

# Urban Transport Benchmarking Initiative Year Three



## Annex A4

### Public Transport Organisation and Policy

### Working Group Report

July 2006



# Annex A4

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### Working Group Report

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by



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## CONTENTS

<b>0. EXECUTIVE SUMMARY .....</b>	<b>I</b>
0.1 MAIN AIMS OF THE WORKING GROUP .....	I
0.2 PARTICIPANTS .....	I
0.3 SELECTION OF THE WORKING GROUP'S RESEARCH TOPIC(S) .....	I
0.4 SUMMARY OF KEY FINDINGS OF THE GROUP'S ACTIVITIES .....	II
0.5 SUMMARY OF GENERAL RECOMMENDATIONS .....	III
<b>1. INTRODUCTION.....</b>	<b>1</b>
1.1. PROJECT BACKGROUND .....	1
1.2. OBJECTIVES OF THE WORKING GROUP .....	2
1.3. METHODOLOGY OF THE WORKING GROUP.....	2
1.4. DEFINITION OF THE WORKING GROUP THEME.....	3
1.5. SITE VISITS.....	3
1.6. LEARNING FROM PREVIOUS INITIATIVES.....	4
1.7. CONTENTS AND PURPOSE OF THIS REPORT .....	4
<b>2. WORKING GROUP PARTICIPANTS.....</b>	<b>6</b>
2.1. BUCHAREST .....	6
2.2. DUBLIN .....	7
2.3. BELFAST.....	7
2.4. MERSEYSIDE .....	7
2.5. GERMANY .....	7
2.6. THE NETHERLANDS.....	8
2.7. BRUSSELS.....	9
2.8. STUTTGART.....	9
<b>3. DEFINITION OF THEMATIC INDICATORS .....</b>	<b>10</b>
3.1. METHODOLOGY FOR INDICATOR DEFINITION .....	10
3.2. DATA COLLECTION AND ANALYSIS.....	10
3.3. DEFINITION OF INDICATORS .....	11
3.4. DEFINITION OF INTERESTING PRACTICE .....	13
3.5. DATA LIMITATIONS AND BARRIERS TO DATA COLLECTION .....	14
<b>4. FARE POLICY .....</b>	<b>15</b>
4.1. INTRODUCTION.....	15
4.2. SUMMARY OF PRESENTATIONS ON FARE POLICY .....	15
4.3. SUMMARY OF WORKING GROUP DISCUSSIONS.....	19
4.4. IDENTIFIED GOOD PRACTICES OUTSIDE THE GROUP .....	19
4.5. SITE VISIT: THE DUTCH "SMART CARD" TRIAL.....	21
<b>5. FUNDING OF PUBLIC TRANSPORT .....</b>	<b>24</b>
5.1. INTRODUCTION.....	24
5.2. IDENTIFIED GOOD PRACTICES OUTSIDE THE GROUP .....	24
5.3. OVERVIEW OF FINDINGS .....	26
5.4. SITE VISIT .....	33
<b>6. COST REDUCTION STRATEGIES .....</b>	<b>34</b>
6.1. INTRODUCTION.....	34
6.2. IDENTIFIED GOOD PRACTICES OUTSIDE THE GROUP .....	34
6.3. OVERVIEW OF FINDINGS .....	35
<b>7. CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>44</b>
7.1. INTRODUCTION.....	44
7.2. BENEFITS FOR THE PARTICIPANTS .....	44
7.3. POLICY CONCLUSIONS .....	45
7.4. RECOMMENDATIONS .....	46

## **0. EXECUTIVE SUMMARY**

### **0.1 Main aims of the Working Group**

During the first year of the Urban Transport Benchmarking Initiative, the participants of the Working Group on Public Transport Organisation and Policy agreed on policy objectives (improving quality of service), defined and collected indicators measuring the performance against these policy objectives (age of fleet, frequency, accessibility, integration, etc.), compared their performance, and identified benchmarks (quality of supply, young and accessible fleet, fully integrated fare system, etc.)

During the second year, the objective was to look beyond those benchmarks and to explore practices that account for the best performance levels, with a particular focus on contracts between operators and authorities. The analysis of the benchmarks identified at the end of the first year had highlighted the role of contracts in the attainment of such high performance levels.

At the launch workshop for year three, the working group opted to focus upon issues relating to the financing of public transport. The group decided that it was less important to focus upon the collection of the data and the comparability of quantitative indicators. Instead the group decided to pursue an exchange of good practices. Each site visit was used to focus upon one of the following three topics:

- Diversification of revenue sources
- Fare Policy
- Strategies to reduce costs of operations

Site visits were held in Rotterdam (5<sup>th</sup> to 6<sup>th</sup> January 2006) and Berlin (13<sup>th</sup> to 14<sup>th</sup> March 2006). Originally, the last meeting was planned to take place in Paris, including a joint site visit with the Urban Transport for Disabled People Working Group on May 4<sup>th</sup> to 5<sup>th</sup>. Since only a small number of Working Group members could attend this meeting, an additional working group meeting was held in the UITP premises on June 6<sup>th</sup> 2006 (a one day event without site visit).

### **0.2 Participants**

The working group participants for year three of the Urban Transport Benchmarking Initiative were: Merseyside, Ile de France, Belfast, Stuttgart, Bucharest, Brussels (both the operator and the authority) and Athens. Representatives of the Netherlands Ministry of Transport and the German Association of Cities also participated in meetings during year three. However, the representatives from Ile de France and from the Brussels Region authority were not able to attend any of the meetings.

### **0.3 Selection of the Working Group's research topic(s)**

With respect to fare policy, the purpose was to identify good practices related to the fixation and the integration of fares and to reflect on their applicability to each network's respective situation.

On the issue of alternative approaches to Public Transport funding, the purpose was to identify good practices relating to non-conventional approaches to the funding of Public Transport (earmarked taxes, land value capture, advertising, supply of services, Public-Private Partnerships, debt finance) and to reflect on their applicability to each network's respective situation.

Finally, with respect to cost reduction, the purpose was to:

- identify good practices related to (1) cost reduction by operators, and (2) incentive provision for cost reduction in contracts between organising authorities and operators.
- reflect on their applicability to each network's respective situation.

#### **0.4 Summary of key findings of the group's activities**

- In some areas of public transport organisation and policy, practices were very similar across all participating networks:
  - With respect to the decision making process regarding fares, it is an almost general practice that the operator proposes but that the authority has the final say. Even in supposedly deregulated networks, the authority still retains the power to intervene if it is considered that the market outcome yields undesirable results.
  - Objectives are generally vague and there is no explicit treatment of the trade-offs between conflicting policy goals.
  - There is a rather general move towards fare integration and the use of smart cards. It is clear that the introduction of smart cards facilitates integration. The main obstacles are linked to important transition costs (and, in the case of the UK, to competition policy). There was a wide agreement within the group that this was one of the areas that offered the largest potential for improvement.
  - Public compensation for Public Service Requirements and concessionary fares are present in all networks, even those that are, in principle, deregulated. The details of the compensation schemes differ widely, however, and, due to differences in terminology, international comparisons can be difficult.
  - Mainly due to legal obstacles, earmarking of specific tax revenues (including congestion charges) for public transport funding is not widespread. However, several participants expressed themselves clearly in favour of such mechanisms. Moreover, due to the increases in traffic speed they induce, congestion charges bring benefits to public transport, even if they are not earmarked for public transport.
  - Public Private Partnerships are not widespread amongst participants in the working group, despite their potential for efficiency improvements. The main objections against these schemes are the higher cost of borrowing and the important transaction costs linked to complex long-term contracts.
  - Except in the UK and in Ireland, there are no examples of land value capture, mainly because of a lack of appropriate legislation. Nevertheless, the examples from the UK and from Ireland show the potential of this approach.
  - The relative importance of "non fare" commercial revenues (mainly from advertisement and from services linked to infrastructure provision) is limited (with the notable exception of advertisement revenue in Paris).

- In other areas of public transport organisation and policy, we see a huge variety in approaches. Maybe surprisingly, there is no clear link between fare structure (zonal-, distance- or time-based) and the regulatory regime.
- On the issue of cost reductions, operators emphasise the importance of an efficient fleet maintenance policy, active human resources management and of reducing the costs linked to fare collection. Monitoring and information management turns also out to be a crucial factor. However, some factors that influence cost efficiency are at least partially outside the scope of the operator and must also be tackled by the authority such as traffic conditions and fare policy.
- In theory, competition should provide strong incentives for cost reduction. However, due to high barriers to entry, actual competition in deregulated markets can be disappointing. In networks with a periodic award of concessions, the quality of the tendering process can have an important impact, both on the quality of the product that is finally offered and on the actual strength of the “competition for the market”.

### **0.5 Summary of general recommendations**

- Given the approach adopted, there are few general recommendations, because the principal benefit of participation in the working group was the identification of measures which could be applied elsewhere.
- One clear lesson from the project is that there is no single best approach and that “best” practices should suit local requirements. However, elements of good practice can be implemented and problems avoided.
- It is also clear that, in almost every network, some potential has remained untapped, both for revenue increasing and for cost reduction.
- Change is a long-term issue.
- Finally, it cannot be overemphasised that all participants agreed that *an ongoing informal dialogue between practitioners is seen as essential for dissemination of experience.*

## 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 and Accession Countries. 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 effective practices in urban transport.

The benchmarking concept has great potential when applied to urban transport systems. A range of previous initiatives has provided this project with the opportunity to sharpen 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 findings of the project will provide a useful resource for other urban transport stakeholders and help them to implement innovative solutions to commonly experienced urban transport problems.

This report covers the work of the Public Transport Organisation and Policy working group during the third and final year of the Urban Transport Benchmarking Initiative, which began in September 2005. During the first two years of the initiative a range of themes were pursued, for which data was collected by the participating cities. These themes were organised as working groups and are listed below:

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

During the second year of the Urban Transport Benchmarking Initiative the working group structure was retained, although due to insufficient interest in the City Logistics theme, this group did not continue. In order to replace this topic a new group, focusing upon Urban Transport for Disabled People, was established in year three of the Urban Transport Benchmarking Initiative.

This report presents the findings of the Public Transport Organisation and Policy Working Group, the methodology used by the working group, the data collected and analysed and the recommendations emanating from the analysis. Year three of the Urban Transport Benchmarking

Initiative represents the final year of the project and, as a result, the emphasis of the reporting has shifted from previous years in order to take into account the need to disseminate the findings to a wider audience. As an additional activity, the reports from each of the working groups are supported by a good practice case study handbook, which provides detailed descriptions of the good practices and urban transport solutions that cities involved in the Urban Transport Benchmarking Initiative have implemented.

## **1.2. Objectives of the Working Group**

During the first year of the Urban Transport Benchmarking Initiative, the participants of the Working Group on Public Transport Organisation and Policy agreed on policy objectives (improving quality of service), defined and collected indicators measuring performance against these policy objectives (age of fleet, frequency, accessibility, integration, etc.), compared their performance, and identified benchmarks (quality of supply, young and accessible fleet, fully integrated fare system, etc).

The purpose of the second year was to look beyond those benchmarks and to explore practices that account for the best performance levels, with a particular focus on contracts between operators and authorities. The analysis of the benchmarks identified at the end of the first year had highlighted the role of contracts in the attainment of such high performance levels.

At the launch workshop for year three, the working group opted to focus upon issues relating to the financing of public transport.

The Working Group decided to pursue the following three topics:

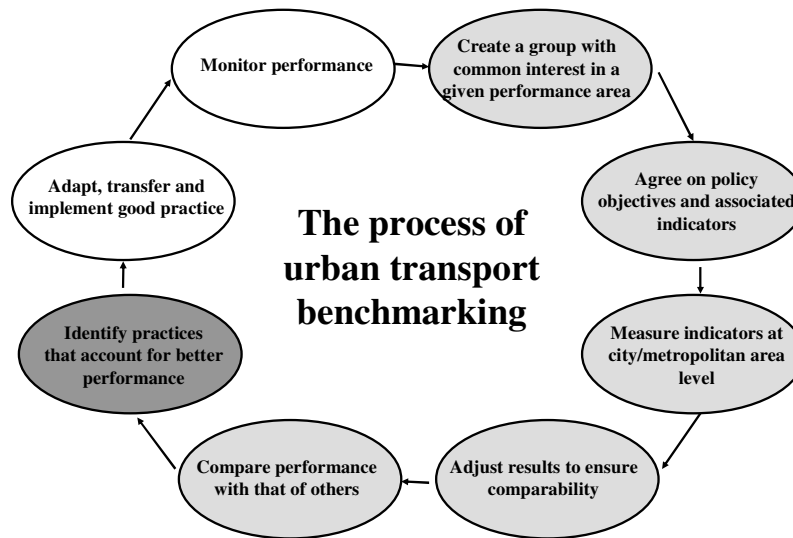
- Diversification of revenue sources
- Fare Policy
- Strategies to reduce costs of operations

## **1.3. Methodology of the Working Group**

Benchmarking is a tool for change. This is a long term process which involves a number of successive steps. During the third year of the Urban Transport Benchmarking project, the group has continued its progression along the 'Benchmarking Wheel' shown in Figure 1.1.

For year three, the group decided that it was less important to focus upon the collection of the data and the comparability of quantitative indicators. Instead the group decided to pursue an exchange of good practices. Each site visit was used to focus upon one of the three issues.

The work plan for the site visits was that each of the participants would give a structured presentation on one of the three issues being considered, outlining the good practices in their city. The presentations were prepared using a standard approach in order to ensure comparability.

**Figure 1.1: The Benchmarking Wheel**

#### 1.4. Definition of the Working Group theme

The group identified a series of key areas for consideration:

- The use of congestion charging and parking policies to finance public transport.
- The potential to maximise value capture from real estate.
- The criteria and objectives of public transport fare fixation in the cities (e.g. to grow revenue or patronage).
- Revenue implications of differentiation and integration of public transport fares.
- The cost of contracts.

In terms of joint site visits, the group was interested in looking at the work of the Urban Transport for Disabled People Working Group.

#### 1.5. Site Visits

##### Site visit and Working Group meeting 1

The first meeting of the working group was hosted by the Transport Research Centre of the Dutch Ministry of Transport in Rotterdam from the 5<sup>th</sup> to 6<sup>th</sup> January 2006.

Each participant briefly presented the key characteristics and issues of fare policy in their network, following guidelines that were sent in advance. These presentations were used as an input for a discussion on best practices.

The site visit included:

- Presentations on the organisation of public transport, marketing initiatives, the smart card project in the Rotterdam region, and the national implementation of smart cards.
- A visit to Rotterdam public transport operator (RET), and a visit of the metro system.
- A visit to the regional bus operator network (Connexxion) including the smart card system.

### **Site visit and Working Group meeting 2**

The second meeting of the Working Group was hosted by the German Association of Cities in Berlin from the 13<sup>th</sup> to 14<sup>th</sup> March 2006.

Each participant held a presentation on the sources of funding in their network, following guidelines that were sent in advance. Moreover, guest presentations were given by Mr Tilman Bracher of the German Research Institute for Urban Affairs and Dr Ralf Resch of the Berliner Verkehrsbetriebe (BVG). These presentations were used as an input for a discussion on best practices.

The site visit included a presentation by Deutsche Bahn AG on the new central station of Berlin and a visit to the U55, the new underground project running from the Brandenburger Tor to the Hauptbahnhof Lehrter Bahnhof.

### **Site visit and Working Group meeting 3**

Originally, the meeting on cost reductions strategies was planned to take place in Paris, including a joint site visit with the Urban Transport for Disabled People Working Group from May 4<sup>th</sup> to the 5<sup>th</sup>. However, as only a very small number of working group members could attend this meeting, an additional meeting was held in the UITP offices on June 6<sup>th</sup> (a one day event without a site visit).

## **1.6. Learning from previous initiatives**

As well as the recommendations from the first two years of the Urban Transport Benchmarking Initiative, the working group has been able to refer back to the achievements of the Citizen's Network Benchmarking Initiative Working Group reports. This has enabled the group to try to further refine the process of benchmarking urban transport and to learn from previous experiences.

The third year of the initiative has largely represented an evolution of the group's previous activities and, where possible, the recommendations from the reports produced at the end of the first two years of the project have been heeded.

## **1.7. Contents and Purpose of this report**

This report is Annex A4 of the Urban Transport Benchmarking Initiative Year Three final report and describes the approach taken by the Public Transport Organisation and Policy Working Group. The findings from thematic data indicators collected by the group are presented and analysed along with 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 (Section 2). Section 3 of the report outlines the methodology for defining the thematic indicators and the process of data collection.

Section 4 gives a summary of the presentations and of the group discussions on the issue of fare policy. It also contains a brief description of the presentations by guest speakers and of the site visit. Finally, it provides the references of the external sources of information that the UTIP expert sent to the participants.

Section 5 gives a summary of the presentations and of the group discussions on the issue of funding of public transport. It also contains a brief description of the presentations by guest speakers and of the site visit. Finally, it provides the references of the external sources of information that the UTIP expert sent to the participants.

Section 6 gives a summary of the presentations and of the group discussions on the issue of cost reduction strategies. Finally, it provides the references of the external sources of information that the UTIP expert sent to the participants.

The final section of the report contains the conclusions made by the group and the recommendations for further developing the theme of the working group.

## 2. WORKING GROUP PARTICIPANTS

The working group participants for year three of the Urban Transport Benchmarking Initiative are listed below.

- Merseyside
- Ile de France
- Belfast
- Stuttgart
- Bucharest
- Brussels (both the operator and the authority)
- Athens

Representatives of the Netherlands Ministry of Transport and the German Association of Cities also participated in the meetings during the third year. The representatives from Ile de France and from the Brussels Region authority were not able to attend any of the meetings.

Some general information on each participant's network is provided below.

### 2.1. Bucharest

Bucharest is the capital city of Romania. It has a surface area of 238 km<sup>2</sup> (within a region of 710 km<sup>2</sup>) and a population of 1.9 million inhabitants (2.2 million in the region)<sup>1</sup>.

The RATB is the main public transport operator; it is owned by the Bucharest City Council and operates with buses, trolleys and trams. METROREX is the underground operator, functioning under the authority of the Ministry of Transportation. Besides these two main operators, over 15 private companies operate in Bucharest using minibuses (10 to 17 seats per vehicle). The license for operating these vehicles is issued by the Municipality's Transport Department.

The main characteristics of the network are:

- area of service: 228 km<sup>2</sup>
- length of public transport network:
  - trams: 286 km
  - trolleys: 144 km
  - buses: 1182 km
- average operating fleet:
  - trams: 337 vehicles per day
  - trolleys: 199 vehicles per day
  - buses : 815 vehicles per day
- 969 million passengers (in 2005)

There is a proposal for creating a Metropolitan Transport Authority. The mission of a Metropolitan Transport Authority would be to provide the coordination of activity in order to increase its quality and efficiency and to achieve a growth in public transport attractiveness.

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<sup>1</sup> 2003 data

## 2.2. Dublin

Córas Iompair Éireann (CIÉ) is a statutory authority which is owned by the Irish Government (Department of Transport). Since the enactment of the Transport (Re-organisation of Córas Iompair Éireann) Act, 1986, CIÉ is the shareholding company of:

- Bus Éireann or Irish Bus: provides bus services in Republic of Ireland with the exception of services entirely within the Dublin Region.
- Dublin Bus: manages and operates the bus services in Dublin
- Irish Rail

## 2.3. Belfast

Translink is the brand name of the integrated public transport operation Metro (Belfast), Ulsterbus (rest of the region) and NIR (Northern Ireland Railways). The three operating companies have retained their legal status. Translink is publicly owned.

Ulsterbus is responsible for virtually all stage carriage bus services in Northern Ireland except Belfast area services which are operated by Metro. Metro operates approximately 60 routes in Belfast which tend to be dictated by the existence of large population densities and operate primarily on major arterial routes to the centre of Belfast.

The Northern Ireland Railways Network comprises of the Belfast – Dublin mainline to the border (the Enterprise Service) and the lines from Belfast to Londonderry, Bangor and Larne. There is also a branch line from Coleraine to Portrush.

## 2.4. Merseyside

Merseytravel is the Public Transport Authority and Executive (PTA/E) for the Merseyside area. The Metropolitan area of Liverpool (Merseyside) has a population of 1.4 million and has a surface area of 650 km<sup>2</sup>.

There are a large number of private bus operators, two of which have 90% of the market and who are in open competition. Moreover, there are two rail franchises.

- Merseyrail Electrics Franchise (Northern & Wirral Lines) for which Merseytravel is the franchise manager (rather than the national government)
- Northern Franchise (City Line)

The authority works with partners within an overall framework for public transport known as the Local Transport Plan.

## 2.5. Germany

In Germany, there is a distinction between regional transport (less than 50 km or less than one hour) and far distance transport. Far distance transport is provided by Deutsche Bahn and should be self-supporting.

There are also different regulations for 'SPNV' (regional rail) and 'ÖSPV' (urban public transport: metro, tram, bus) on the one hand and for running cost and investment on the other hand.

Subsidiarity in federal Germany works as follows:

- The national level is in charge of national roads and of Deutsche Bahn (DB).
- There are legal and historical reasons for allocating national funds to the states and railways (for road/rail investment and for road maintenance/operation), and to municipalities.
- The state level ('Länder') are in charge of regional railways, state roads and on securing municipal finances.
- The municipal level is in charge of public transport on roads (metro, tram, bus) and of municipal roads.

The market situation for rail and suburban services (SPNV) can be described as follows:

- The States (Länder) are in charge of tendering and contracting.
- DB has a share of 90% of operations (going down), the private sector of 10% (going up).

The market situation for tram, bus and underground services (ÖSPV) can be described as follows:

- Municipal or regional authorities are in charge of Public Transport.
- The method for awarding authorisations is usually a direct award.
- Tendering and even contracting are still exceptions.

## 2.6. The Netherlands

The *Transport and Traffic Policy Document* for the period 2004-2020 is the 'Nota Mobiliteit: Towards reliable and predictable accessibility'.

The essential points in this document are:

- Provide reliable door-to-door transport (carrot: better service and infrastructure, stick: possibly road charging in 2012)
- The strategic role of the Transport Ministry
- Promote public private partnership
- Public transport as alternative to the private car
  - Increase in modal share in mobility market
  - Improvement in Fare-box Cost Recovery Ratio
    - Quality service at affordable price
    - Enhancement of passenger satisfaction
    - Improved operating efficiency
    - Technological innovation

The landmarks in the Transport & Traffic Policy are:

- Decentralisation of authority and responsibility to lower tiers of government. The central government at this moment still determines the maximum prices under the integrated national fares and ticketing system, but it is up to the 19 local Public Transport Authorities (PTAs) to determine the fares in their region. In the future, the PTAs will have the authority to determine their own fare scale and structure. Smartcard technology will facilitate the introduction of fares differentiation.
- New legislation on Passenger Transport
- Open market tendering for concessions

## **2.7. Brussels**

The STIB is the public transport operator in the Brussels region, Belgium. Besides the STIB, De Lijn (Flemish operator), the TEC (Walloon operator) and the SNCB (railways) also have routes in Brussels.

## **2.8. Stuttgart**

In the Stuttgart Region public transport is organised on different levels: for bus and metro services inside the city of Stuttgart the city itself is the PTA. In the rest of the region the four counties are PTA for bus services. Besides that, the state of Baden-Württemberg and the Stuttgart Region are PTA for regional trains and the S-Bahn (suburban rail).

Within the city of Stuttgart, the public owned operator SSB runs the service. Outside Stuttgart, the service is run by around 40, mostly private, bus operators. Almost all rail services are run by Deutsch Bahn (DB) (German Rail).

The public transport network has more than 360 bus routes, 18 metro/tram-routes, 5 regional train routes and 6 S-Bahn routes.

### **3. DEFINITION OF THEMATIC INDICATORS**

#### **3.1. Methodology for indicator definition**

During the first year of the project, the working group participants defined and collected a number of performance indicators. Most of these were quantitative indicators.

The aim of the second year of the project was to identify practices which are linked to good performance. This information was better documented by qualitative indicators, which formed the basis of the material collected for year two.

For year three, the group decided that it was less important to focus upon the collection of the data and the comparability of quantitative indicators. Instead, the group decided to pursue an exchange of good practices.

#### **3.2. Data Collection and Analysis**

##### **Data Collection**

Participants were invited ahead of each meeting to prepare a presentation to be delivered during the meeting following certain guidelines. The presentations were prepared using a standard approach, proposed before each meeting by the rapporteur. The guidelines indicated the topics and proposed a common structure, but left each participant to present the information in their own words, in order to gain a full understanding of the complexity of each situation.

The presentations were followed by group discussions. The meeting itself was therefore an important part of the process of collecting information as the questions asked by each participant enriched the discussion.

On the basis of the discussion, the UITP expert gathered in-depth information on the identified good practices in cities outside the group, in the form of case studies and published research papers etc. These studies were provided to participants as a basis for a reflection on the practical application of these good practices to their own network.

After the meeting, participants were invited to prepare a brief report according to the following guidelines provided in advance:

- Is there any practical lesson you have learned from the presentations at the previous meetings and from the studies I have forwarded by e-mail? Which one (note that this can be on any of the subjects we have discussed: fare structure, integration, smartcards, decision making process, objectives, funding, human resources management, fleet maintenance, incentive contracts etc)?
- Has this led to an idea for change in your organisation?
- If this is a change on which you can decide have you already done so? If not, what has been the impediment (opposition to change; need for further study work)?
- If you do not have the authority to implement this change, have you introduced a proposal for change? At what level is your proposal being discussed (intermediate management levels, CEO, board of directors, political level)? Again, what are the most important obstacles to change?
- Has this led to any decisions yet, or are there plans to implement changes?
- If none of the above has happened, what was the reason (for instance, you might have heard interesting practices, but they cannot be implemented in your own regulatory context; after

having heard the advantages and drawbacks of practices in other cities, you think that the current practices in your own city offer a good compromise, taking into account local circumstances)

Those findings were shared during the subsequent meetings of the group.

## Data Analysis

As each situation is unique, the description of a measure implemented in one city is just the first level of the work in devising a measure that is transferable elsewhere. The main part of the work is something which is carried out by each city individually, by being able to observe other practices and to combine relevant aspects of these practices into their own approach.

### 3.3. Definition of indicators

The indicators of interest were defined ahead of each meeting in the guidelines for preparation of the presentations. The main indicators collected during year three are listed below.

#### 3.3.1. Fare Policy

The purpose was to identify good practices related to the fixation and the integration of fares and to reflect on their applicability to each network's respective situation.

In order to update each other on fare policy and practices and to trigger the discussion, participants were invited to briefly present information on the state of the art and the problems in their own network related to the following:

- Decision making process regarding fare policy (who decides on fare structure and fare levels)?
- What are the objectives of fare policy? What are the criteria used for the fixation of fares (with distinction by mode if applicable)?
- What is the fare structure (geographical, modal, by operators)?
- What is the level of integration or differentiation between modes? (How) are revenues shared between modes and operators?
- Plans concerning the use of smart cards?

#### 3.3.2. Alternative approaches to Public Transport Funding

The purpose was to identify good practices related to the non-conventional approaches to the funding of Public Transport and to reflect on their applicability to each network's respective situation.

In a first stage, the UITP expert sent a document providing an overview of the literature on the funding of public transport (see more details below).

In order to update each other on fare policy and practices and to trigger the discussion, participants were invited to briefly present information on the state of the art and the problems in their own network. They were invited to use the following framework for their presentation:

1) Please indicate which revenue sources are used by your company/government:

- Capital subsidies from the federal/regional/local authorities

- Compensation for concessionary fares
- Compensation for public service obligation
- Tax exemptions (for instance on fuel)
- Earmarked local employers' contributions
- Earmarked taxes levied on other transport activities (road pricing, parking levies, carbon taxes, fines for traffic offences, vehicle taxes, fuel taxes, taxes based on the number of axles)
- Land value capture in the broad sense (through the sale of urban promotion rights, sales of annex lands, taxes for direct connection, concession, etc)
- Advertising
- Supply of services (car sharing, tourist information, vehicle maintenance, consultancy and engineering...)

What are the main obstacles for the implementation of one of these schemes? Do you see any disadvantage that has not been dealt with in the survey documents UITP has sent? Why do you think your government might be in favour of/opposed to the scheme?

2) Is there a differentiation between the funding of exploitation and the funding of investment (infrastructure and rolling stock)?

3) What is your view on the use of Public-Private Partnership (PPP)? What would be an advantage of PPP? What do you think of the problems that are reported on this subject (such as renegotiation of contracts, confidentiality of essential contract clauses, efficiency measurements, quality regulation, cost overruns, higher cost of capital for private sector)? What about claimed advantages (better incentives for efficiency)?

4) What is your view on earmarking specific government revenues for public transport?

5) With respect to government funding:

- Are government funds received in a lump sum way or is there some type of conditionality involved? What is the frequency of revisions?
- Does the rationale for government funding contain any reference to the existence of economies of scale in the operation of public transport?
- What is the division of labour between the different levels of government with respect of funding? Is this coherent with regulatory responsibilities?

6) With respect to debt finance:

- Do you use bank loans/ bond issues
- Are your loans secured by a lien on revenues/tax sources?
- Are your debts guaranteed by the government?

### 3.3.3. Cost Reduction

The purpose was to:

- identify good practices related to (1) cost reduction by operators and (2) incentive provision for cost reduction in contracts between organising authorities and operators.

- reflect on their applicability to each network's respective situation.

In the first stage, the UITP expert sent documents regarding the impact of regulatory frameworks on cost efficiency and good practices in cost reduction (see more details in Section 6.2).

In order to update each other on cost reduction practices and to trigger the discussion, participants were invited to briefly present information on the state of the art and the problems in their own network. They were invited to use the following framework for their presentation:

The delegates from organising authorities were asked to focus on the issue of incentive contracts:

- How can the contract between the Organising Authority and the operator provide incentives for cost reduction without affecting other desirable objectives (environmental performance, public service obligations, quality, safety etc)?
- If possible, explain what practices you have tried in the past and what you intend to do in the future.
- What are the main obstacles to innovation in this field?
- Do you measure the cost efficiency of the operator in your area and do you compare it with other operators?
- If you do measure cost efficiency, how do you do it?
- Do you think that incentives based on comparative performance ('yardstick competition') would be an interesting approach for public transport?

The following subjects were proposed to the operators:

- How can better human resources management (for instance, more flexible labour contracts; better training of personnel; better scheduling tools) reduce labour costs?
- What is the potential for cost reduction through better fleet management, and in particular better maintenance?
- What is the potential for savings of energy costs?
- What is the role IT can play in the above areas?
- What is your view on fashionable management tools like Total Quality Management, Re-engineering, Balanced Scorecard, outsourcing of non-core competencies?
- What are the main regulatory obstacles to improved cost efficiency?

### **3.4. Definition of interesting practice**

The aims of the Urban Transport Benchmarking Initiative data analysis were clearly defined at the outset of year one 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.

As a result the approach to the term 'Best Practice' has been retained for the third year of the Urban Transport Benchmarking Initiative. What constitutes a '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**

Given the nature of the indicators collected during the third year, comparability of definitions and availability of data was not a problem, which enabled the group to focus on the actual comparisons of practices and not on methodological issues, which was appreciated by all participants.

The only difficulty was the limited number of examples of practices actually in use. Of course, this is due partially to the small number of participants in the working group.

## 4. FARE POLICY

### 4.1. Introduction

During the launch workshop, it was decided that, in terms of fare policies, the group could consider the fare structure and level of fares, as well as the variations by mode in each of the participating cities. The issue of fare integration would also be considered as well as the travel behaviour impacts of altering fare structures.

### 4.2. Summary of presentations on fare policy

The presentations and a detailed report on the ensuing discussion can be found in Annex A4.1. Here, we limit ourselves to a summary of the findings of the day.

#### 4.2.1. Decision making process

With respect to the decision making process, we see that, *in almost all cases, the operator proposes but that the authority has the final say*<sup>2</sup>. Of course, the details can vary a lot from network to network:

- With respect to peak-time rail tickets in Merseyside, the decision forms part of the rail franchise. However, the operators of the rail system are free to determine their *off-peak* fares.
- According to German Law, the operators make propositions about tariffs which have to be approved by authorities. Sometimes this task is delegated from local authorities to the organising authorities. Legally, operators have a right to ask for sufficient (“auskömmlich”) fares. For instance, in the Stuttgart region, if the public sector does not agree with the new fare level proposed by the operators, they have the opportunity to decide on a lower fare level if the public sector pays for the difference.
- In some cases, the approval procedure can involve several levels of government. For instance, up to last year, the proposed fares of RATB were submitted to the City Council of Bucharest. After approval, they were submitted to the National Concurrence Authority. The underground operator Metrorex established their own fare level as well, based on the cost specific elements. The proposal for tariffs changes was submitted to the Ministry of Transportation Board. After the approval, the proposal was submitted to the Government and to the Ministry of Finances.
- In Dublin, cash fares are controlled by the Government.
- In Brussels, tariffs must be approved by the regional government.
- Translink is largely autonomous from government in setting fares. However, proposed fare increases are included in the annual corporate plan which has to be agreed by the Department for Regional Development (DRD), so there is some degree of oversight.

We have just one specific example of a network that leaves fares (within one mode only) unregulated. Indeed, *bus* operators<sup>3</sup> in the Merseyside area plan their own routes and determine their own fares. There is no intervention on commercial fares and the PTA/E has no influence. Although the PTA/E can request deviations from commercial bus routes, operators would require compensation (‘de minimis’ payment). However, the authority has its own fare scales for supported (socially necessary) services.

<sup>2</sup> This is confirmed by the analysis of the Integration Indicators, although we lack detailed information on the cities that participated in other Working Groups.

<sup>3</sup> See above for the details with respect to the rail tickets.

#### 4.2.2. Objectives of the fare policy

The objectives of the fare policy are *mostly stated in vague terms* ('increase market share for Public Transport', 'preserve balance revenues/costs', 'ability to remain profitable', 'satisfy social obligation'). A corollary of this fuzziness is a lack of clarity on how to manage trade-offs between conflicting objectives.

However, in Germany, it is official policy that public transport is both an economic service *and* a service of general interest. Thus, while public funds compensate (amongst others) free-of-charge service for disabled people and concessionary fares for school children, public transport operators have to act as economic entities and have to optimally use the willingness to pay of all target groups and increase their revenue by increasing the number of trips paid for.

In Northern Ireland, there has been an explicit move from focusing on revenue to patronage as the primary policy goal.

#### 4.2.3. Integration

With respect to *fare integration*, we also observe a wide diversity of approaches:

- In Brussels, there is full integration across modes and operators. Moreover, specific tickets allow the combination of travel within the Brussels local network with the national rail network.
- In Bucharest, there is a gradual move towards full integration between RATB and the metro. During the first stage of the fare integration, each of the two operators will keep their own fare structure, but at the same time an offer for a common ticket and season ticket will be available for those who use both public transport systems (surface and underground). After the experimental stage, the offer will extend for all public transport means and will contain all the fare ranges.
- In Merseyside only prepaid tickets (1 day or more) are integrated, while operator tickets are valid only on their services. Thus, prepaid tickets only fall within the category of 'block exemptions' from the Competition Act.
- In Germany, most organising authorities have integrated fares and single tickets for all modes of public transport. In the Stuttgart region, for instance, several, even multi-modal, changes of service are possible at no extra charge (transfer tickets) and the number of changes on a multi-leg journey has no influence on the fare.

However, it is felt that there are too many different systems. Several operators and authorities plan a step-by-step introduction of integrated ticketing during the next years. The objective is to realise the pan-German integrated electronic fare management based on the 'VDV Kernapplikation' (Core-specification), common interfaces, data- and organisation standard. The above authorities (VRR, VRS, VVO, BVG, and RMV) will issue their annual and monthly passes as chipcards.

The following advantages of integration have been discussed:

- It leads to a reduction of travel expenses.
- Without integration, passengers lose time buying tickets at interchange transport points if they have to combine several modes or operators.

Besides fare integration, *physical integration* of the networks can also play a role. For instance, in Bucharest, some areas of the city are not covered by surface transport. However, other areas benefit

of both underground and the surface transport. The integration will allow a reorganisation of the surface transport for a better coverage of the city knowing the real passengers demand (based on the daily statistics).

Despite this *widespread move to further integration*, there also exist *some obstacles* to full integration, such as:

- Fare integration comes at a cost and who pays for this is a question that must be resolved. Options include an added subsidy or higher ticket prices for customers.
- Physical barriers can also exist. For example: how can a customer who pays cash on one bus use the ticket for travel on a second or subsequent bus or rail trip when his ticket cannot be read by magnetic readers?
- Due to differing fare structure policy in the three separate companies, there is little real integration in Northern Ireland at present. Notwithstanding these obstacles, Translink plans to achieve full integration within a few years.
- Because of UK competition law, there is no fare integration whatsoever on *single* tickets between operators in the Merseyside.

#### 4.2.4. Fare structure

There are almost *as many fare systems as networks*:

- Most German networks use zonal systems.
- Because of the short distance in its system, Brussels uses a flat fare, which is however limited in time.
- In Bucharest, there are no zones.
- In Dublin, cash fares and some prepaid multijourney tickets are paid by distance travelled, calculated using stages.

Of course, because of its very specific regulatory context, in the Merseyside area, all bus operators have their own system. In the case of rail, fares are based on distance but there is a move to a zones based system. Prepaid tickets are all based on a zonal system.

However, even in the case of an integrated, publicly owned company as Translink, we see that the fare structure depends significantly on the operator:

- Ulsterbus has a strict mileage, taper-based fares policy, with one exception, applied throughout its services in Northern Ireland. The one exception is that, on the periphery of Belfast, some minor adjustments have been made to the fares policy to ensure a maintained consistency with Metro fares for the same journey.
- Metro has a “flat fare” structure, i.e. it is not essentially distance related, with 3 key fare zones in the Belfast area.
- NI Railways operate a fares structure that differs by line and is dictated by commercial objectives, depending on the market conditions for each line.

A noteworthy point about the fare system in Dublin is that single tickets purchased on bus must be of the exact amount as change is not given. Notes are not accepted and drivers do not handle cash. This is as much a safety issue as a speed of boarding issue.

The most important worry for the STIB is the preferential tariffs imposed by the government. Indeed, the regional government has very limited revenues. Therefore, subsidies allocated to preferential tariffs are not available for other purposes. Currently, the categories for preferential tariffs are based on age, rather than on the real social condition. Moreover, the operator is losing its capacity to create a link, a constructive exchange with its client and its control over its own revenues. There is also a risk of attracting people that do not really need public transport

#### 4.2.5. Smart cards

There is a *rather general tendency to move to the introduction of smart cards*. For instance:

- Contactless smart cards will be introduced in Bucharest.
- The Dublin Bus fleet has recently been equipped to read smart cards. Magnetic cards have been in use since the late 1990s. However, Dublin Bus is cautious of introducing Smart Card 'check out' technology until the technology is proven in a bus context.
- In the Translink network, there is extensive use of smart cards (for concession fares, bus multi-journey cards and bus weekly and monthly travel cards). Rolling weekly and monthly rail cards may be introduced. Other types of smart cards will be developed over the next few years. Translink is also looking at the possibility of introducing a stored value card for bus and rail travel.

The following *advantages* of smart cards have been discussed (the specific Dutch experience was the subject of the site visit and is discussed in more detail below):

- They offer a possible solution to the problem of revenue allocation between different operators:

For instance, in Stuttgart, the revenues are shared between SSB, DB (German Rail) and the Greater Stuttgart Region. The Greater Stuttgart Region guarantees a certain amount of fare revenue to all other operators involved in the integrated system. The shares for SSB and DB were based on their revenues before the integration of the regional bus system. Today the regional bus operators receive around 20% of the farebox revenue. This implies that there is an important incentive for SSB and DB to grow the market.

In Brussels and Merseyside, revenues are shared according to the results of surveys.

- They offer an important input to management information (this is the most important motivation in Brussels).
- They facilitate the fight against fare dodging. Because they eliminate open access, they also contribute to security.
- In the distant future, smartcards could also be used for shopping, parking, etc.
- It allows for a differentiated fare policy, who could take into account elements such as:
  - Charging more for rush hours
  - Modalities: charge more for 'fast' than for 'slow' services
  - Charging more for areas with heavy traffic congestion

In Germany and in the UK, there is a discussion on the introduction of a nationwide system. A possible disadvantage is the high investment cost.

### 4.3. Summary of Working Group discussions

The following points were proposed as practices that would have the largest impact on improving the local situation:

- *Fare ticketing integration and management information.* Several participants point out that integration can go far beyond public transportation (intermodal integration, cheap flights, smart cards for football, to pay for lunch). According to the participant from Stuttgart, the basic tension with integration is to realise user-friendly fares and to minimise public subsidies at the same time. The participant from Belfast raises the question how to distribute revenues if there are several companies.
- The customer friendliness of flat fares versus distance based fares; and of fares based on zones rather real distance travelled.
- How to ‘sell’ changes politically?

It is emphasised by some participants that one cannot really understand what is going on without knowing the regulatory framework. For instance, bus operators might not wish for the integration of services with rail, while there are regulatory regimes where the bus services are obliged to ‘feed’ the railway system.

### 4.4. Identified good practices outside the group

On the issue of fare integration, the UITP expert has identified the following reports and/or research papers:

1. In a recent EU commissioned study on intermodal passenger transport<sup>4</sup>, a separate section has been dedicated to fare integration. The study covers both the current situation in Europe and recommendations for future improvements.

Although the focus is on inter-urban/long-distance travel, there are several points that could be useful for urban transport as well.

Report 1 analyses the key issues. It discusses several systems for integrated ticketing as they existed at the time of the study:

- The “Strippenkaart” system
- The NRW Plus Ticket used in North Rhine-Westphalia.
- The Bremer Karte Plus

The study emphasises how smartcards can provide a solution to the problem of revenue allocation amongst different operators. However, it also looks at the failure of the Swiss attempt to have an integrated, multimodal ticketing system with a contact-less smart card (‘Easyrider’).

It also pays attention to other implementation problems such as the problem of co-operation between subsidised and commercial transport, anti-monopoly laws and competition between operators.

Report 2 looks in detail in the policies, frameworks and practices in 28 European countries and

<sup>4</sup> [http://europa.eu.int/comm/transport/intermodality/passenger/studies\\_en.htm](http://europa.eu.int/comm/transport/intermodality/passenger/studies_en.htm)

Japan. The issue of ticketing is tackled in Section 2.7 (pp. 55 to 67). The report emphasises the role played by key players (such as governments) in pushing the introduction of the system and by data sharing in competitive environments.

Report 3, consists of a list of recommendations. It should be noted that, amongst the 'core measures', 'co-operation among operators in a competitive environment' is listed first. However, the interest of this particular report is limited compared to the first two.

2. A study by Paul Hodson (European Commission, DGTREN) covers the relationship between the institutional context and urban public transport pricing<sup>5</sup>. His data search was conducted between April and August 2004, and can thus be considered to be fairly up-to-date. For our purposes, the most interesting aspect of the study is that he has calculated an 'integration score', and shown how this score is affected by factors such as competition, ownership and responsibility for setting fares.
3. A very recent (2004) study on integrated ticketing performed on behalf of the Scottish Executive<sup>6</sup> emphasises the advantages of smartcards: facilitating revenue distribution; enabling the collection of more detailed passenger data to assist in public transport planning; and opening up a broad range of applications to the passenger, not confined to transport.

The report identifies the following range of potential barriers to the success of future integrated ticketing schemes:

- Allocating revenue in a manner that is perceived as fair. Smartcards may help in the future.
  - Office of Fair Trading (OFT) regulations are an important perceived barrier but in practice, if the OFT is consulted at the set-up phase of any scheme, most concerns about issues of legality are in fact able to be resolved.
  - The necessity for multi-operator tickets to cost more than single-operator tickets may hamper the success of such schemes if passengers are unwilling to pay such a premium. This premium needs to be set as low as possible.
  - The cost of administration and marketing may be a barrier to scheme success. It may be necessary to subsidise these in the early stages of new schemes.
  - Existing schemes have encountered some difficulties in securing the participation of rail-operators. It may be necessary to use legislation or contractual arrangement to require rail-operators to participate in such schemes.
4. The Transportation Research Board has published a Scoping Study for Regional Fare Management Programs.<sup>7</sup> This study's 'straw system' proposal reflects a multi-phased approach to pursuing regional fare collection.

It recommends that such programs be governed through the resources of a broad-based regional agency, either newly established specifically for the task of crafting interagency fare programs or already existing for the purpose of crafting regional transportation efforts.

The 'straw system' also recommends creation of other appropriate bodies to assume responsibility for core policy, project, and operating management tasks. It further suggests

<sup>5</sup> <http://www.stm.info/transportsejc2004/presentations/pdf/hodson-pres.pdf>

<sup>6</sup> <http://www.scotland.gov.uk/library5/transport/itis-00.asp>

<sup>7</sup> [http://trb.org/news/blurp\\_detail.asp?id=1140](http://trb.org/news/blurp_detail.asp?id=1140)

preliminary implementation of the regional fare management program through reliance on modified legacy technologies.

5. The EU-commissioned study ‘Integration and Regulatory Structures in Public Transport’ led by NEA<sup>8</sup> addressed the following points in the field of public transport: i) The features of integrated transport services, the barriers to implement integration, the possible incentives for operators (both public and private owned) to participate fully in arrangements for integrated services, the possible implications that integration arrangements could have on the commercial decisions of operators and the possible regulatory powers held by the relevant authorities to address these issues. ii) The features of integrated transport services (numbers of operators present) and the impact of the different aspects of integration on patronage and customer satisfaction.
6. A paper by David Hensher<sup>9</sup>, ‘Contract areas and service quality issues in public transit provision: some thoughts on the European and Australian context’ challenges one of the basic assumptions of the working group (and also one of the conclusions of the NEA report), as it claims that *the benefits of integration are minimal* compared to the cost of the reduction in competition in an integrated system.

On the more general issue of inventive fare policies, such as price differentiation, there is an excellent survey by Nils Fearnley<sup>10</sup>. This paper provides both a rigorous theoretical background and examples from all over the world (Sweden, the UK, the US, Singapore, Hong Kong and Norway).

All these studies were submitted to the members of the working group for reflection and discussion.

#### **4.5. Site visit: The Dutch “smart card” trial**

This section summarises the information that was provided by the Transport Research Centre of the Dutch Ministry of Transport on the one hand and during the field visit on the other hand.

##### 4.5.1. The National Ticketing System

In the Netherlands, a nationwide fully-integrated fares/ticketing system with strip ticket was introduced in January 1980.

Before this, all operators had their own ticket system. The introduction of the National Ticketing System in 1980 implied the use of one ticket for all public transport companies (except for the train services) and allowed thus a national fare system. In order to allow the introduction of this system, all operators were nationalised in the late 1970s.

The most important features of the “Strippenkaart” were:

- Fare system based on Zones (whereas before, flat rates were used)
- One ‘strip’ per trip and one per zone
- Reduced fare for youngsters and the elderly
- National redistribution of sales

<sup>8</sup> <http://www.eltis.org/docs/INTEGRATION.pdf>

<sup>9</sup> [http://www.its.usyd.edu.au/bus\\_and\\_coach\\_themes/Contract\\_AreasMarchDH031.pdf](http://www.its.usyd.edu.au/bus_and_coach_themes/Contract_AreasMarchDH031.pdf)

<sup>10</sup> [http://www.aetransport.org/lc\\_files/files/LPT-H-03%20Fearnley.pdf](http://www.aetransport.org/lc_files/files/LPT-H-03%20Fearnley.pdf)

This system has been the subject of the WROOV research programme 1984-2005. The most important disadvantages of the “Strippenkaart” were:

- The lack of user friendliness of the zone system
- Lack of management information: it was not possible to track where and how people used their strip tickets. Therefore, once every 2 to 3 years, an extensive questionnaire survey had to be conducted in an attempt to determine passenger ridership. The WROOV results were used to allocate the revenues obtained from strip and season ticket sales to the different authorities and operators. As all deficits were covered by the national government anyway, there was no strong incentive to tackle this point.

Of course, all the advantages of smart cards we have mentioned above were also taken into consideration.

In 1992, the Brokx Commission recommended that the problem of obtaining reliable and up-to-date usage information with the introduction of a chip card system be tackled. In 1998, all the major operators agreed to follow a co-ordinated approach and signed a declaration of intent to participate in the development of such a system. The smartcard has been on trial in the Rotterdam Region since 2005.

#### 4.5.2. The Smartcard system

The actors involved in the smartcard project are:

- Municipal Authority of Rotterdam (dS+V)
- Stadsregio Rotterdam (SR)
- Rotterdam Electric Tram (RET)
- Connexxion (regional bus company)
- Mobis (GVB, RET, HTM, Connexxion, NS)

In 2005, the Smartcard (‘OV-Chipkaart’) was introduced. The main features of this new system are:

- Easy to use (check in – check out – automatic recharging)
- Controlled access
- Fare system based on travelled distance
- Detailed management information
- Opportunities for fare policy

In order to make sure that people do indeed check out, a ‘deposit-refund system’ is used. When a customer checks in, his card is debited with the highest possible fare. When the customer checks out, there is an automatic refund of the excess amount paid while checking in.<sup>11</sup>

It is not expected that this system will slow down traffic. In the case of buses, the time lost by checking out will be more than compensated by the time won with the automatic check-in.

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<sup>11</sup> It should be noted that, in the particular case of busses, this creates an incentive for cheating, by checking out before actually leaving the bus.

It is required by law that the system can be used nationwide. The card readers are part of the operating costs for the operator.

The new system does not imply drastic changes in fare policy. Its most important elements are:

- Starting fee (€0.70) plus km-fare (€0.11)
- Reduced fare for youngsters and the elderly (34%) – no government subsidy compensates for this.
- New arrangements for heavy users; season tickets will remain.

Free transport for special groups is under discussion.

The implementation of the new system is scheduled for 2005-2007. During the transition period, both the Strippenkaart and the chip card will co-exist. Fares have been set such that there is no incentive for the customer to swap back and forth between the two fare systems in order to minimise payments.

There are disposable smartcards for occasional consumers like tourists.

## 5. FUNDING OF PUBLIC TRANSPORT

### 5.1. Introduction

During the launch workshop, a number of ideas were put forward including; comparisons of revenue sources, potential uses of road-user charging revenue, compensation for concessionary fares and value capture from property. These could be compared by collecting information on the range of revenue sources used by public transport operators, as well as identifying good practices through case studies.

### 5.2. Identified good practices outside the group

Before the meeting, the UITP expert sent an annotated list of references to survey documents that are freely available on-line. These references were meant to serve as an inspiration for the round-table discussion.

#### 5.2.1. Existing UITP documents

The Final report of the International Metropolitan Railways Committee (Finance & Commerce Sub-Committee) on Secondary Income (1999) mainly tackled issues related to advertising, property and retailing activities.

The June 2003 issue of Public Transport International contains several articles specifically dedicated to alternatives ways of funding public transport.

#### 5.2.2. World Bank

The World Bank publication 'Cities on the Move' contains a Chapter on Urban Transport Pricing and Finance.

<http://siteresources.worldbank.org/INTURBANTRANSPORT/Resources/chapter10.pdf>

It discusses diverse points such as congestion pricing (with an inclusion of a description of the different options), fuel taxes, axle based taxes, parking charges, the impacts of public transport on road congestion, recovering of fixed costs through cost-subsidisation, coordination of supply within public transport, equity issues, peak load pricing, fare structure, the financing of infrastructure (including land value capture, employers' contribution, concessions), how to best arrange financial transfers between different levels of government, creation of urban transport funds.

In its paper 'Where Do We Stand on Transport Infrastructure Deregulation and Public-Private Partnership?',<sup>12</sup> the World Bank discusses the different options for private sector participation in transport infrastructure (asset sales, Greenfield projects, service contracts for maintenance, franchises). It discusses issues such as renegotiation of contracts, efficiency measurements, price regulation, quality regulation, access regulation, rebundling, and yardstick competition.

Finally, there is also an older, similar document on the same subject (Policy Research Working Paper Series 2248 'Privatisation and Regulation of Transport Infrastructure in the 1990s'). It does contain some interesting points on the design of regulatory regimes.

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<sup>12</sup> World Bank Policy Research Working Paper 3356, July 2004

### 5.2.3. Victoria Transport Policy Institute

The Victoria Transport Policy Institute (VTI) maintains an on-line encyclopaedia on Transport Demand Management, which is constantly updated. It contains an excellent survey on funding<sup>13</sup>. This survey discusses parking pricing, parking taxes, road pricing, fuel taxes, transportation impact fees, and special property taxes, etc. It also maintains an annotated bibliography on financing transit systems through value capture<sup>14</sup>, on road pricing revenue use<sup>15</sup>, and on road pricing in general<sup>16</sup>.

### 5.2.4. European surveys

EMTA has collaborated to an ATM and INECO survey of public transport finance in metropolitan areas in Europe<sup>17</sup>.

The report considers subsidies, compensations for reduced fares, tax exemptions, employers' contributions, earmarked taxes levied on transport activities (carbon taxes, fines for traffic offences, vehicle taxes etc). It also describes the regulatory context (including the type of concession contracts) to which the operators are subjected. It distinguishes clearly between financing exploitation and investment (with a further distinction between infrastructure and rolling stock). Finally, in its policy recommendations, it suggests that the cost of investment should be passed on to the indirect beneficiaries, non-users of the transport system (through the sale of urban promotion rights, sales of annex lands, taxes for direct connection, etc).

### 5.2.5. Studies on Public-Private Partnerships

Following the discussion the group had in Berlin, the UITP expert also forwarded some more information on Private Public Partnerships. The paper that deals most directly with transport infrastructure issues is: <http://www.cemt.org/online/infrastr03/Eibe.pdf>

It is also very down-to-earth and practical in its approach. The following paper provides an excellent survey of the economics of PPP:

<http://www.carleton.ca/economics/seminar%20papers/Ross02Dec2004.pdf>

The paper is not focused on transport issues, but it very well conceptualises all the main advantages and pitfalls of PPPs.

A very recent survey of the UK experience with Transport Infrastructure finance is: Olivier Debande, Private Financing of Transport Infrastructure. An Assessment of the UK Experience, Journal of Transport Economics and Policy, Volume 36, Part 3, September 2005, pp. 355-387.

The following paper considers alternative approaches to value-for-money test and discuss the main conceptual problems:

[http://www.eib.eu.int/Attachments/efs/eibpapers/y05n2v10/02\\_Grout.pdf](http://www.eib.eu.int/Attachments/efs/eibpapers/y05n2v10/02_Grout.pdf)

<sup>13</sup> <http://www.vtpi.org/tdm/tdm119.htm>

<sup>14</sup> <http://www.vtpi.org/smith.htm>

<sup>15</sup> <http://www.vtpi.org/revenue.pdf>

<sup>16</sup> <http://www.vtpi.org/tdm/tdm35.htm>

<sup>17</sup> [www.emta.com/fichiers\\_divers/Publications/FINANCIAL\\_SURVEY\\_ENG.doc](http://www.emta.com/fichiers_divers/Publications/FINANCIAL_SURVEY_ENG.doc)

The focus is not on the transport sector, but it does contain some discussion of transport infrastructure projects.

#### 5.2.6. Examples of innovative techniques

The following examples were given during the meeting by the representative of the Dutch Ministry of Transport:

- **Versement Transport** (France): The ‘Versement transport’ is a tax in French cities & regions, levied on employers in urban agglomeration with more than 9 employees. It ranges from 1% to 1.75% of the gross salary bill of the employer. It is used exclusively for public transport. A possible drawback is its effect on the location of firms. Moreover, the introduction of such a tax depends on the existence of an appropriate legislative framework.
- **Value Capturing & TOD**: ‘Value capturing’ is based on the concept of sharing planning gains. In the case of TOD (Transit Oriented Development), the planning authorities cooperate with the transit companies; developers look at the transport nodes. How it works, depends on potentials and expected growth. It relies heavily on the terms in the agreement.
- **Air right and profit sharing**: Several schemes are possible. For instance, in Hong Kong, the land is owned by the government and the government gives right of development on top of metro lines to the operator. This requires a specific legislative framework (separate ownership of land and air rights). This can take the form of a joint venture or a project partnership. The provision of facilities can also serve for reimbursement in kind.
- **Fuel tax, income tax, sale tax** (Austin, Texas): Fiscal measures (such as fuel, income or sales taxes) need government approval and must formally be incorporated into legislation. Taxes can either be dedicated to an ear-marked post or to a general fund.
- **Congestion charges** (London, Stockholm): Congestion charges are the result of a conscientious political choice and may require a champion. Public acceptance is a key problem and requires extensive public relations exercises (communication). A lot of thought must be given to the design of the scheme and enforcement measures. Transparency, accountability, fairness and equity are essential features. Decision rules must be designed for the allocation of risk and the sharing of revenues.

The following websites contain interesting information:

- <http://www.fhwa.dot.gov/policy/2002cpr/ch6c.htm>. Chapter 6 is dedicated to transit financing. A new up-date is expected in August 2006
- [http://www.fta.dot.gov/1263\\_ENG\\_HTML.htm](http://www.fta.dot.gov/1263_ENG_HTML.htm) (Innovative financing techniques)

### 5.3. Overview of Findings

#### 5.3.1. Overview Table

Table 5.1 has been derived from the integration indicators and therefore also covers cities from other working groups. It gives, for several possible funding sources, their relative percentage share within total revenues (with some rounding errors).

**Table 5.1: Integration Indicator data for the working group**

City	Fares	PSO compensation	Compensations for concessionary fares	Subsidies	Real estate operations	Advertising	Others
Paris	43	18	28			11	
Dublin	63	26	7			1	3
Sofia	61.2		34.1	4.7			
Preston	76	7	16			1	
Malmo	68	32					
Bucharest (metro)	26	65	4		2	3	
Bucharest (RATB)	32			67		1	
Northern Ireland	78.9	2.2	15.4	2.2	0.5	0.8	
London	82			9 <sup>18</sup>		4	5

### 5.3.2. Government Funding

In *all* the networks that were discussed, there are *public compensations for Public Service Obligations (PSO)* and *compensations for concessionary fares*.

A representative but non-exhaustive list of PSO is given by.<sup>19</sup>

- Peak hour services
- Fare controls
- Route ‘branches’
- Maintenance of timetables
- Schools

Generally speaking, the arrangements for PSO payments can be complex and even depend on the mode considered. For instance, each year, Translink receive a lump sum for ‘Public Service Obligation (PSO)’ payments to fund railway operations and a few million Euros for socially-necessary bus services. Thus, in Northern Ireland, the railways do receive compensation for PSO but the bus services do not. However, there is government funding for the renewal of the bus fleet and compensations for concessionary fares. Finally, the concept of route ‘socially necessary

<sup>18</sup> Taken from the congestion charging scheme.

<sup>19</sup> These are taken from Dublin.

payments' is slowly gaining accepted for non-commercial/non-profitable socially necessary services and some support has been paid by the Department for Regional Development in recent years.

In Germany, legally fixed sources (such as compensations for schoolchildren transport) are not considered to be subsidies. Similarly, in Northern Ireland, in the context of the bus companies, the term 'profitable' is the generally accepted term of passenger revenue over costs (i.e. there is no operational subsidy) but in the railway context the revenue contains an annual PSO (Public Service Obligation) payment.

*Of course, any quantitative international comparison must take into account that accounting definitions can vary across countries.*

*In some networks, public funding takes the form of capital grants.*

For instance, in Northern Ireland, government funds are received in a lump sum, staged over a period of time, e.g. for new train purchase and relaying of railway track and bus purchase. However, there is strict conditionality and criteria attached to all funds which are always for specific purposes, which are detailed in formal 'Letters-of Offer', and which cannot be changed i.e. no carte blanche funding. The DRD has also given significant grants in recent years for bus and train purchase as part of the public transport modernisation project.

*Payments can also be implicit, such as:*

- The fuel tax rebate in the United Kingdom and in Ireland
- Government guarantees for borrowing

Finally, we should be aware that *an ill-conceived conditionality in payments can lead to perverse incentives.*

For instance, the funding system in Germany allows for new investment but not for maintenance of infrastructures. Therefore, a frequent strategy is 'running down + complete reconstruction'. Indeed, only complete renewal (Grundsanierung) allows for funding (GVFG) and bank credits while maintenance (Unterhaltungsmaßnahmen) must be financed from the general budget. This system clearly does not provide incentives for minimisation of life cycle costs. This is now leading to a rocketing demand for infrastructure maintenance.

### 5.3.3. Earmarking of taxes

In the networks participating in the second meeting, there are *no examples of Public Transport funding by earmarked specific taxes*<sup>20</sup> (or only in minimal amounts such as fines for parking ticket fraud in the Merseyside).

With respect to earmarked local employers' contributions, such as the system that exists in France (see Section 5.2.6), there has been some discussion of this in Northern Ireland but there has been major resistance, given the level of taxes already levied on employers.

*Several participants in the meeting clearly expressed themselves in favor of such earmarking.* Whether or not earmarking taxes for specific expenditures is a good idea has been the subject of

<sup>20</sup> However, in the Merseyside, the government provides budgets that are earmarked for the rail services.

lively policy discussions in the past. It is therefore noteworthy that the *recent OECD and ECMT round table* on this issue has *not led to strong recommendations*. However, *the most important practical obstacles are of a legislative nature*: often, the necessary framework does not exist or even forbids earmarking.

It is worthwhile delving into the current policy discussion in Germany, which illustrates very well this constraints imposed by the legal and even constitutional framework of a country. Indeed, in Germany, earmarking is impossible due to the non affectation principle, which is written down in the constitution. In principle, the following taxes could be used for transport funding in Germany:

- National taxes (e.g. petrol tax, income tax, VAT)
- State taxes (e.g. land acquisition tax, car holdership tax)
- Community taxes (e.g. company tax (Gewerbsteuer), land owner tax)

A first possible option would be a public transport share of national taxes:

- **Petrol tax**: This would also provide a regulation effect by affecting the variable cost of driving.
- **Income tax**: Through its deduction elements for commuter and business travel and second homes, it leads to land use discrimination. The abolition of tax deductions will improve public transport affinity of land use.
- **Sales tax (V.A.T.)**. public transport tickets are subject to a reduced rate.

A second option would be to use some state taxes that could also be used for regulation:

- Grunderwerbsteuer: (land acquisition tax) there would be a land use regulation effect if changed from flat rate. It should be low for existing sites and high for new sites (Neuerschließungsabgabe)
- Kfz-Steuer (car holdership tax)

While these taxes are good for regulation, they are uncertain sources of funding for public transport allocation. Indeed, due to the non-affectation principle, spending depends on frequent budget decisions/priorities. Therefore, there is some discussion on the introduction of a 'public transport duty': this would not be a tax because it would be levied at municipal level. It could therefore be earmarked without violating the constitution if there is a direct counterpart in the form of a public service.

#### 5.3.4. Congestion charging

*Congestion charging is shown to have positive results* elsewhere (London, Stockholm). In both cases, the receipts of the scheme were earmarked for investment in transport – see Table 5.1 for the figures on London.

In Berlin, congestion charging has been the subject of repeated discussions. In 1990/1992, there was a general proposal on an 'Integriertes Fahr - und Parkzonenmodell Berlin' (3 cordons with fee and public transport ticket needed for car admission and/or parking) to relieve Berlin from noise and pollution. This was not continued after a change of government. A 2004 TELLUS study considered heavy duties vehicle road pricing in Berlin without particular focus on public transport financing. The main result of the study was that *transaction costs* (linked mainly to the monitoring of entering vehicles and to problems of data security) are at present *too high*.

At least one participant in the group thinks that the main benefits are not financial, but are related to a 'calmed' city centre environment. This *frees up movement of Public Transport* and leads to faster speeds and thus also to increased business. Therefore, there is a net financial and operating gain.

#### 5.3.5. Public Private Partnerships (PPP)

The *essential feature of a PPP project is the Life Cycle Approach*. For a project to fall under the header "PPP", it needs to include at least three items from the list below:

- Planning
- Construction / redevelopment / fabrication / installation
- Operation / maintenance
- Finance
- Exploitation / disposal

Practical examples are:

- Joint venture example of Görlitz (all public services operated by a joint company of the city and Veolia)
- Portsmouth highway management contract on road maintenance performance
- London underground PPP on infrastructure maintenance
- The Green Line of SMP Seattle; Design Build Operate Maintenance (DBOM) approach: combines final design, construction, operation and maintenance into a single contract
- Cross-Border-Leasing: German experience.

Some less conventional examples come from the Netherlands. The Province of North Holland paid an operator for an experiment to transfer people by free public transport instead of by car. Also, during road maintenance works in Amsterdam, the city worked jointly with offices in Amsterdam area: the workers obtained a free public transport pass paid by Rijkswaterstaat and offices in the area.

*PPP schemes are not widely used amongst the working group participants.*

The most important expectations with respect to PPP are:

- Efficiency (private services are supposed to be 15-20 % cheaper, quicker, better quality, reliable)
- Transparency
- Avoids political dependence/ annual budgeting. Therefore, big investment projects become possible
- Potential of risk transfers, integration of risks + targets in total calculation

Important disadvantages are:

- Higher cost of borrowing: the public sector can borrow more cheaply; the private sector expects a return of 10%
- Costly preparation and comprehensive contracts.
- Binding long run contracts can become disastrous. This is particularly (but not uniquely) the case with shrinking cities in Eastern Germany who are trying to cut back on their infrastructure investment.

- PPP only presents significant potential for very large schemes.

#### 5.3.6. Land value capture:

‘Value capture’ can be defined as follows<sup>21</sup>:

Value capture refers to the process by which all or a portion of increments in land value attributed to ‘community interventions’ rather than landowner actions are programmed in advance and recouped by the public sector. These ‘unearned increments’ may be captured indirectly through their conversion into public revenues as taxes, fees, exactions or other fiscal means, or directly through on-site improvements to benefit the community at large.

As investment in public transport can have a positive impact on land values, value capture is often quoted as possible ‘alternative’ source of public transport funding.

*In the UK, land value capture from specific developments is made possible through so-called Section 106 agreements: Section 106 of the Town & Country Planning Act 1990 provides for agreements that a developer will pay a sum of money as part of planning conditions (it is not strictly a planning gain supplement). However, it is the planning authority (e.g. Liverpool City Council) and not the PTA/E who has the statutory right to this. There is also a review of ‘Planning Gain Supplement’ going on at National level. Currently, it is not known yet how it will be implemented – some of it would go to the regional level.*

Translink also believe that there is considerable potential for land value capture in Northern Ireland in the context of ‘Developers’ Contributions’ but that opportunities have been missed in the past.

For the funding of an extension to the light rail line in south County Dublin, a development levy on new residential and commercial developments was used which funded almost 50% of the extension of the system (double length, 11 stations).

We have *no other examples* within the group of land value capture, which is probably mainly due to a *lack of appropriate legislation*.

#### 5.3.7. Cross-subsidisation

In Germany, there is a system of cross-payments which allows for tax savings within integrated municipal companies.

In Northern Ireland, the cross-subsidy is generally within the Metro area as a whole and within the separate Ulsterbus districts. In the Ulsterbus districts, each district tries to be in profit with the cross-subsidy being to services internal to that district. However, many services cross different districts but revenue/costs are attributed to one district. In addition the express services are all in profit and that can be used to support a district that is encountering a loss.

#### 5.3.8. Borrowing

The possibilities for the use of debt finance turn out to be *very limited*.

<sup>21</sup> See for instance Wikipedia.

For the rehabilitation of the Bucharest urban transport, a financing contract was signed between the Romanian Government, the European Investment Bank and RATB. This loan is guaranteed by the Government.

Translink does not use bank loans / bond issues, but they do have an overdraft facility with the Department of Regional Development (DRD). It is not secured by a lien on revenues/tax sources, but it is guaranteed by the government. However, the DRD provides a 'temporary loan' facility for large purchases of buses.

In Merseyside, the following sources for debt finance are available:

- Public works loans board (cheaper than commercial)
- some local authorities issue bonds
- Prudential borrowing: allows to borrow against future income streams (except the council tax), such as tolls and bus fare incomes. As it is funded separately, it has no impact on the council tax.
- Debt guaranteed by government e.g. the debt of the former Merseyside County Council.

### 5.3.9. Miscellaneous

*Advertising* is used quite universally as alternative revenue source. However, from Table 5.1, it is clear that its relative importance is small, with the notable exception of Paris.

Public Transport operators also provide a wide array of services.

For instance, in Dublin there are also funding streams arising from public transport infrastructure:

- Use of buildings to host telecommunication masts
- Use of railway track-beds to install fibre optic or high speed voice and data cables
- Use of Over-Head Lines (OHLs) to carry voice and data signals

The transport company may avail of a telecommunication upgrade in lieu of revenue stream.

Other examples are:

- Cars service (mechanic, electric, tin, dye work and vulcanisation) (Bucharest)
- Vehicle renting (Bucharest)
- Printing works (Bucharest)
- Private hire of buses (Dublin)
- Sales and lease-back of rolling stock

What evidence there is, suggests that the relative importance of these sources is small.

With respect to car parking, it should be mentioned that the Translink operating companies are owned by the Northern Ireland Transport Holding Company which earns considerable income from two high-rise car parking facilities and land rental. However, this income goes to 'central government' and does not directly fund public transport services.

In the case of Merseyside, there are two funding sources that are specific to the region's economic situation:

- European Regional Development Fund (ERDF): Merseyside is an Objective 1 region
- Single Regeneration Budget (UK based budget for deprived areas)

Finally, in Athens, the following alternative sources of funding are also considered:

- Banks need to present their corporate structure as a social citizen (high profits)
- Mobile telephony operators.
- The tourist industry for achieving higher numbers of visitors due to the public transport services.

#### **5.4. Site visit**

The first part of the field visit consisted of presentations on ‘Alternative Means of Public Transport Financing in Germany’ by Mr Tilman Bracher and on ‘Benchmarking of Transport Services’ by Dr Ralf Resch. Both presentations can be found in the annex to this report. The most relevant insights have been incorporated in the text above.

On Tuesday, 14<sup>th</sup> March, the Working Group moved to the BahnTower, the Headquarters of the Deutsche Bahn AG, situated at the Potsdamer Platz.

Mrs Seidenfaden of Deutsche Bahn AG made a presentation on the ‘Traffic concept of the Deutsche Bahn AG for Berlin: Presentation of the new central station’. This presentation can be found in Annex A4.1. The group then walked from the Potsdamer Platz to the Pariser Platz, Unter den Linden 80.

Mr. Kutscher of BVG (Berlin Public Transport Operator) hosted the site visit to U55, the new underground project running from the Brandenburger Tor to the Hauptbahnhof Lehrter Bahnhof (new central station). More information on this project can be found at [http://www.u55.info/en\\_u55/start.htm](http://www.u55.info/en_u55/start.htm). The group was given the opportunity to visit the semi-finished part (from the Reichstag to the Lehrter Bahnhof).

## 6. COST REDUCTION STRATEGIES

### 6.1. Introduction

During the launch workshop of year three, it was decided to look specifically at the cost of contracts.

During the 2<sup>nd</sup> meeting, the issue of the production cost of public transport companies was raised during the guest presentations by Mr Tilman Bracher and Dr Ralf Resch. Mr Bracher also mentioned the lack of management knowledge within some organising authorities as an important cost driver: the authority in charge is sometimes forced to ‘order’ public transport without appropriate knowledge, staff and budget. It was therefore decided to adopt a ‘two-track’ approach for this meeting and to identify good practices related to (1) cost reduction by operators and (2) incentive provision for cost reduction in contracts between organising authorities and operators.

This section gives an overview of the findings, based on the presentations and the discussions. Due to the rather small number of participants in the meeting, there was very little room for comparisons.

### 6.2. Identified good practices outside the group

Before the meeting, the UITP expert drew the attention of the members to a number of existing studies. For the use of the operators, reference was given to a report by the management consultant McKinsey.<sup>22</sup> It was thought that this article offered some good food for thought as the authors of the study claim that operating costs can fall by as much as 15 to 20 percent through:

- **Fleet maintenance.** This can help reduce service disruptions (which can in turn lead to a loss of patronage) and the cost of reserve staff and vehicles. It can be achieved mainly through an integrated approach to operations and maintenance and through thorough data mining.
- **Labour management.** There, the main source of improvements lies in driver utilisation: better overtime management, real-time analysis of passenger demand, cross-training, changing the organisation of shifts.
- **Fare collection.** The introduction of smart cards and, as a second-best solution, self-validation systems can reduce the costs linked to fare collection significantly.

The UITP expert also referred to a document which specifically tackled the issue of cost reduction in metro operations<sup>23</sup>. For the use of the organising authorities, reference was given to some recent studies that have been performed on the impact of different regulatory regimes on the technical efficiency of the operators. The most comprehensive document was a 2000 paper by De Borger et.al<sup>24</sup>. As stated in the abstract of this paper, it ‘provides a comprehensive survey of the literature on production and cost frontiers for public transport operators, and it evaluates the contributions of frontier analysis to our understanding of the performance of the public transport sector’. In this paper, it is shown that ‘the organisation of the market, contract design, the degree and nature of the

<sup>22</sup> Jörss, Powell and Wolff, A streetcar named productivity, <http://www.mckinseyquarterly.com/>. The study is freely available for registered users.

<sup>23</sup> [http://www.carfree.com/fix\\_trans.html](http://www.carfree.com/fix_trans.html)

<sup>24</sup> De Borger, Kerstens, and Costa (2000), Public transit performance: What do we learn from frontier studies, Univeristy of Antwerp, Faculty of Applied Economics, Working Paper 2000019 <http://ideas.repec.org/p/ant/wpaper/2000019.html>

regulatory regime, and the characteristics of the network being served are all important determinants of efficiency.’

Besides this survey document, shorter papers that focused on some recent findings linked to developments in specific countries were also referred to.

A first paper discusses the recent trend in Norway to move from competitive tendering to performance contracts.<sup>25</sup> Two documents were also submitted that discussed recent developments in France. The first paper (by Roy and Yvrande-Billon<sup>26</sup>) ‘investigates the impact of ownership structure and contractual choices on technical efficiency in the French urban transport sector.’ The second paper (by Yvrande-Billon<sup>27</sup>) ‘provides theoretical arguments supported by empirical evidences explaining why the compulsory use of competitive tendering in this sector did not translate into better performance, the main reasons being the lack of expertise of local authorities and the existence of serious operators’ collusive practices.’

### 6.3. Overview of findings

#### 6.3.1. Operator perspective

Operators emphasise the importance of an efficient fleet maintenance policy, of active human resources management and of reducing the costs linked to fare collection. Monitoring also turns out to be a crucial factor. However, some factors that influence cost efficiency are at least partially outside the scope of the operator and must also be tackled by the authority, for example; traffic conditions and fare policy.

Private sector participation is accepted as beneficial and can be used in non-core areas such as cleaning or subcontracted services (school buses for instance).

In the field of engineering, the following points are noteworthy:

- Keeping the average fleet age low has important cost and reliability implications.
- The warranty deals are an important aspect of the fleet purchase policy. A strict follow up of parts warranty is suggested.

Several other factors (introducing Easy Clean moquette and panels, multi tasking across grades and craftworkers reorganisation) can also contribute to cost savings.

In the field of operations, the following actions are suggested:

- Strict performance monitoring (route and line examinations, running time surveys)
- Requiring developer to have a public transport plan in place for large projects
- Garage management reorganisation
- Company supervisory restructuring: Automated Vehicle Location (AVL) allows further refinement and would allow an important staff reduction in this area

3 <sup>25</sup> Norheim, B. (2000), Development of performance contracts in Norway, Nordic Road and Transport Research <http://www.vti.se/nordic/2-00mapp/noart2.htm>

<sup>26</sup> Roy and Yvrande-Billon, Ownership, Contractual Practices and Technical Efficiency: The Case of Urban Public Transport in France, [http://atom.univ-paris1.fr/documents/JTEP\\_11\\_07\\_2005.pdf](http://atom.univ-paris1.fr/documents/JTEP_11_07_2005.pdf)

<sup>27</sup> Yvrande-Billon, The Attribution Process of Delegation Contracts in the French Urban Transport Sector: Why is Competitive Tendering a Myth? <http://idei.fr/doc/conf/veol/yvrande.pdf>

- Multiple CCTV gives 100% recording
- Good management of accident prevention and litigation claims.

Other areas to improve operational efficiency include the following:

- Introduce seasonal schedules to reflect changing speeds and demand (especially for summer and the Christmas period)
- Traffic congestion leads to major inefficiencies. The introduction of bus rapid transit corridors will improve bus speeds.
- Faster passenger boarding could be made possible with changes in the ticketing policy, the generalisation of off bus sales and fare integration across public transport modes.

Example: Cost savings from the implementation of new working agreements for Translink staff

The working agreements with bus drivers and bus engineering staff were several decades old and very inflexible. A 'Change Programme' was developed by management and a 'hearts-and-mind' process persuaded the bus drivers to accept the necessity for change. The implementation of the new Metro bus system was only possible when the bus drivers voted to accept the new agreement.

In summary the main economic benefits from the new agreement were derived from the following:

- Overtime rates consolidated
- Saturday/Sunday payment consolidated
- Minimum week reduced from 38 hours to 36 hours
- Overtime call out reduced from 3 hours to 2 hours
- Reduction in guaranteed payment on a rest day to 5 hours
- Guaranteed week introduced (36 hours) rather than guaranteed day (7.6 hours)
- Scheduled day can range from 6 – 9.5 hours in a 5 day week and 7 -10.5 hours in a 4 day week
- Allowances - clock on reduced by 5 minutes each day
- Major 'spreadover' payments change - now start at 10.5 hours – previously 9.5 hours (reduction in hours payable for each subsequent band)
- Greater use of standby drivers
- Introduction of part-time and term-time only drivers
- Reduced payment for new starters
- Reduction in payment for meal breaks

A new agreement with bus engineering staff has almost been completed. The change programme is expected to deliver elements of efficiency that include:

1. The adoption of night shifts will allow the repair of defects that occur after the normal day shift. This will facilitate a reduction in the number of vehicles required to service the fleet Peak Vehicle Requirement.
2. The erosion of the trade demarcation issues to allow a degree of flexibility will ensure that job efficiency increases. This will occur because employees will be able to expedite work that was previously outside their trade, in order to progress their own tasks.
3. The adoption of various shift patterns better reflects the operational need and therefore facilitates overall business improvement opportunities.
4. The adoption shifts provides a guaranteed early day cover and directly reduces the requirement for overtime.

The most important lesson is **the need for benchmarking** against other cities.

### 6.3.2. Authority perspective

As Merseytravel was the only authority attending the meeting, care must again be used in generalising the findings below. Fortunately, the network of Merseytravel is covered both by regulated and unregulated modes, which allows for some comparative analysis.

## Buses

80% of the bus network is commercial: Merseytravel has no contract for these services - safety is a matter for the Traffic Commissioner. For the 20% subsidised 'socially necessary' routes, there are contracts with the operators. For the commercial network, Merseyside counts on competitive pressures as an incentive to drive down costs. However, in practice, competition tends to be rather limited due to the market conditions and high barriers to entry.

In the case of the subsidised services, the contracts can provide quality incentives and leave revenue risks to operator. To be more specific, the subsidised bus contracts specify:

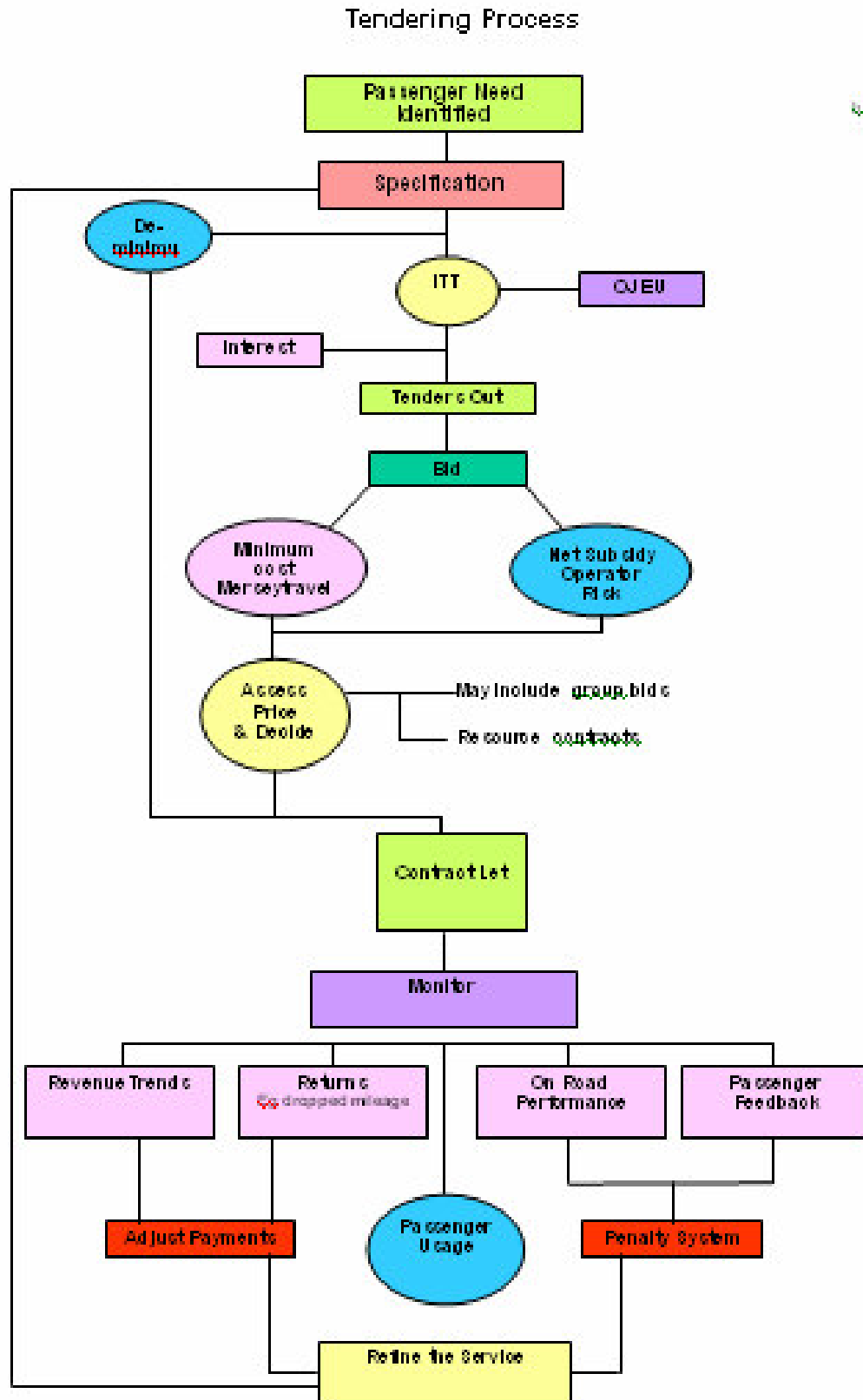
- Route
- Timing, 1st/last bus
- Bus capacity e.g. midi, single/double-decker
- Low floor/engine specification, e.g. Euro II
- Fares to be used
- Performance e.g. punctuality/reliability targets
- Contract length
- Special conditions
- Ticket equipment
- Contract period (maximum 5 years)

The tendering procedure is described in Figure 5.1<sup>28</sup>.

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<sup>28</sup> ITT stands for Invitation to Tenders, OJEU for Official Journal of the European Union.

Figure 5.1: The Tendering Process



The following comments can be added to this Figure:

- The ‘de minimis’ procedure is used if, for instance, there is a small deviation required from the commercial route.
- Operators can bid for a package of contracts (‘group bids’). The risk linked to this is that they may overstretch themselves - contracts are awarded with this in mind.
- In the case of resource contracts, Merseytravel asks for buses to be available within a certain timeframe and then decides what to do with it.
- The passenger feedback is not used for payments to the operators.

The main obstacles are:

- The contracts last for a maximum of 5 years<sup>29</sup>: this is rather short – in most EU countries, the contracts last for 8 years.
- Merseytravel cannot own or run buses (the first point may be addressed later this year)
- Due to low entry into market, there is a relative lack of competition. In practice, there are 2 to 4 competitors for each tender, mostly located within 20 miles around Liverpool. Companies outside the UK never bid. The installation of depots can be an important barrier to entry.
- Cost pressures e.g. fuel, labour (due to labour shortages, drivers have been imported from Poland), insurance and declining market
- Commercial network changes

We can conclude that with respect to buses, Merseyside as an authority relies, on the one hand, on competitive pressure to drive down costs (generally local), and on the other hand, on contract provisions and checks regarding quality. However, there are significant problems with market imperfections.

## Rail

Merseytravel is the franchising authority for the rail network, which has been taken out of the national rail. Thus, the structure is:

Aspect of rail provision	Ownership
Franchise Authority	Merseytravel
Infrastructure	Network Rail
Rolling stocks	Angel train (leasing company)
Operations	Serco/Nedrailways (maintenance, staff stations, depots, is allowed to enhance stations)

The main characteristics of Merseyrail Electrics are:

- 25 Year concession
- Every 5 years, there is a review. In case of major problems, Merseytravel can terminate the contract.
- The operator bears the revenue risk

<sup>29</sup> This particular point may be addressed later this year.

The contract contains the following elements:

- Passenger services requirement: The timetable is set by the authority but the operator can introduce additional trains (remember that the operator has the revenue risk)
- Provision of capacity
- Fares structure: the peak hour fare is linked to the consumer price index; off-peak, the operators can do what they want
- Operational indicators (reliability/punctuality)
- Customer service regime
- Company liquidity
- Handover maintenance

The timing of the last tendering process is given by the following table:

February 2002	Joint Official Journal of the European Community (with the former Strategic Rail Authority)
May 2002	Prequalified candidates bid (the others did not meet the thresholds)
January 2003	Best and Final Offers (BAFO) submitted
April 2003	Serco/NedRailways preferred candidate
23 May 2003	Concession signed
2 am 20 July 2003	Commence passenger service

The main strengths of the tendering process are:

- The prospects of an acceptable bid are enhanced by joint bid development (certainly easier with respect to 'soft' issues such as the uniforms).
- Misunderstandings impacting on deliverability or viability are rectified before they become major issues.
- Candidates can input into negotiations with third parties.
- The timescale post BAFO is substantially reduced.
- A relationship is developed with successful (and unsuccessful) candidates before the contract went live.
- It ensured that key hard and soft issues were appreciated and addressed.
- The candidates like it.

Its main weaknesses are:

- It is resource intensive and costly, especially in BAFO stage; this constitutes an important barrier to entry.
- There is a risk of conflict with the dual role in developing and appraising bid.
- There is a threat from misuse of disclosed information to the detriment of the project.
- There is a risk of candidates blaming the awarding authority for weaknesses in the bid.
- There is a need to manage third party confidentiality/data protection issues.

Important obstacles are the track/operator split: this implies that several important aspects are not under control of the operator.

We can thus summarise the main features of the rail contracting scheme as follows:

- Competitive tendering (international) regarding costs
- Quality incentives and operator revenue risks
- Track and signalling are not controlled by the operator

### 6.3.3. The Netherlands

Finally, we received some information on recent developments in the regulatory framework in the Netherlands. In the distant past, operators in the Netherlands received full compensation for operating deficits. This system obviously provided no incentive for management and thus led to a debate in Netherlands.

In the next stage, subsidy was linked to performance. The system where the subsidies were linked to passenger kilometres proved to be very expensive. Therefore there was a move to a 'Euro for Euro' system: if the company earned 1 Euro, it received 1 Euro from the government.

Cost-recovery ratios vary strongly between regions and modes. In order to move the cost-recovery ratio in public transport from 30% to 50%, the following measures have been implemented:

- **Decentralisation of authority.** Local government must decrease costs and increase revenues. There is also decentralisation and delegation of responsibilities to 19 PTOs who in the future will be able to determine their own fares and to determine the level of services, as they know the market better than the government.
- **Financial responsibility (BDU):** BDU stands for Brede Doeluitkering. It has replaced the GDU (short for Gebundelde Doeluitkering). From 1 January 2006, the law regarding broad funding of transport and traffic projects in the regions has become effective. Different forms of funding by the central government are being bundled together to become one overall budget to finance investment in infrastructure, operational subsidy, maintaining traffic safety, etc. The 19 Public Transport Authorities are now able to determine how best to spend the money in accordance to their own preferences and priorities. However, if the total cost of a project is over 225 million euros, then it is necessary to obtain formal approval from the central government and is also required to evaluate that the project proposal conforms to standard procedure.
- **Open market tendering for concessions.** Under the 2000 legislation, the 19 PTAs already have the authority to make changes. The PTA determines what form of performance contract to use, even though it is often a net cost contract.
- **Improve operating efficiency**
- **Technological innovation** (smartcards, light rail material on heavy rail infrastructure, bus rapid transit).

However, there are a lot of outstanding issues with respect to cost accounting, such as:

- Do we really know what the costs are? The harmonisation of figures is important for indicators. However, some costs are hidden, for instance because of cross-subsidisation. Often, the figures

that are produced are aggregate unit costs of production, while the least we should ask for are unit costs of production *per mode*. Aggregate average costs are not really comparable if modes are different from city to city.

- It is quite possible that many managers have detailed information on different cost components for different modes or routes, but they may not share a common definition what the costs constitute.
- The willingness to share the information has become a problem with tendering. Moreover, the local authorities will not share with the central government unless they are compelled by law.
- In the Netherlands, it is sometimes argued by the authorities that it is necessary only to know the total contract cost and what products can be expected under the performance contract. As such, it is a luxury (or even irrelevant) to know the unit cost of production used by the operators that bid for the contract. Is this a healthy attitude? Or is it a reflection of the reality under the climate of competitive tendering? What are the possible consequences for the planning authorities and for the operators?
- What would be the appropriate performance indicators to use? It has been proposed by some consultants to use the price per service schedule (time-table) hour as the measuring rod. What are the pros and cons of such a measure? Do people have experience in using such a measure?
- Unit cost of production is often used as an indicator. This is often an average for the production line. How meaningful is such a global indicator? Is the concept marginal cost also used in practice or being considered by the practitioners? (in the Netherlands, there is a reserve of 10% compared to the average need in peak period because a predefined service level *must* be delivered). There is also the problem of one-sidedness: all traffic goes in one direction in peak hours.
- Finally, there is the issue who should pay for the cost of collecting the data.

Performance contracts should contain the following elements:

- Goals and objectives (setting the targets)
- Gross versus net cost contract
- Network versus route agreements
- Bonus and malus (in the Dutch railways, the bonus / malus was given up as the government was paying for the malus anyway)

## 7. CONCLUSIONS AND RECOMMENDATIONS

### 7.1. Introduction

This final section of the report starts with an overview of the main benefits obtained by the participants. Next, the key conclusions reached by the working group on Public Transport Organisation and Policy at the end of year three are summarised. On the basis of these conclusions, a number of recommendations have been drawn up.

### 7.2. Benefits for the participants

In order to obtain insights into the benefits for members, a questionnaire was completed by members after each meeting (see Section 3.2 for details). Several members responded that following the meetings, they forwarded a report to their senior management.

Although practical lessons were learned (for instance, with respect to smartcards), changes overnight are not possible. Indeed, members acknowledge that much relevant policy is not within their direct control. The Urban Transport Benchmarking Initiative has, however, provided them with knowledge that helps to influence policy. In this respect, the move from collecting indicators to discussing processes is felt to have been a very positive step. Even if no specific answers are obtained, seeing the differences between the different networks is helpful in itself.

More than one member regrets that the project has been split into different working groups.

One member has recently gone through another benchmarking exercise. It has been an in-depth study that was limited to three metro companies. The results showed how complicated comparison can be. The political context<sup>30</sup>, the configuration of the network<sup>31</sup> and the strength of labour unions are some of the many factors that are typical to the region and that decrease competitiveness. However, areas of improvement have been determined and workgroups have been organised to analyse and propose solutions. The conclusion is that the exercise of benchmarking turned out to be positive for the company as an internal tool of improvement, but remains risky if it is used to compare costs in a competition context.

For the Dutch Ministry of Transport, benchmarking consists really in three different but related activities:

- Learning: a tool and a process
  - Problem analysis and comparison of performance
  - Identification of best practices
- Reflection and reviewing the situations: it is unrealistic to expect a blueprint
  - Application of lessons learnt
  - Adapt to suit local circumstances
- Take initiatives and implement measures

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<sup>30</sup> For instance, a Public Transport company can be forced to buy obsolete material because it is supplied by a national company.

<sup>31</sup> For instance, short intervals between stations create strong accelerations and decelerations. This has a strong impact on energy use and maintenance.

Defining best practices requires:

- Unambiguous policy goals and objectives
- Evaluate the merits of available options (open-mindedness)
- Specification to suit local circumstances (important to see why some practices are not implemented)
- Seek commitments from the stakeholders
- Monitor progress & review results
- Appraise performance & periodic reporting
- Willingness to participate
- Readiness to implement actions

It should result in:

- Data bank with background information
- Choice of Key Performance Indicators (not in our group)
- Holding field visits and workshops
- Presentations and discussions
- Learning from good and bad practice

### **7.3. Policy conclusions**

A wide variety of approaches have been observed and discussed, all of which are highly dependent on the regulatory context.

However, *in some areas, practice is almost the same in all participating networks.*

For instance, with respect to the decision making process regarding fares, it is an almost general practice that the operator proposes but that the authority has the final say. Even in supposedly deregulated networks, the authority still retains the possibility to intervene if he thinks that the market outcome yields undesirable results.

Objectives are generally vague and there is no explicit treatment of the trade-offs between conflicting policy goals.

There is a rather general move toward fare integration and towards the use of smartcards. It is clear that the introduction of smartcards facilitates integration. The main obstacles are linked to the important transition costs (and, in the case of the UK, to competition policy). There was a wide agreement within the group that this was one of the areas that offered the largest potential for improvement.

Public compensation for public service requirements and concessionary fares are present in all networks, even those that are, in principle, deregulated. The details of the compensation schemes differ widely, however, and, due to differences in terminology, international comparisons can be difficult.

Mainly due to legal obstacles, earmarking of specific tax revenues (including congestion charges) for public transport funding is not widespread. However, several participants expressed themselves clearly in favour of such mechanisms. Moreover, due to the increases in traffic speed they induce,

congestion charges bring benefits to public transport, even if they are not earmarked for public transport.

Public private partnerships are not widespread amongst participants in the working groups, despite their potential for efficiency improvements. The main objections against these schemes are the higher cost of borrowing and the important transaction costs linked to complex long-term contracts.

Except in the UK and in Ireland, there are no examples of land value capture, mainly because of a lack of appropriate legislation. Nevertheless, the examples from the UK and from Ireland show the potential of this approach.

The relative importance of 'non fare' commercial revenues (mainly from advertisement and from services linked to infrastructure provision) is limited (with the notable exception of advertisement revenue in Paris).

In other areas, we see a huge variety in approaches. Maybe surprisingly, there is no clear link between fare structure (zonal-, distance- or time-based) and the regulatory regime.

On the issue of cost reductions, operators emphasise the importance of an efficient fleet maintenance policy, an active human resources management and of reducing the costs linked to fare collection. Monitoring and information management turns also out to be a crucial factor. However, some factors that influence cost efficiency are at least partially outside the scope of the operator and must also be tackled by the authority: traffic conditions and fare policy.

In theory, competition should provide strong incentives for cost reduction. However, due to high barriers to entry, actual competition in deregulated markets can be disappointing. In networks with a periodic award of concessions, the quality of the tendering process can have an important impact, both on the quality of the product that is finally offered and on the actual strength of the 'competition for the market'.

#### **7.4. Recommendations**

Given the approach adopted, there are few general recommendations, as the principal benefit of participation in the working group was the identification of measures which could be applied elsewhere.

One clear lesson from the project is that there is no single best approach and that 'best' practices should suit local requirements. However, elements of good practice can be implemented and problematic issues avoided.

However, it is also clear that, in almost each network, some potential has remained untapped, both for revenue increasing and for cost reduction.

Clearly, change is a long-term issue.

Finally, it cannot be overemphasised that all participants agreed that *an ongoing informal dialogue between practitioners is seen as essential for dissemination of experience.*