4.7 illustrates the source of fare revenues by tickets sold in each of the cities / regions in the working group.

Figure 4.7: Distribution of fare revenues in the working group cities in 2002.



- Athens and Lisbon display the most straightforward breakdown of fare revenues. In Athens 70% of fare revenues are generated by single tickets and 30% comes from the sale of monthly tickets. In Lisbon this trend is reversed with 69% of fare revenues coming from the sale of monthly passes and 31% from single tickets.
- The figures for single tickets sold in Emilia Romagna and Bologna include carnet tickets. These are books of 10 tickets sold at a discount (1 free trip) and similar tickets are sold in Lisbon as "pre-bought" tickets which are also accounted for in the single ticket figures.
- Single tickets make up the largest proportions of ticket revenues in Bologna (53%), Athens (70%) and the average across the Emilia Romagna Region's 10main cities (57%). Because no specific annual passes are sold in Athens and Lisbon the monthly pass figures include people that use public transport passes all year.
- Bucharest, Paris and the Ile de France region each display similar trends with approximately 30% of fare revenues being generated from the sale of single tickets and similar proportions of sales revenues attributable to monthly passes. The only difference between the three is that Paris and the Ile de France region also provided data for weekly tickets.

Change in Season Ticket sales

Table 4.5 outlines the change in season ticket sales that have occurred in recent years in the cities and regions in the working group. The group suggested that this factor was indicative of the climate for public transport and reveals a headline trend in the regular use of public transport.

Table 4.5: Change in season ticket sales since 1992[17]

Tickets	Bologna	Bucharest	Lisbon	Paris	Emilia Romagna
Change in season ticket sales	-5% Monthly +20% Season	-1%	-24%	No major changes between tickets and passes.	+13%
Years compared	1999-2002	1992-2002	1999-2002	1992-2002	1999-2002

- Table 4.5 reveals that since 1999 Bologna has experienced strong growth in the sale of season tickets and a decline in the sales of monthly passes.
- Since 1992 Bucharest has experienced a small decrease in the sales of season tickets and Paris reports no major changes over the same period.
- Across the 10 cities of the Emilia Romagna region an average increase of 13% of sales in season tickets was recorded between 1999 and 2002.
- Lisbon recorded a 24% decrease in the sale of season tickets between 1999 and 2002. This is supported by the 22% decline in the proportion of daily motorised trips made using public transport modes illustrated in Figure 4.1 of this report.

Forms of ticketing within the working group

The cities and regions within the working group display a wide range of approaches to ticketing. A confusing ticketing policy has the potential to discourage travellers from using public transport and the group was therefore keen to undertake a simple comparison of the ticketing practices from within the group. Table 4.6 compares the level of integrated ticketing, use of smart cards and combined tickets in the cities and regions in the working group.

Table 4.6: Types of ticketing used by cities and regions within the working group

Question	Athens	Bologna	Bucharest	Lisbon	Paris	Ile de France	Emilia Romagna
Smart Cards Used?	No	No	No	Yes	Yes	Yes	No
Combined Tickets?	No	Yes	No	No	Yes	Yes	Yes
Integrated Ticketing Available?	Yes	No	No	Yes	Yes	Yes	Yes

- Lisbon and Paris/Ile de France region are the only cities in the group where Smart Cards are used, although later in 2004 Bucharest is planning to implement a contactless Smart Card system.

[17] No data was available for change in season ticket sales for Athens and the Ile de France.

- Combined tickets are available in Bologna and across the Emilia Romagna region and in Paris and the Ile de France region.
- Integrated ticketing is widely available in the working group cities and regions with Bologna and Bucharest being the two cities that do not offer this facility.
- Paris and the Ile de France region are the only areas where all three forms of ticketing (integrated, smart cards and combined tickets) are widely available.

Annex 2.2 of this report presents a series of case studies and examples of interesting practices that the cities experienced during the course of the first year of the project. A major aim for the working group during the second year of the initiative is that these case studies are developed more fully in order to produce a guide to interesting practice.

Key Observations regarding the public transport products and services available in each city and region:

- The cities in the working group with the densest public transport networks (**Lisbon** and **Paris**) also contain the most frequent public transport services.

- Most of the cities in the working group use a fairly standard zoned ticketing system to calculate the cost of public transport trips in the urban areas, although the number of zones varies according to the size of the cities metropolitan area.

- Although it has the cheapest public transport fares in absolute terms, **Bucharest** displays the greatest real-term cost of public transport (as a percentage of GDP per capita) when compared to the other cities in the group. The cheapest real-term public transport services can be found in **Bologna** and **Paris**.

- **Concessions** are offered by all of the cities and regions in the working group and target similar social groups (low income households, students, young children and retired people). In Bologna and across the **Emilia Romagna** only students are eligible for discounted public transport.

- **Fare revenues** from ticket sales indicate that, while some cities generate most income from single tickets (e.g. **Athens**) others, such as **Lisbon** and **Bucharest** make more revenue from the sale of travel passes.

- **Paris** and **Bucharest** are the only cities in the group that display stable levels of season ticket sales. The **Emilia Romagna** region and **Bologna** have experienced growth in annual pass sales, while **Lisbon** displays a significant decrease in season ticket sales which reflects the decreasing trend for public transport patronage in the city.

- **All the cities and regions** in the working groups have public transport websites which provide general public transport information. Only **Paris** and the **Ile de France** region provide integrated public transport information and online journey planning facilities for all modes of public transport.

4.3 Public Transport Customer Relations and Information

In order to consider how travel behaviour can be influenced, the working group was interested in making comparisons between the methods used to deal with customer complaints and enquiries, as well as benchmarking the different approaches to customer satisfaction surveying. It was agreed by the group when the indicators were formulated that, in order to influence the market for public transport, it is essential to have an understanding of the needs of passengers and potential passengers. The group have therefore benchmarked the approach to customer satisfaction surveying and compared the amount of public transport information available to passengers and the extent to which this is integrated.

Customer satisfaction surveying

Listening to the market for public transport has been identified by the group as an important step to understanding the needs of travellers and the reasons people may stop using public transport. Table 4.7 compares the basic methodologies used to undertake customer satisfaction surveying and contrasts the scores for some basic questions from the customer satisfaction surveys undertaken in each city / region.

Table 4.7: Customer Satisfaction (CS) surveying practices demonstrated by the group

Indicator	Athens	Bologna	Bucharest	Lisbon	Paris	Ile de France	Emilia Romagna
When was the last CS survey undertaken?	January 2003	July 2003	October 2003	July 2002	February 2003	February 2003	July 2003
What sample size is used for the CS Survey?	No data	No data	1,200	No Data	1,100	4,500	2,284
What method is used to interview respondents?	No data	No data	Direct Interview	No data	Telephone	Telephone	Telephone
What is the interval in months between CS surveys?	Not on regular basis	12	12	12	12 (main survey) 3 (interim survey)	24	12
What scale is used to measure satisfaction?	% satisfied	No data	1 (very dissatisfied) to 5 (very satisfied)	1 (least) to 10 (most) scale of satisfaction	1 (least) to 10 (most) scale of satisfaction	% satisfied	% satisfied
What is the average level of customer satisfaction?	87%	No data	2.84	6.5	6.8	92%	86.8%
What is the average level of passenger comfort?	No data	No data	Stations: 2.5 Vehicles: 2.7	Vehicle comfort: 5.3	Passenger crowding: 5.7	72.5%	59.90%
What is the average level of accessibility?	No data	No data	3.2	No data	No data	No data	81.20%
What is the average level of punctuality?	No data	No data	2.8	Frequency: 5.4 Schedule fulfilment: 5.3	6.8	Bus: 65%, Subway: 86%, Train + RER: 67,5%	69.9%
What is the average level of security?	Not available	No data	Stations: 1.8 On board: 1.8	No data	6.5	Bus: 88%, Subway: 79%, Train +RER: 72.5%	69.2%

[18]

- All of the participants in the working group had undertaken a customer satisfaction survey during 2003 and it appears to be common practice for nearly all of the cities / regions to undertake a survey every 12 months.

[18] Data relates to 2002 except Customer Satisfaction (CS) figures which refer to the date of last CS survey in each city.

- The exceptions were the Ile de France region, where a survey takes place every 24 months, and in Athens, where customer satisfaction surveying is not undertaken routinely. In Paris an interim survey is also undertaken every 3 months.
- The common approach to satisfaction surveying was via telephone interview, although in Bucharest direct (face-to-face) interviews are carried out in the street.
- Because of the different ranges and scales used direct comparisons between the satisfaction surveys are not possible, however the highest levels of overall satisfaction were recorded in Athens and Emilia Romagna (87% satisfied) and Ile de France (92%) satisfied.
- Using the narrow range of indicators selected by the working group it is possible to highlight some critical issues emanating from each cities customer satisfaction data:
    - Paris: crowding
    - Bucharest: security
    - Lisbon: punctuality / comfort
    - Emilia-Romagna: comfort

Public transport complaints and response to complaints

Table 4.8 compares the approaches to complaint management displayed by the working group.

Table 4.8: Complaint management in the working group's cities and regions[19]

	Athens	**Bologna**	**Bucharest**	**Lisbon**	**Paris (RATP)**	**Ile de France**	**Emilia Romagna**
Complaints	3,904	962	4,602	1,000	3,720	NA	1,834 in main cities
Response to complaints	One week	30 days permitted by law	30 days according to the national law	8 working days	E-mail: 1 day. Postal average allowed is 4-5 days. Company policy is that RATP should respond within 21 days, but always aim to send a response/letter within 10 days.	Normally as soon as possible. No specific deadlines	30 days permitted by national law

The cities receive varying numbers of complaints. Bologna received a total of 962 complaints in 2002, compared to the 4,602 complaints received in Bucharest during the same year.

[19] Data relating to complaints refers to the year 2002, except for the figures for Paris, which are from 2003.
[21] All data relates to 2002. Figures for Bologna were not available for these indicators.

- In Bucharest, Bologna and the Emilia Romagna region as a whole the maximum response time of 30 days is much greater than in Athens, Lisbon and Paris. RATP's policy of responding to complaints within 21 days, but assuring the complainant that their query is being dealt with in the interim period is also a good approach to complaint management.
- RATP, the public transport operator for Paris is the only city which responds to complaints electronically. This enables a much faster response to queries (a 1 day company average) and can be put forward as a good practice.
- For the group as a whole it is possible to suggest that a one week postal response target could be attained and has the potential to improve relations with customers who already have cause to complain.

Integration and availability of public transport information

Information is frequently referred to as one of the main quality issues for public transport networks and the cities and regions in the working group display a wide range of approaches to disseminating public transport information. Table 4.9 compares availability of public transport information in each of the cities and regions.

Table 4.9: Public Transport information in the cities and regions in the working group

Question	Athens	Bologna	Bucharest	Lisbon	Paris	Ile de France	Emilia Romagna
Integrated timetabling?	No	No	No	Yes, Partially	Yes	Yes	No
Integrated transport information	Yes, partially	Available end 2004	No	No	Yes	Yes	Yes, partially
Public Transport Call Centre (calls handled per annum)	500000	No data	11908	66104	79029	1200 calls since launch in Summer 03	No data
Public Transport website available?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Online Journey planner?	No	No	No	No	Yes	Yes	No
% of stops with Real time information	0	11%	0	2%	Tram and RER 100% Metro: 22% Bus 24% 2%	No data	Available in Bologna and at 3% of stops in Parma and 2% of stops in Modena

- Although all the cities and regions within the working group offer websites with information about their public transport system(s), the provision of an online planner is less of a standard. The same applies to the provision of integrated timetables.
- Paris is also the only city in the group to offer an online journey planner along with integrated timetabling and information.
- A potential explanation for this is that RATP is responsible for operating the majority of the public transport services in central Paris and does so across all the city's modes of public transport. The smaller number of operators in Paris facilitates greater integration of the city's public transport networks thus making it easier to offer integrated timetables information and a journey planner than in other cities.
- The relative infancy of real time information and its potential is highlighted by the low figures across the group for the availability of up to the minute public transport information. Paris again appears to be the "group-leader" with significantly larger proportions of public transport stops displaying real time information than in the other cities and regions.

Key observations regarding customer relations and information in each city and region

- Annual **customer satisfaction surveying** is (virtually) a standard procedure among the working group's cities and regions. **Paris** (RATP) is the only city where an interim customer satisfaction survey is conducted. The most common method is **telephone interviewing.**

- **Complaint management** techniques varied among the working group members with response times varying from approximately one week to 30 days. Paris (RATP) is the only city that handles complaints by e-mail.

- **Fully integrated public transport information** has only been achieved by Paris and the Ile de France region. This is probably because RATP operates the majority of public transport modes in the city and is therefore able to integrate information more easily than in other cities.

- Although public transport information websites are a standard feature for all of the group members an online **journey planner** function is not a standard feature.

- **Real time information** is still in its infancy and is yet to be exploited by most of the cities in the working group. Tram and RER modes in **Paris** have 100% coverage of real time service information.

4.4 Promotion of public transport

Marketing effort in cities

The differences in the data collected by the participants in the working group and the qualitative nature of the topic of marketing have enabled a qualitative analysis of public transport marketing effort to be undertaken. Table 4.10 outlines the figures and descriptions of the roles and effort of the public transport marketing departments in the cities and regions in the group.

Table 4.10: Indicators of marketing effort in cities and regions in the working group (2002)

Indicator	Athens	Bucharest	Lisbon	Paris	Ile de France	Emilia Romagna
Is there a PT marketing department in your city?	Yes (OASA)	Yes (RATB)	Yes (each operator)	Yes (RATP)	Yes (STIF has a Communication Dept)	Yes in each city
How many full time employees work in this dept?	5	28	Not Available	27	4	Not Available
If yes what percentage of total employees (full time or equivalent positions) work in the marketing department?	2	0.19	Not Available	0.06	3.3	Not Available
What percentage of total budget does this represent?	0.1	Not Available	bus operator - 1 metro operator - 0,02	0.52	0.026	Not Available

21

- All of the cities and regions in the working group have their own public transport related marketing departments. In many cases each of the individual public transport operators has a marketing department as well as the local authority (e.g. STIF has a communication department and RATP has a marketing department).
- Bucharest (28) and Paris (27) have the largest marketing operations in terms of the number of full time employees that work in marketing departments and each spend 0.1% and 0.5% of their respective public transport budgets on marketing.
- In Lisbon the bus operator "Carris" spends 1% of all its public transport expenditure upon marketing activities.
- Table 4.10 suggests that plenty of marketing activity does take place at city level, but very little has a coherent mandate, either among the operators or authorities, to promote public transport in general.
- The main exception is the regional authority of Emilia Romagna, which is responsible for the ongoing promotion of public transport in line with the area's regional development plan.

Promotion of public transport and classroom materials

A range of qualitative data was collected by working group participants in order to illustrate the extent of non-marketing related promotion of public transport. This information refers primarily to visits to schools, major employers and traffic generators in the locality. These potential public transport users were identified by the working group as ideal candidates to receive targeted promotional material in order to try and encourage them to use public transport. Participants from Athens, Paris, Emilia Romagna region (including the city of Bologna) and Lisbon were able to provide details of the promotional activities that took place in their cities / regions during 2002.

School visits and promotional materials:

Athens (OASA):

In 2002 representatives from OASA have made two presentations to government agencies and 20 promotional visits to high schools in Athens.

Maps, timetables, bus guides and brochure outlining the benefits from public transport use are provided to schools to try and encourage children to travel by public transport to get to school.

Emilia Romagna:

The Emilia-Romagna Region promotes, organises and develops transport and environment information and education through the use of specific regional laws. Currently the second triennial plan, named INFEA 2002-2004 (www.regione.emilia-romagna.it/infea), is under construction and involves universities, schools and other local agencies.

The breakdown of promotional visits undertaken in 2002 is as follows:

27% educational visits
25% teacher assistance
13% training
13% documentation
14% dissemination

From 1996 to 1998 Emilia-Romagna Region carried out 536 environment projects in the region's schools (with 40% of pupils involved).

A book, collecting ideas, experiences, educational proposals, is available as a resource to the teachers and further tools used include:

- Information on school notice boards
- Press releases
- Newsletters
- Posters
- School exhibitions
- Brochure
- Website
- Outside and inside school interviews
- Press conference
- Workshop

In addition the GITAS project is targeted at secondary school students and their parents and aims to raise awareness of public transport in order to change lifestyles. The cities of Modena, Carpi, Sassuolo and Emilia are the promoters of GITAS project.

Lisbon (Carris):

In 2002 a Carris initiative prompted 30 school visits covering a total of 30,000 students in the city of Lisbon. During the course of these visits a range of maps covering the public transport services in the area and the corresponding timetables were distributed to pupils in order to encourage them to use public transport for their daily journeys to school.

Paris (RATP):

During 2002 a total of 32,000 pupils were visited in their schools by RATP

A public transport information pack "Mon territoire c'est ma ville" has been produced by RATP in order to try and encourage school children to use public transport. Included in the pack is a special communication kit including: a book, games, a CD ROM and a set of videos designed to be stimulating and fun. In addition to promoting the use of public transport the pack also reminds children to respect and tolerate other people (introducing the security and disturbance aspects of travelling by public transport) and covers situations such as using public transport alongside those at school and in towns / cities.

Partnerships

In addition to promotional activities in schools and enterprises the participants in the group identified key partnerships with major traffic generators. The following summaries outline the partnerships that currently exist:

Athens (OASA):

In Athens, the Public Transport Authority (OASA) for the city has close links with major employers and trade unions within the city. As a result of these partnerships OASA offers discounted monthly and annual travel passes to workers in order to try and encourage them to use public transport for their daily journeys.

Paris (RATP):

The most important partnership for RATP is with Disneyland Paris (Euro Disney), which is situated at Marne La Vallée. The theme park is 35 minutes travel on RER line "A" from the centre of Paris and RATP sell combined tickets for people who want park access and public transport to the site. RATP and Disney also jointly promote public transport as the best mode of transport to use in order to get to Euro Disney from central Paris.

Emilia Romagna Region:

1) Car Sharing:

The public transport companies from Bologna and Rimini have worked as part of the Tosca Project alongside partner cities in Germany and Belgium and follower cities in France, Spain and Romania.

The project has a mission:

"To promote integrated car sharing concepts as an as an element of flexible and Intermodal door-to-door mobility among mobility service operators (e.g. public transport, private company fleet managers, taxi operators etc.)."[22]

2) Emilia-Romagna Region has promoted a series of co-ordinated actions connected to the emergence of PM^{10}s:

The goal is to reach levels that have been fixed by the E.U. to protect the health of citizens in the EU. The co-ordination process involved the 9 provinces and the 81 main municipalities in the regional area (including the 10 main cities and the other cities with populations greater than 50,000 inhabitants).

The co-ordination has been obtained by special agreements ("I° and II° Accordo di Programma" underwritten in 2002 and 2003). In this situation the Emilia-Romagna Region, the 9 Provinces and the principal Municipalities of the region, have agreed a "Free Air Act" which:

- Identifies an investment plan for every city (years 2003-2004-2005), with an estimated total expense of €191 million.
- Sets out traffic rules to provide incentives for collective mobility.
- Informative campaigns for the citizens.
- Surveys the opinions of citizens.
- Promotion of sustainable mobility through the use of "Ecological Sundays".
- Development of Mobility Management in cities.

All institutional actors are co-operating in the search for solutions and from a financial point of view. In accordance with the principle of subsidiarity, a wide range of local stakeholders have been involved in the project.

The timing of actions (immediate, short, medium and long term actions), as well as the development of an awareness-raising campaign aimed at citizens and businesses, before and after the implementation of measures, is also fundamental to the success of the initiative.

Key observations regarding the promotion of public transport in each city and region

- Marketing and promotional activity is commonplace in all of the cities in the working group, although very little has any coherence with other operators or organisations in the cities. This is understandable, because in many cases the operators are in competition with other public transport operators. Only in Emilia Romagna is there a strategic element to the promotion of public transport.

- Most of the cities in the working group make an effort to promote public transport in schools and large organisations. The majority of the working group's efforts are concentrated upon school children and visits to schools. These visits are supplemented by information packs and financial incentives which attempt to encourage children to use public transport to travel to school.

[22] Further information on the TOSCA project can be found on: http://www.atc.bo.it/progetti/tosca/index.htm.

- Partnerships with major traffic generators do exist in some of the cities within the working group. These partnerships appear to involve predominantly very large institutions (e.g. Disneyland Paris), with few local businesses being approached on a smaller scale.

5. CONCLUSIONS

5.1 Introduction

This section of the report summarises the key findings from the quantitative aspect of the working group's benchmarking exercise. The qualitative information from the three site visits attended and sample case studies from the working group are documented in Annex 2.2.

Section 5.2 is a review of general conclusions from the data collected by the working group. These conclusions are applied, in section 5.3, to suggest a series of general recommendations for cities seeking to learn from the outcomes of the research. In addition recommendations have been made regarding the process of benchmarking, based upon the group's collective experiences after the first year of the project.

Section 5.4 draws upon the findings of the "Improving the attractiveness of Public Transport" working group from the Citizen's Network Benchmarking Initiative to make some comparisons between the two groups. The final section (5.5) outlines the next stage of the benchmarking process and the future intentions of the working group.

5.2 Conclusions

The following general conclusions and observations can be drawn from the data collected by the working group:

- The cities in the working group represent a range of circumstances. Athens, Bucharest and Lisbon are relatively "young" cities in terms of the age of their populations. In addition these cities display the highest levels of public transport modal share, although these are changing. In Lisbon public transport modal share is falling dramatically, while in Athens it is increasing. Paris, Bologna and the two regions they reside in display completely opposite trends. These cities and regions demonstrate reasonably stable levels of public transport modal share and Bologna in particular displays a much older population structure than the other cities in the working group.

- The population and trip purpose figures can be compared to reveal target markets for public transport in each of the cities and regions. Bucharest has a young population and the trip purpose figures for the city reveal a large proportion of trips are made by people travelling to places of education. By contrast Athens has the largest proportional student population in the working group (23%), but also displays the smallest proportion of trips for the purpose Study / Education (4%). This appears to suggest that, despite a 50% concessionary fare for students, there is a relatively untapped group of potential public transport users in Athens. In the Emilia Romagna region the proportion of trips attributed to study and education is also low (8%) which implies that more young people could also be encouraged to use public transport.

- In most of the cities in the working group a large proportion of travellers use public transport to get to work (at least 50%). However in the Ile de France region a much smaller proportion of public transport trips are made using public transport modes (32%). This could be explained by a "shadow effect" from Paris, although a large proportion of the regional population is made up of people of working age.

- Zonal ticketing systems, whereby tickets are purchased for travel within/through a desired number of zones are standard for most of the cities in the working group. In the city of Helsinki, visited by the group in April 2004, the ticketing system operates on a timed basis, whereby a single ticket is valid for a given amount of time.

- Despite having the cheapest public transport fares in terms of absolute cost, Bucharest displayed the highest cost of public transport in real terms. Even so, Bucharest still has the highest level of public transport modal share (52%) of all the cities in the working group. This illustrates that the decision to travel by public transport does not rest purely upon cost and therefore simply making public transport cheaper, does not necessarily guarantee greater patronage.

- In the Emilia Romagna region concessions are only offered to students, despite a large proportion (27%) of the population being aged over 65. It is possible that offering older travellers an incentive to use public transport could improve the number of people that use public transport, particularly outside of peak hours of travel.

- Paris and Bucharest display stable levels of annual season ticket sales in relation to the other cities in the group. In Bologna (and the Emilia Romagna region as a whole) the sales of annual season tickets are increasing, suggesting a modal shift towards public transport. In Lisbon the decreasing level of annual season pass ownership reflects the long term trend of declining public transport modal share which has been matched by large increases in the level of car ownership in the city.

- Paris appears to lead the way in terms of the amount of integrated public transport information that is currently available and the fact that it can all be accessed via the internet. Although public transport information websites are a standard among the group, Paris and the Ile de France region set the benchmark by being the only city / region to operate an online journey planning facility. That all public transport information in Paris and the Ile de France is integrated reflects the fact that RATP and STIF have close links and RATP also operates the bulk of the public transport services in the city.

- The level of real time information available in Paris is also more substantial than in other cities in the working group. The media is still in its infancy, although in Paris the newly built tramway system was designed to have real time information, while the RER has recently been retro-fitted. As a result these modes have 100% coverage of real time information, whereas it is not yet available in Athens.

- An annual survey of customer satisfaction appears to be virtually a standard within the working group. The most common method of interviewing people is by telephone, although in Bucharest (and Rotterdam and Helsinki from site visits) face to face interviews are also used. RATP (Paris) were the only organisation to conduct an interim survey on a more regular, quarterly basis. In addition Paris is the only city where complaints are handled using e-mail, which enables faster handling and explains the shorter response time to complaints.

- All of the cities in the working group undertake marketing activity, although only in Paris/Ile de France and the Emilia Romagna region does there appear to be a strategic approach to promoting public transport.

- The majority of the promotional activity and information produced by the cities in the working group is aimed at children and students in order to try and encourage them to travel by public transport. It is possible that further promotional activity could target offices and large employers in order to try and encourage further modal shift from private motorised modes to public transport.

- Partnerships to promote the use of public transport were only evident in Paris (Euro Disney) whereby combined tickets (transport and park entry) are combined to offer better value to people travelling from central Paris to Marne La Vallée. In Rotterdam innovative use of advertising space (on modes of transport and in free "Metro" publications) enabled RET to barter deals with traffic generators (Pathé cinema & Feyenoord Football Club) where advertising space was given free in return for the supply of discounted entry tickets to attractions.

- Partnerships were not present in any city at a smaller level, whereby retail parks or commercial developments were targeted as potential sources of new public transport passengers. This type of "Travel Plan" style approach, where employers and public transport organisations work together to improve the transport options for employees, therefore appears to have potential within the working group.

5.3 Recommendations

In this section general recommendations are made regarding both the outputs of the working group and the process of benchmarking itself

5.3.1: Outcomes from the working group

- Comparing the population and employment structure, modal share and trip purpose statistics of a city enables general conclusions to be drawn regarding the actual and potential use of public transport in that city. In the case of the cities in the Behavioural and Social Issues in Public Transport Working Group it has been possible to highlight certain groups of people that could use public transport on regular basis. Athens, for example, has a large student population which only appears to account for a small proportion of total public transport trips.

- Concessions for particular social groups are commonplace among the working group's cities but, as the example of Athens reveals, simply making public transport cheaper through a discount does not guarantee greater patronage. In Paris and in the Emilia Romagna region considerable effort has been channelled into making public transport an appealing option for young people as well as offering concessions. This has been achieved through the use of dedicated information and websites aimed specifically at young people.

- The real cost of public transport appears to have a limited impact upon the patronage of public transport and therefore lowering the price of public transport on its own is unlikely to lead to greater numbers of passengers. Bucharest has the most expensive public transport offering in real terms, while Paris and the Emilia Romagna region are the cheapest. An important consideration for future benchmarking involves comparing these public transport costs against the real cost of car use.

- Bologna (and the Emilia Romagna region as a whole) appears to be achieving a modal shift towards public transport with sales of annual travel passes increasing rapidly. Further benchmarking activities of this working group could focus upon how this has been achieved and whether the trend could be repeated elsewhere by adopting a similar approach. This may be of particular interest to the city of Lisbon, which is experiencing rapid decreases in the modal share of public transport and the sale of annual travel passes.

- Paris emerged as a definite group leader in terms of public transport information, both web-based and real time. RATP and STIF have very close links, which is aided by the fact that RATP operates the majority of public transport services in the city. This relationship benefits public transport users in Paris, because public transport information in the city is fully integrated and all available on the internet via an online journey planner. A similar situation exists in Rotterdam, which the working group visited in March 2004. A site visit to Paris in second year of the benchmarking initiative could be beneficial and would enable the group to learn more about public transport information and marketing.

- Marketing activity to promote public transport is undertaken in all of the cities involved in the initiative, although the only place there is a strategic element to this process appears to be the Emilia Romagna region. Although difficult to quantify, it is possible to suggest that the strategic approach applied across Emilia Romagna could be at least partially responsible for the increases in patronage of public transport in the area. This could also be worthy of further investigation into the second year of the benchmarking initiative, although probably corresponds more closely to the themes of the Public Transport Organisation and Policy working group.

5.3.2: The Benchmarking process

Looking to the second year of the benchmarking initiative the experience of the first year has taught the working group that:

- Focusing the theme more narrowly will probably lead to a more effective benchmarking exercise.
- Less is more when indicators are defined. The group was ambitious with its aims for the amount of data that could be collected in the first year of the initiative resulting in a more laborious data analysis process.
- Qualitative information can be equally as useful as quantitative information in a benchmarking exercise.
- Case studies are important - the aim of the group is to produce a set of case studies that demonstrate interesting practices discovered by the benchmarking exercise, their problem solving potential and the transferability of such measures. These will be drawn from both data collected by the group and the practices witnessed during site visits.

5.4 Comparisons with the previous project

Some broad comparisons can be drawn between working group on "improving the attractiveness of public transport" from the Citizen's Network Benchmarking Initiative and the Behavioural and Social Issues in Public Transport working group. The two working groups, although similarly titled, focused upon quite different themes except for one of the research questions (research question 2) from the "improving the attractiveness of public transport" working group, which overlaps with the theme of this working group.

The participants of the "improving the attractiveness of public transport" group appeared to have difficulty collecting quantitative data and used site visits to provide specific case studies as an alternative. RATP's 'Imagin'r', young persons travel discount system was one of these case studies and was commended for its innovative use of marketing to captivate young people. It was suggested by this case study that the need for a critical mass of people is a priority, both for justifying the cost of the scheme's publicity and to attract commercial backing from private enterprises. This case study supports this working group's findings regarding the innovative use of marketing to promote the idea of public transport, particularly to young people. A potential line of further investigation for the Behavioural and Social Issues in Public Transport Working group could focus upon how this style of approach to promoting public transport could be applied to small and medium sized cities with similar levels of success.

In terms of findings from the "improving the attractiveness of public transport" Working Group, similar barriers to data collection were experienced. With the benefit of hindsight and the experiences of the Citizens' Network Benchmarking Initiative this working group was partially able to overcome some of the technical barriers to collecting data and as a result has been able to further the analysis of collected data. The next aim of the Behavioural and Social Issues in Public Transport Working Group is to learn from the previous group's experiences of disseminating the results of the project. By disseminating the group's findings as widely as possible, at both the international and local level, the utility of the benchmarking process will be greatly improved. Where possible this should involve as many local public transport stakeholder groups as possible.

5.5 Next steps and future intentions for the working group

The following are suggestions made by the members of the working group, which indicate potential next steps for the working group as the Urban Transport Benchmarking Initiative moves into a second year:

- Continue to monitor a small set of "Core" indicators that have proved comparable during the first year of the benchmarking initiative.

- Deepen the analysis of the collected data to try and establish reasons for the identified performance gaps and identify how the practices could be transferred to different scenarios.

- Use a "focus group" style structure at each of the site visits in order to emphasise the debate of ideas at the site visit meetings.

- It would be interesting to visit a city in one of the New Member States of the EU to try and learn about interesting practices.

- The group would like to consolidate the findings of the first year of the project by visiting cities within the group and experiencing interesting practices first-hand.

- The group suggested that fewer Common Indicators (only 10-20) would be more effective, with a set of key/headline indicators (5) that all cities will be able to provide comparable data for.

- For the second year the group suggested that it would be better to have more quantitative data and suggested some themes such as operational issues, coping with incidents and alternative fuels for public transport use.

- The group felt that each city could submit a qualitative description with a common structure in order to help add context to the quantitative data submitted.