

FOCUS

A UITP POSITION PAPER

'Keeping and upgrading long established tramway systems'

Today, there are 33 tramway systems in the new EU Member States, a further 19 in the remaining Central and Eastern European countries (CEECs), and over 110 in the Commonwealth of Independent States (CIS).



Introduction

For 15 years, trams in these countries have been strongly challenged by the twin issue of ageing assets and the growth of private car. Funding shortages have led to modernisation programmes being postponed or left overdue. These two factors (congestion and obsolescence) have induced a decrease of the quality of tramway services. The classical "vicious circle" is threatening...

In Kiev (once 26 lines operated by nearly 1000 streetcars), 10 tram lines have been abandoned since 1994 and plans for further closures are on the table. Investments have been overdue both for infrastructure and rolling stock. The network is already physically separated into two pieces and threatens to collapse.

The same pattern happened in many countries of western Europe and in the USA after World War II: systems were neglected and finally scrapped to leave space for cars. Today the most dramatic situation is to be found in cities of the Commonwealth of Independent States (CIS), but system closures are not excluded in some Central and Eastern European (CEEC) cities.

On the occasion of the 7th UITP Light Rail Conference (Dresden, Germany, April 2004), the international light rail community signed a "Declaration on the importance of keeping and upgrading long established tramway systems". The aim was to raise awareness among decision-makers in those countries of the value of these municipal assets to provide excellent transport and urban development policies in their cities.

The current tramway situation

Strengths

An extremely **high number of cities** in the "eastern countries" are equipped with a **sheer tramway network**, which is dense and has a remarkably **high degree of interconnectivity**.

As a reference, the Polish city of Szczecin has 12 lines and a route network of 110 km. The city is comparable in size with Strasbourg. After 15 years of uninterrupted investment into LRT, Strasbourg has 4 lines and a route network of 32 km. Between the 2 World Wars, it used to have 11 tram lines and 6 suburban tram lines totalling 220 km.

This is an official position of UITP, the International Association of Public Transport. UITP has over 2000 members in 80 countries throughout the world and represents the interests of key players in this sector. Its membership includes transport authorities, operators, both private and public, in all modes of collective passenger transport, and the industry. UITP addresses the economic, technical, organisation and management aspects of passenger transport, as well as, the development of policy for mobility and public transport world-wide.

¹ There are rather few metro systems in these countries as compared to tramway networks.

Despite the growing attractiveness of private cars, public transport still enjoys **high modal split**, even without metro¹

60% in Prague or Budapest, cities equipped with a metro system; 65% in Krakow, Poland 60% in Brno, Czech Republic. But it used to be 80% in Budapest before 1990...

Trams, even if they are not new, are **efficient** and **environmentally-friendly** and contribute to clean air in the cities. They have other assets (capacity, speed, comfort, security, economy, etc), which were described in the Focus Paper entitled 'Light rail for liveable cities' approved in June 2001.



Prague

Weaknesses

Despite this positive economic, social and ecological contribution to urban life, tramways have been suffering in the last 15 years. The reasons for the decline and loss of reliability are well identified:

- Unclear institutional and regulatory structures
- Inadequate management framework and corporate organisation
- Insufficient political will and reform-minded support
- Obsolescence and high maintenance costs due to lack of investments,
- Lack of segregation from individual traffic, and of traffic light pre-emption
- Revenue losses due to inherited tariff rules and social fares

Why are tramways threatened?

Given those weaknesses, coupled with a galloping increase in car ownership, and with the high renewal investment needs (EBRD reckons that track rehabilitation only in CEECs and CIS would sum up to EUR2.2 billion) **the threat of system closures is a primary concern.**

In Prague, car ownership has tripled since 1989 (500 cars per 1000 inhabitants, the same as Stuttgart). Similar trends are found in Krakow, Bucharest and Brno with respectively to 225, 300 and 527 cars per 1000 inhabitants. Typical Western cities range from 500 to 645 (Rome).

In addition to funding, regulatory and management concerns also contribute to the decline of tramways. Overdue or failed institutional and organisational reforms contribute to keeping an unstable and uncertain environment.

Clear regulations, transparent contractual relationships and good corporate governance are needed, which specify the roles, responsibilities, risks and room for initiative of the operators and the local authorities. Simple contracts based on gross cost principles can be applied rather swiftly. With a few years of experience, each system will be likely to introduce more sophisticated clauses and refine the economics behind the contracts.

Contracts will establish a clear distinction between managerial and political levels and safeguard the first against fluctuations in the latter; specify fair compensation for free or reduced fare categories which are socially desirable; and stipulate that no competition between different public transport providers (modes) shall be introduced on the same routes.

Dresden is an excellent showcase for a successful transition from a typical Kombinat into a modern and efficient transport company. Modernisation of infrastructure and rolling stock increased commercial speed and fleet availability. This led to patronage increase despite population decline. This growth in revenue, achieved simultaneously with cost reduction programme (concentration of workshops and depots and staff reduction) increased the cost recovery rate from 17% to 66% between 1990 and 2002.

The opportunities for the future

Sustainable concern: These cities generally enjoy a high modal split in favour of public transport and should endeavour to maintain this in order to guarantee sustainable mobility and development.

Congestion is growing and this is likely to raise awareness among citizens and decision-makers that liveable cities need an alternative to cars.

Tramways are not out-of-date and are no obstacle to mobility. The many new systems established in recent years prove that **existing tram systems are a solid basis for development** and long-term system efficiency, including in historic centres and pedestrian zones.

In Leipzig, some 900 trams used to serve 25 lines with a total route length of 370 km. After gradual restructuring of the network, 440 vehicles serve 14 lines with a total route length of 310 km. It means that the core public transport system has increased in “readability”, that on average, passengers have to make fewer interchanges. This decrease in rolling stock had a direct impact on staff cost (drivers and maintenance). Line by line, the infrastructure was upgraded to LRT standard (segregation, priority, comfort etc). The total investment between 1991 and 2002 was EUR590 million. It was calculated that the yearly savings (on rolling stock, maintenance and operation) from a 5 km/h speed increase (20 to 25 km/h) were of EUR11 million.

In CEECs and CIS, tramways are the only surface mode that is technologically capable of offering **high capacity at reasonable** investments and operation **costs** in dense areas.

Starting a **pilot line** is a proven method to demonstrate undisputedly the efficiency, performance and **incremental development** potential of modern light rail systems to politicians and the general public. Investment can be phased and staged over time. This requires investments to be ruled by multi-year planning instead of yearly budgetary regimes.

Line 41 in Bucharest was modernised in 2002, followed by line 32 in 2003. Tracks were renewed; power supply modernised; platforms and LRVs were made accessible and equipped with real-time information; and priority was implemented at some crucial junctions.

The commercial speed passed from 14 to 21 and 20 km/h respectively, reducing travel time by 30%. The speed and the higher frequencies in rush hour enabled the offer to be increased by 30 and 37%.

Modernised trams, also called light rail, are not only environmentally-friendly, but also offer a **high quality of service** to customers and provide cost-effective accessible public transport for all citizens (equal opportunities).

The strong tram tradition makes it feasible to entrust at least part of system rehabilitation to **local contractors**, thus keeping cost down and boosting local employment and economy, or keeping employment in operator’s structure.

In order to speed up tram fleet renewal, a multi-tiered strategy is recommended, which consists of simultaneous tram modernisation and purchase. In Brno, Czech Republic some five new (partially low-floor) trams, locally built, are purchased yearly. Parallel to this, Tatra vehicles are fitted with new equipment: traction, seating, real-time information etc, and new low floor trailers are purchased from a local manufacturer to provide acceptable accessibility. In Lodz, Poland, such modernisation programmes are carried out internally (operator’s workforce in operator’s workshops) and thus make a contribution to local economy. In Prague, a FULL overhaul of a Tatra tram in operator’s facilities costs about 170,000€ for an LCC extension of 15 years.



Krakow



St Petersburg

Conclusions

UITP recalls that cities cannot be either human or liveable if they are exclusively designed for the car. Urban rail systems are the core of high quality public transport provision. For technical, regulatory and last but not least, financial reasons, their planning and construction require long-term efforts. Rehabilitation of tram systems permits a gradual offer of better service with much less effort, money and time than new schemes.

In many countries, extensive tramways systems were removed in the 50s and 60s. Realising their errors two to three decades later, city planners and decision makers had to re-introduce light rail at significantly higher costs, never achieving the high system density, which existed before.

UITP commits itself to bringing its support to the transfer of experience in the field of networks modernisation, to put more detailed information at its members' disposal, and possibly organise workshops on this issue.

Recommendations

The general recommendations of the *Focus Paper 'Light rail for liveable cities'* are still relevant, in particular for standardisation (reliability improvement and costs decrease). UITP recommends to decision-makers in CEECS and CIS the following:

- To be sustainable and attractive to investors, cities in CEECs and CIS should not close down their systems, but should maintain and modernise them.
- The best strategy for a city with an old tram system is to draft a political and financial integrated transport roadmap, which bindingly states the long-term transport policy and traffic management.
- Keeping lines open can only be ensured through high system efficiency. To this end, revenue and investment must be politically secured. At the same time, company management must be resolutely oriented towards efficiency and rationalisation and establish a realistic business plan.
- Political institutions should provide an appropriate framework and clear indication as to the role and responsibilities of the operators and the authorities. In such regulatory environment:
 - ⇒ The company should enjoy managerial independence, and apply rules and procedures in force in commercial companies. Political institutions should be restricted a regulatory and supervisory role, which requires the least possible interference with the daily operative work.
 - ⇒ Social fares are only justified if they are properly compensated,
 - ⇒ Competition between several public transport service providers on the same route will be avoided.
- Investments should be supported by significant public funding, and access to EC regional, structural and cohesion funds, as well as EBRD and BEI loans resources should be facilitated.
- For the most obsolete systems, the investment priority is in infrastructure. This should include the provision of segregated right-of-way and priorities at junctions. Such measures improve not only travel time and attractiveness, but also the system's economic efficiency.
- The latest state-of-the-art LRV technology may not be desirable immediately everywhere. Quality of service (comfort, information, etc) and accessibility criteria can also be met with low-cost, reliable rolling stock be it new or refurbished.

This Focus Paper was prepared by the Light Rail Committee, with contribution from CEECs and submitted to the Policy Board in Moscow in October 2004.