

WG 3 “Market Organisation – Innovative Funding and Financing solutions for urban PT”

Working Paper for the third WG Meeting in Leipzig 17th and 18th April 2008

Purpose and content of the working paper

One of SPUTNICs Clusters deals with “Market Organisation”. Within this Cluster four topics have been identified to be dealt with in four separate Workshops: integration and tariff systems, institutional framework and cooperation, innovative financing solutions and monitoring/incentives.

This working paper serves as a discussion basis for the forthcoming third¹ workshop taking place in Leipzig, Germany. It gives a short overview on the topic including problems, key challenges, important definitions and potential solutions.

Scope of the workshop

The forthcoming workshop in Leipzig is dedicated to the topic “Innovative funding financing solutions for urban PT”.

The word “financing” entails a double meaning:

- 1) funding the setting-up and operation of the PT system on the whole and
- 2) Financing of investments if the necessary funds are not available at the time needed, namely by recourse to “other people’s money” (loans etc.)

Our SPUTNIC workshop encompasses both meanings, although the emphasis is rather on the first meaning. For a clearer understanding we refer to the term “funding” when talking about 1) and to the term “financing” when talking about 2) (e.g. financing of an investment using a loan).

The workshop will deal with funding and financing of infrastructure and equipment (rolling stock, ticketing system etc.) as well as operation of urban public transport.

There is a broad variety of ways and means to fund urban public transport, the most obvious being revenues from passenger fares. Nevertheless, funding by fares and ways to increase fare revenues (by changing tariff systems, by introducing new ticket types, by preventing fare dodging etc.) is outside the scope of this workshop as tariff issues have already been discussed in the first SPUTNIC workshop (Barcelona, March 2007). The workshop instead aims at discussing all other options of funding and financing urban PT.

Of course, funding is only a one sided approach to commercially balance costs and revenues. The other – equally important side of the coin – is the reduction of costs. The latter is discussed in the cluster “Corporate Management” within SPUTNIC.

¹ The first workshop took place in spring 2007 in Barcelona and was dedicated to the topic “Integration and tariffs”; the second workshop took place in autumn 2007 in Zagreb and was dedicated to the topic “Institutional framework and cooperation”; for further information on these workshops see www.sputnicproject.eu

Problems and Key challenges

The PT market in Europe is currently undergoing essential changes. The following trends are in some way or the other affecting funding and financing of urban public transport:²

- Growing welfare, car ownership, urban sprawl and individualisation with complex patterns of activity tend to decrease PT patronage and thus the degree of cost coverage by passenger fares
- Public funds for PT are being cut back due to general budget restrictions in most European countries and cities. However, at present some local authorities in some MS experience a budget surplus thanks to the thriving economy in general.
- Indirect (external) beneficiaries (employers, landowners etc.) of PT will be growingly integrated into PT funding, thus internalising their external profits and relieving public budgets
- Growing liberalisation and competition might help to reduce costs and deficits
- Concern about the environment, policies of supporting PT and modal shift may increase acceptance of subsidies for PT
- Globalisation of capital markets offers new possibilities for financing

Overall, PT funding is and will remain an issue of highest priority all over Europe, but is particularly pressing in the new MS. The new MS saw a decentralisation process in the 1990ies, when central governments reduced or withdrew their financial support for local services, while municipal governments, newly given full responsibility for these, could not provide the requisite funds. In Budapest for example, municipal subsidies to the PT companies were reduced by two thirds between 1990 and 2000.³ Although national governments in the new MS have given up formally the patronage over municipal PT services, they retain influence over decisions such as fares, fare discounts without acknowledging full financial responsibility. No new financial mechanism has been found yet to replace the pre-1990 arrangement – a combination of subsidies from the state, municipalities or local enterprises. At the same time, many of these countries saw a remarkable rise in the standard and style of living which lead to increased car use, less patronage and thus less revenue for PT, resulting in even higher needs for public funds. As a consequence reliable and sustainable operation funding models are missing.

As a consequence of low cost coverage, (politically imposed) low fares and sometimes inefficient operation the already small public PT budget is often entirely used for financing operation. Usually there is little money left from public sources for direct investment. According to several surveys⁴, capital financing of PT infrastructure and equipment is perceived to be the most pressing transport problem of local authorities and operators in the new MS. Given the instable regulatory framework and the unreliable loss-coverage operators are reluctant to long-term and even mid-term investments. The lack of financial means and severe need to upgrade the ageing rolling stock leads to a vicious circle where reduced service levels deteriorate the bad image of PT and lead to declined patronage resulting in rising fares which cannot be justified as the service levels are ever declining. It is one of the biggest challenges to find ways and means to finance the urgent renewal of neglected infrastructure, rolling stock and creation of new services to meet changing mobility needs.

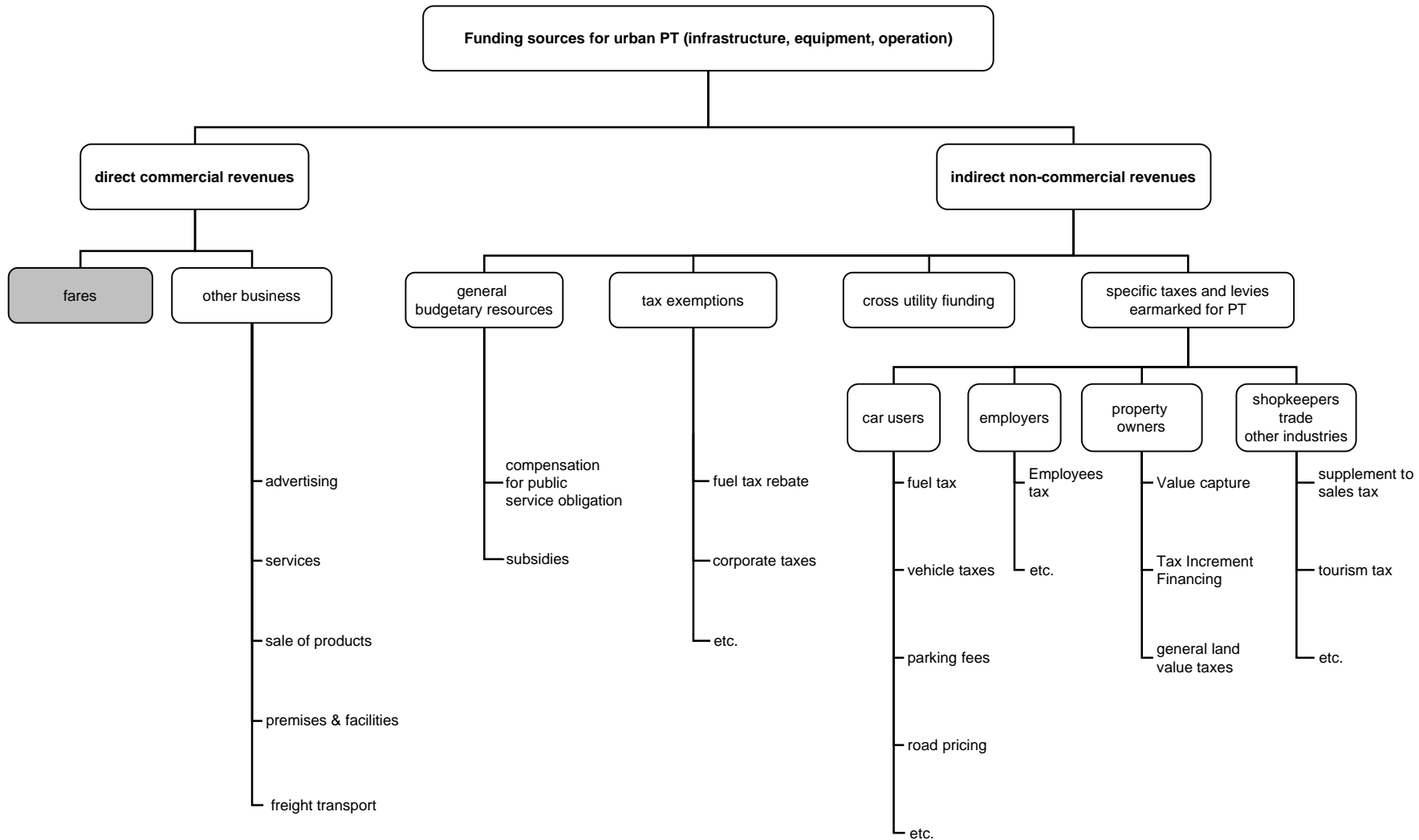
Main challenges for PT with respect to the workshop's topic will be:

² see for instance VOYAGER: Future Trends, impacts and key challenges, 2003. SPUTNIC D2 Challenges Report
³ Heading down dead ends: Transport sector financing in Central and Eastern Europe, CEE Bankwatch Network, 2004
⁴ CAPE project (1999), <http://www.rec.org/REC/Programs/Telematics/CAPE/CAPE.html> / A survey of PT in 6 cities of Central and Eastern Europe, REC, 2006

- To create acceptance for the fact that in most cases fare revenues alone cannot fund a PT system
- To establish reliable and sustainable funding mechanisms for urban PT enabling PT operators to work within fair framework conditions
- The increasing constraints on public budgets have to be offset by innovative financing models and alternative sources of revenues
- To identify alternative ways to fund infrastructure and operation, e.g. by identifying external beneficiaries of PT and by internalising their windfall profits
- To identify measures and options to generate additional revenues, e.g. by commercialising stations or other real estate assets or by applying new business models (advertising, freight transport etc.)
- To simplify funding structures (too many different PT funds hinder an efficient and integrating PT financing)
- To find ways and means to finance the urgent renewal of neglected infrastructure, equipment and creation of new services
- To identify alternative ways to finance infrastructure and equipment, such as Public Private Partnerships or loans by International Finance Institutions

Main questions to be discussed at the workshop will be:

- What are the most pressing problems with respect to funding and financing PT?
- What are the most promising alternative funding and financing solutions in urban areas?
- How to devise operators' internal strategies for generating additional revenues by offering additional services creating new market potential
- How to tap additional sources of funds for PT
- How to lobby towards the government for more resources or indirect support
- How to make use of all available financing possibilities
- What are the possibilities and risks of relying on International Finance Institutions
- How to access EU funding



Picture 1: Funding sources for urban public transport

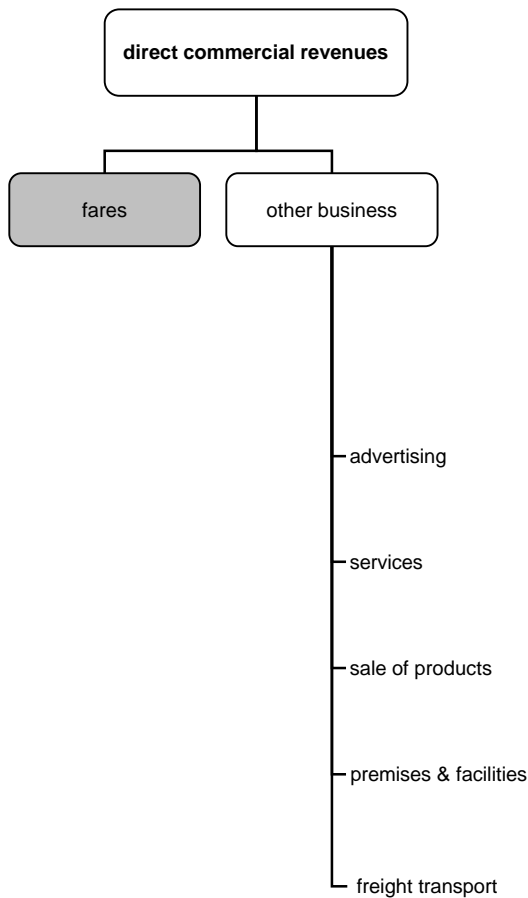
[own figure after: Management and funding of urban PT, Report by the Steering Committee on local and regional Democracy, 1998]

Funding sources for urban PT

Picture 1 gives an overview on possible sources for funding urban Public Transport (infrastructure, equipment, operation). Two main sources of funding can be distinguished. **Direct commercial revenues** - and among these the passenger fares - are the most obvious source of PT funding across Europe. However, the share of PT fares related to the overall costs is in most European cities fairly low (between 30% in Bucharest and 82% in London⁵), usually because of social or environmental reasons: the revenue-earning potential of PT gets entangled with problems of affordability for low-income passengers and difficulties of tapping non-passenger beneficiaries of PT infrastructure. When there is a market of choice-travellers, fares are kept low to keep them from switching to cars or attract them away from cars. On the other hand, when people’s income increase, quality of services may matter more than its price.

Therefore, most urban PT operators rely on one form or the other of **indirect (non-commercial) revenues**, mostly granted by the public authorities. Most often these indirect revenues come from the region’s or city’s general budgetary resources. In addition, there exists a variety of other ways to generate funds for urban PT.

a. Direct commercial revenues (in addition to passenger fares)



⁵ Urban Transport Benchmarking Initiative Year Three: Public Transport Organisation and Policy – Working Group report, July 2006,

With growing financial pressure the importance of alternative sources of commercial revenues (in addition to passenger fares) has been emphasised. However, the share of such supplementary income varies largely. Whereas in Brussels only 1% of total income is generated by commercial ways other than the sale of tickets, it is a remarkable 12% in Zurich (average in Western Europe might be around 5%).⁶ These solutions often come along with new forms of collaboration, for example the CarGoTram in Dresden (operator and car manufacturer Volkswagen) or the CargoTram in Zurich (operator and the city's waste disposal service). Besides the supplementary income these activities often have a positive side effect in terms of Public Relations.

With all these supplementary business activities the question of course remains whether it fits into the operator's strategy and whether it should be part of the operator's core activity. Independent of the answer, the options merit at least a thought.

Examples and ways for additional revenues exist as many as businesses ideas. Roughly, five categories can be distinguished:

- **Advertising**

This is the main supplementary source of income for PT operators in most European cities. although the significance of this business varies largely: in Paris 11% of total revenues are generated through advertising, in Dublin it is only 1%. A reason for this difference might be that some cities are quite negative towards advertising for "design" or "style" reasons.

- **Renting/selling of premises and facilities**

PT operators can make use of their premises and facilities by renting shops and offices, spaces for vending machines (e.g. at bus stops), car parks or by leasing the right of way to use the infrastructure or to communication companies in order to lay any kind of transmission wires. In Dublin, buildings are hosting telecommunication masts, fibre optic cables are installed into railway track beds and overhead-lines are used to carry voice and data signals.⁷

- **Providing additional services**

In Stockholm, the underground metro has been equipped with a mobile phone network, the access to which is rented to telecommunication service providers thus generating extra income for the metro company. Currently the project is expanded to offer WiFi-Internet-access in all bus-stop weather shelters.

In Bucharest, PT operators offer car services to third parties (mechanic, electric, tin, dye work and vulcanisation), vehicle renting or printing works.

In Dresden the DVB (Dresdener Verkehrsvetriebe AG) offers Sightseeing-Tours by bus.

- **Sale of products**

Some PT companies make use of their extensive distribution network by selling additional goods. In addition to travel tickets for the tube, London underground ticket offices also sell tickets for major tourist attractions. Other sales take more the form of merchandising making use of the image of public transport. A proportion of London underground's commercial income is generated from the sale of items associated with the transport undertaking. The London underground name and symbol have a very strong brand association with London and many people choose to buy these items (such as mugs, model vehicles etc.) as a souvenir. Sold items also include scrapped vehicles and station signs or old train seats that have been used for recycling into cushions. In Berlin, the BVG sells underwear bearing the names of metro stations (e.g. panties labelled "Jungfernhede" – "Maiden's heath" – although this would not be politically correct everywhere).

- **Freight transport**

The Matkahuolto Group in Finland for example offers freight services in connection with PT, making use of the company's comprehensive scheduled bus network. On certain lines bus operators get more money from freight than from passenger transport. Sometimes they remove

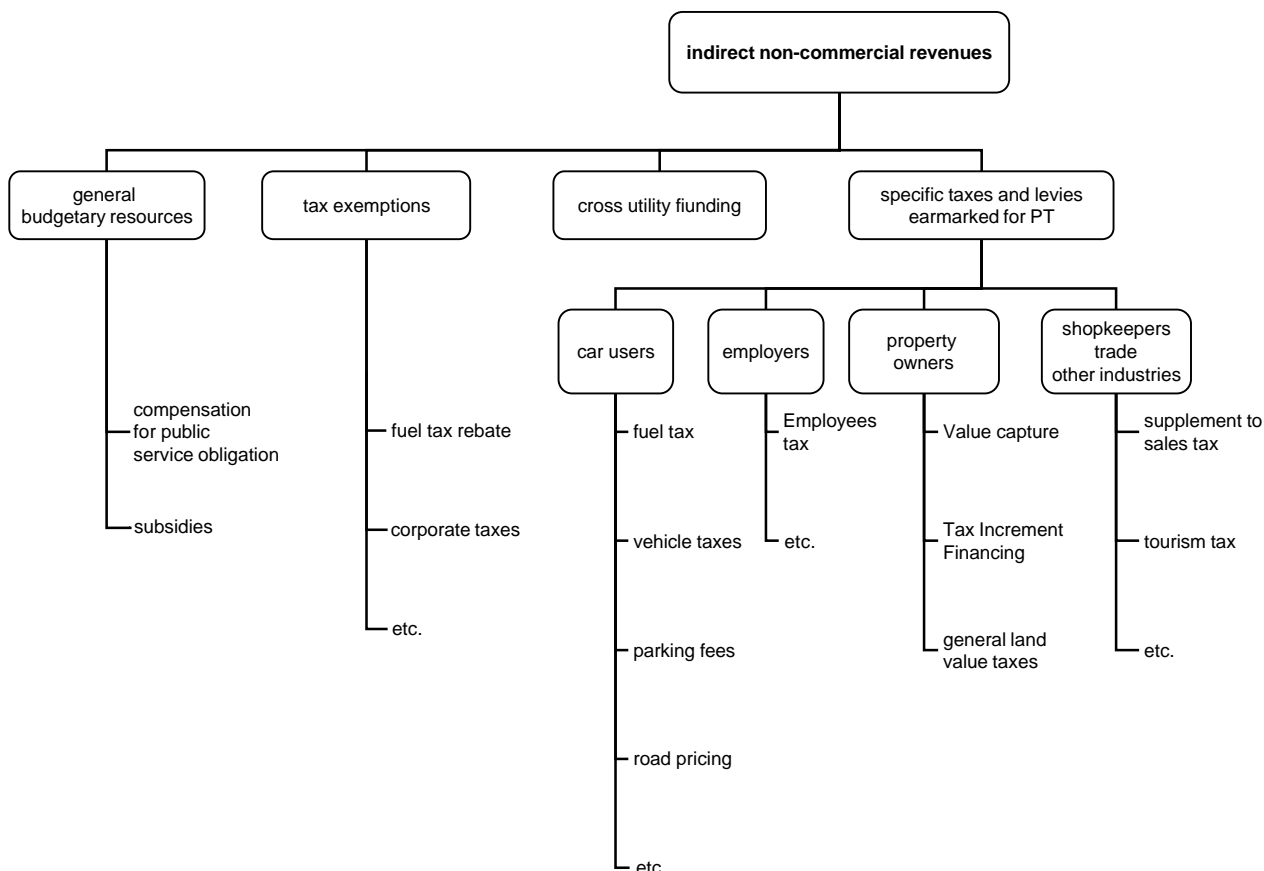
⁶ Exploring all the options, Line Jussiant, in: Public Transport International 06/2003

⁷ Urban Transport Benchmarking Initiative: PT Organisation and Policy, Working Group Report, 2006

passenger seats to have more space for freight transport – in addition to the usual 10m³ luggage room.⁸

Some cities have also investigated freight transport to city centre stores by means of metro/light rail tunnels.

b. Indirect revenues



The costs of PT provision that cannot be covered by the direct commercial revenues (fare revenues and any other additional business) have to be funded by other sources which usually - in some way or the other - involve the public authorities, who either provide the necessary funds from their regular budget or the necessary legislation to levy the funds from other subjects. There is a broad variety of funding models to cover these uncovered costs of urban PT. Four main categories can be distinguished:

- **General budgetary resources**

This is probably the most common source for funding the uncovered costs of PT. It can be seen either as a subsidy or as the compensation of PT operators for public service obligations, that is for services or tariffs they would not provide for commercial reasons solely. However, with the tightening of public authorities' budgets this source of funding is increasingly drying out.

- **Cross utility funding**

In some countries (e.g. in Germany) the PT operator is cross subsidised by profits of other utilities within the same authority such as water, electricity or waste disposal (this comes along with fiscal advantages). However, cross subsidising could be a problem in terms of distortion of competition; it also reduces transparency and hinders effective controlling and benchmarking

⁸ This is not an urban PT solution, however.

and thus reduces efficiency. The deregulation of the energy markets will also make these transfers more difficult, they may soon be completely forbidden.

- **Tax exemptions**

Financial support can also be implicit, for example in the form of government guarantees for borrowing or in the form of tax exemptions for PT operators. The UK and Ireland know fuel tax rebates for PT operators. In Switzerland, PT operators are exempted from corporate taxes and vehicles with particle filters benefit from an 80% rebate on fuel taxes.

- **Specific taxes and levies earmarked for PT**

The variety of possible taxes is broad and in theory only limited by imagination. In practice however, such taxes and levies have to be politically and economically justified which is usually done by taxing certain groups of society that profit indirectly from PT services (beneficiary pays principle). Accordingly, the measures can be distinguished according to the subjects or beneficiaries taxed:

- **Car users** benefiting from reduced congestion thanks to PT.

Examples of earmarked taxes include **fuel taxes, vehicle taxes, road pricing** (e.g. congestion charging scheme in London) and **parking fees**. By offering free car parking many cities in the new MS miss an opportunity to raise funds for either PT directly or for their general budget (which means also less budget for PT). This also increases congestion and indirectly subsidises car traffic. The Budapest Urban Transport project (1995-2001) financed by the World Bank and the European Bank for Reconstruction and Development (EBRD), that aimed at keeping PT competitive, therefore not only included a restructuring of the operating company BKV, the establishing of a PSC, the creation of the Budapest Transport Association, the replacement of 47 km of tram tracks and of over 300 busses but also the establishment of a parking charging system for the central area (financed by the EBRD).

According to the World Bank the use of **local surtax on gasoline** – earmarked for PT funding – is increasing. Columbia introduced a law in 1989 permitting cities to charge such a surtax up to 25% (in Bogota). This innovation is credited with having powered Bogota's TransMilenio system.⁹ Still, the introduction of an isolated local tax can lead to severe negative effects and market distortions ('gasoline tourism' etc.).
- **Employers** through employees taxes, as an efficient PT system allows better access to the employment catchment area.

Under the name of "**versement de transport**" French authorities like cities and regions can levy a tax from companies with more than 9 employees for financing local PT. The tax is levied on the wage bill and is limited to a maximum of 0.5% (2.5% in the conurbation of Paris). 180 cities and regions have introduced the "versement de transport" since 1971 generating over 4 billion Euros annually for PT funding. More than 50% of the taxed regions lie in the conurbation of Paris. The tax is exclusively used to finance PT. In the Paris metropolitan region 35% of overall PT costs are financed by the "versement transport" (compared to only 25% by passenger fares). Although the tax leads to distortions in competition due to the increase of production costs, its negative impacts have been considered negligible so far.¹⁰ The World Bank however states that the tax is not suitable for economically fragile low- and mid-income countries and ineffective in the presence of a large informal sector.¹¹ Similar instruments exist in Vienna and Brasil.¹²
- **Property owners**

The development of new PT infrastructure often increases the values of surrounding properties. The owners of these properties gain significant windfall profits without

⁹ Urban Transport Benchmarking Initiative: PT Organisation and Policy, Working Group Report, 2006

¹⁰ Transport policy, financing, service public and transport law, VöV, 2005 (unpublished)

¹¹ Urban Transport for development – A primer to the World Bank's strategic framework, Mitric, 2007

¹² MARETOPE

covering parts of the costs. Value capturing refers to a range of tools that enable the (partly) internalisation of these windfall profits. It was calculated that the Jubilee Line extension of London's tube could have been financed using only one third of the land value increases that arose in the areas within a radius of 1 km around the new metro stations.¹³

In the United States, the mechanism for capturing a fair share of property price increases has been established for decades. It started in California in 1951 and is now known as **Tax Increment Financing (TIF)**. Under TIF, the local authority designates an area as TIF district. Within that district tax rates do not change from the standard governmental rate. But when property prices rise the additional tax revenues repay the costs of new infrastructure development.¹⁴

Land value capture is not very common in Europe, but has already been implemented in a number of projects in Madrid ("pasillo verde", extensions metro lines 1 and 10).¹⁵ A slightly different approach was chosen in Copenhagen, where the land of a development area was given for free to a (public) consortium with the obligation to build and run a metro in order to develop the area. The expected land price increases should then be used for the funding of the transport network.

In Switzerland, investors building new shopping malls have to prove that their malls are accessible by PT. Often this condition requires the establishment of a new bus line or the improvement of an existing one which is then – partly – financed by the investor.

Land value capture for funding PT infrastructure offers various advantages:¹⁶

- the government/public sector can provide a transport improvement
- taxpayers are not penalised
- the travelling public gain shorter travelling times with more convenient journeys
- businesses near stations see their trade flourish
- assuming that the project requires even 50% of the land value gain, landowners retain 50% of a large increase if the scheme is completed – rather than 100% of no increase at all if it is not built.

o **Shopkeepers, trade and other industries**

Shopkeepers profit from better accessibility which improves their turnover. Many US cities use a supplement to sales taxes for funding PT. In Georgetown (US) PT is (at least partly) funded by the local trade association.

Another example is tourism industry that profits from PT in terms of transport infrastructure and in terms of a sound environment, quiet recreational areas, attractive inner cities etc. For example in the famous Engadine tourist region (St. Moritz, Switzerland) part of regional PT is funded by the hotels and by the private mountain cableways; in this case the funding is not based on a tax but on a voluntary agreement. Another funding source is the local tourism tax (paid per overnight stay) partly earmarked for funding PT.

Earmarked levies for funding PT are especially widespread in the United States although PT plays a small role. Each city or region has its own specific model. In Europe, funding from the general budget is more common.

When PT is to be funded from other sources than commercial revenues or general budgetary resources, it is important to carefully analyse the economic side effects of such measures. Financial levies can create unwanted economic market distortions, thereby incurring additional economic costs (the problem of imposing an excess burden). For example, large taxes on wages are blamed to increase unemployment levels.

¹³ Transport funding through land value gains – a new approach, Dave Wetzel, in: Public Transport International 6/2003

¹⁴ Developing a new agenda for infrastructure investment, Jay Walder, in: Public Transport International 06/2003

¹⁵ PPP in Madrid – Best Practice Case, Carlos Cristobal-Pinto, in: Public Transport International 06/2003

¹⁶ Dave Wetzel: Transport funding through land value gains. In: Public Transport International 06/2003

Furthermore, it is important to 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 infrastructure (which must be financed from the general budget). Therefore a frequent strategy is “running down and complete reconstruction” instead of proper maintenance. This system clearly does not provide incentives to minimise life cycle costs.¹⁷

Some of the above mentioned methods are less well suited for rapidly developing countries or difficult to introduce. Sales taxes for instance tend to be regressive and thus colliding with poverty alleviation objectives. General land taxes would hold a major potential as a source of funds, particularly in cities undergoing rapid development. That they have not been used is due to weak markets and poorly regulated land development.

Based on the World Bank’s experience there seem to be four realistic ways to secure urban transport funding apart from the normal, non-dedicated approach to government budgeting: through a legislated link to fuel taxes (nationally or locally), through a national programme of grants and loans fed from the budget, through land taxation and through locally based road use (congestion) charges.¹⁸

Special funding solutions for infrastructure projects

For the funding of large, single investments in infrastructure (not for operations) there are additional funding models such as **special purpose infrastructure funds** that aim at providing extra funds external to the regular public budget. In Switzerland, the FinöV-fund is used to fund several large high priority rail infrastructures. The fund is partly fed by lorry taxes, fuel taxes and a supplementary sales tax. Another infrastructure fund, fed by earmarked fuel taxes and road user charges is used to fund infrastructure project for PT (and car traffic) in conurbations in the next 20 years.

EU funding

Structural and cohesion funds have a central role to play in realising the EU’s objectives towards PT and environment friendly transport modes. In the 2007-2013 period, the EU will distribute 308 billion Euros in structural and cohesion funds. Approximately half of this amount will go to the new member states and the acceding countries of central and Eastern Europe. Thereof, at least 40 billion Euros is planned to be invested in transport. However, according to the countries operational programmes which specify how exactly the funds will be used, the CEEC plan to invest much more EU funds into roads and motorways than into any other mode of transport. Only 30% is to be used for railways and only 11% for other PT. Slovakia, Romania, Slovenia and Latvia do not plan any or almost any funding support for urban PT. Hungary plans to use 1600 million Euros for PT in Budapest, Bulgaria plans to spend 300-400 million Euros on the Sofia metro extension and on infrastructure and rolling stock in urban areas.¹⁹

Financing of infrastructure and equipment (and operation)

As the tight budgets for funding PT often leave no possibilities for building up reserves most authorities and operators rely on other ways of financing in order to reduce the burden of own investment funds. Apart from the capital market there exist several possibilities, public and private ones:

¹⁷ Urban Transport Benchmarking Initiative Year Three: Public Transport Organisation and Policy – Working Group report, July 2006

¹⁸ same

¹⁹ CEE Bankwatch Network: EU funds for public and environment friendly transport

International finance institutions

Many authorities or operators in the new MS make use of loans with international finance institutions (IFI) such as the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB) or the World Bank. IFI loans have the advantage of committing the local authority to co-financing, which helps stabilise longer-term financing. They also bring rewards in creating pressure for reforms and cost-reduction within companies, as for example in Budapest and a number of Polish cities. However, the Bucharest and Sofia cases detail the barriers to obtaining financing for PT from IFI, while underscoring the problems with loan guarantees and conditions.²⁰ For example, IFI loans are no options for smaller cities which most often have no credit rating. National governments are therefore always partners in World Bank funded urban transport projects, since a sovereign guarantee is required for bank loans to cities and other sub-national governments.

Private sources

Within the private sources of financing, private bank loans, PPP and private finance initiatives are the most relevant ones.

PPP are mostly used for specific stand-alone projects and are quite difficult to apply in local transport when the system cannot raise enough revenue to cover even operation costs due to municipality imposed tariffs and/or lack of adequate demand, which is quite common in local PT. Practical examples of PPP include a joint venture between the city of Görlitz/Germany and Veolia (all PT services are operated by a joint company), London underground PPP on infrastructure maintenance and a new stretch of the metro line 9 in Madrid, including the building and operation of 18 km of metro and 4 stations based on a 30-year concession.²¹ The latter proved quite successful and triggered further similar projects; e.g. two tram routes for Barcelona and the underground network for Seville.²² It is important to investigate if PPP solutions can be applied more generally. Main advantages of PPP are increased efficiency, relief of public budgets, sharing of risks between public and private sector, entrepreneurial initiative and use of private management techniques.

The Private Finance Initiative (PFI) is another mechanism through which the public sector can improve value for money in partnership with the private sector. PFI are widely used in Europe whenever public infrastructure has to be built. The main triggers for the introduction of PFI projects are the lack of public financing and the belief that certain services can be delivered with a better value for money and with better innovation by the private sector. In most cases a special purpose company is founded in which the several partners of the consortium are united. The difference with PPP is related to the level of involvement of the authorities. In general within a PPP the authorities are one of the fully responsible partners and bear a large share of the financial and organisational risks. On the contrary within a PFI the risks are fully covered by the participants of the special purpose company, while the authorities are customer. There are several mix forms available that include the advantages of PPP and PFI.²³

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²⁰ A survey of PT in 6 cities of Central and Eastern Europe, REC, 2006

²¹ Urban Transport Benchmarking Initiative Year Three: Public Transport Organisation and Policy – Working Group report, July 2006

²² PPP in Madrid – Best Practice Case, Carlos Cristobal-Pinto, in: Public Transport International 06/2003

²³ VOYAGER